The Impact of CSR on Financial Performance

- An event study of abnormal stock returns of Swedish companies as a reaction
to the release of the Folksam Index of Corporate Social Responsibility

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Abstract: The interest for and engagement in corporate social responsibility (CSR) has increased among both investors and companies, despite the uncertainty related to how CSR engagement creates financial value. As a result, the relationship between CSR and financial performance has been subject to several studies, which have shown conflicting results. Little evidence support that CSR and financial performance are directly related.

This study aims to investigate whether CSR engagement has a direct impact on financial performance in the form of stock returns. This is examined by using a specific case, namely the release of Folksam's Index of Corporate Social Responsibility report, and is conducted through an event study. The time frame covered is the years of 2006 to 2009, 2011 and 2013, in which the report has been released. The publisher of the report, Folksam, is one of Sweden's largest investment- and insurance companies, and the report assesses the CSR engagement within environmental and human rights, for all companies on OMX Stockholm stock exchange, which therefore form the total population examined.

To identify the reactions of investors on the report release, three samples are chosen from the total population. These are the 31 top-ranked companies, the 31 bottom-ranked companies, as well as those companies identified as "zero-performers", defined as those who received no points at all in the ranking, implying no CSR engagement.

The event study methodology used follows a classical approach, by using the market model for estimation of normal and abnormal returns. The estimation window covers the 126 days prior to the event window, and the event window covers the day before the event to the third day after the event day, i.e. day -1 to 3. Thereafter, cumulative abnormal returns, as well as abnormal returns, are calculated to assess the potential impact of the report on stock returns.

Overall, the results show that a top ranking does not have an effect on stock returns, whereas a bottom ranking has a negative impact. The negative impact has been consistent over all years, and has increased over time. This indicates that even though top-performers within the area of CSR are not rewarded, companies are still punished for poor CSR performance. Moreover, the results show that the number of companies not engaging in CSR at all has decreased.

In addition, four sub-hypotheses are tested to further uncover potential variables that affect the reaction among investors. These aim to examine 1) whether the report has had a larger impact in later years, 2) whether investors' priorities were different pre-, during-, or post the financial crisis, as well as whether whether investors react differently to top- or bottom rankings when only considering 3) operationally risky and 4) large sized companies, respectively. These results confirm the main hypothesis results, and further support that the interest in CSR has increased over time.

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1. Introduction

Although a challenge to measure the impact, companies' investments in corporate social responsibility (CSR) activities have grown significantly as a business strategy for value creation (McWilliams et al., 2006). The difficulty of measurement is partially explained by the vague and varying definition of the concept of CSR, and despite expansive research on the subject, there are strong proponents as well as opponents to companies' CSR engagement (ibid). Some schools claim that CSR engagement is a misuse of resources and that company resources should be used for value-adding activities for shareholders only, while others argue that companies have obligations to a wider group of stakeholders and therefore should take on social responsibility.

The interest in CSR is growing among companies, but the motives behind are varying. However, the engagement can to a large extent be explained by an increasing pressure from stakeholders (McWilliams et al., 2006). The pressure is not only expressed by customers, but also by employees, suppliers, community groups, nongovernmental organizations as well as governments (ibid). The interest in CSR has been seen to be growing particularly in multi-national, multi-divisional companies who are exposed to differing business norms and standards, regulatory frameworks, and stakeholder demand for CSR across the nations they are operating in (ibid). A recent development within the field is a new EU regulation on mandatory CSR reporting among large companies, which was introduced in 2014 and puts further pressure on companies to engage in socially responsible activities (European Commission, 2015). According to this regulation, all EU companies with more than 500 employees are required to report *"information on policies, risks and outcomes as regards environmental matters, social and employee aspects, respect for human rights, anti corruption and bribery issues, and diversity in their board of directors"* (ibid).

Excluding the pressure from stakeholders as a motivator, other underlying motives behind CSR engagement include beneficial factors to the companies, such as competitive advantages in the form of increased market shares and employee motivation. The research however shows that CSR activities not only provide company benefits. Rather, they also entail increased costs, both one-time costs and

continuous costs in addition to a risk of CSR involvement failure, which may lead to mistrust among stakeholders and in turn company damage (Weber, 2008; McWilliams et al., 2001; McWilliams et al., 2006).

The general trend of increased CSR engagement can also be found in Swedish companies, which often have a long history of active CSR engagement (sweden.se, 2015). In fact, Sweden is regarded as a pioneer within the field and was in 2013 in the top of RobecoSAM's Country Sustainability Ranking. The government has even appointed a CSR ambassador to take responsibility for issues related to sustainable trade and business (ibid). In addition, investors' interest in social- and environmental issues is growing and this affects their investment decisions to a larger extent as they recognize the importance of CSR (Dow Jones Sustainability Index, 2015). This seems to be the case for Swedish investors too, as Folksam has experienced that more customers now ask for social and environmental consideration in regard to investment decisions (Folksam, 2013).

There is extensive literature on the relationship between CSR and financial performance. However, the previous research has shown a lack of consistent evidence of CSR activities' impact on financial performance. Positive, negative and neutral relations have been presented, and there are no clear incentives for companies to start working with CSR based on these ambiguous studies. Among these studies, most of them have performed regressions on rather specifically defined variables, which could be considered as a deficiency in the CSR research area where the concepts and measurement systems are vague and hence diverging from each other. To circumvent the issue of measuring CSR, this study will use an event study methodology, where an event within the field of CSR is defined and used as a specific case to measure if CSR engagement impacts stock prices. Moreover, no such study has been performed on the Swedish market, and since every market has its own characteristics, it is deemed interesting to examine Swedish listed companies' CSR initiatives and their potential impact on financial performance.

Although many studies have been made on the relationship between CSR and financial performance, none has investigated whether CSR ratings impact the stock price of Swedish listed companies. It is therefore interesting to investigate this further,

and this study aims to determine whether the Swedish stock market reacts to a CSR ranking publication made by Folksam. Folksam is one of the largest investment- and insurance companies in Sweden and all listed companies traded on the Stockholm Stock Exchange are included in its ranking. Hence, a case approach by using the CSR ranking report that Folksam publishes on an annual/semi-annual basis will be used to investigate the more general relationship between CSR and financial performance.

1.1 Purpose and Research Question

This thesis aims to investigate the potential impact of CSR on financial performance. Building on previous theoretical research, as well as examining previous studies, a full picture of the subject is provided, which is used to analyse the results from the event study. Previous research shows ambiguous results of the relation between CSR and financial performance, and there is little evidence supporting that CSR and financial performance are directly related. Still, companies seem to put large amounts of money and effort into socially responsible activities, implying that there are financial benefits to gain. The purpose of this study is therefore, by filling the gap in existing research, to give both companies and investors a better insight into CSR efforts and show if and how these efforts may add value to a business. Hence, the results will be valuable for both these parties, as well as for other stakeholders who benefit from companies' CSR work. Interesting questions to investigate are; do CSR efforts add financial value to a company and hence, do shareholders benefit from companies' CSR work? If not, why do the companies still engage in costly CSR activities?

Based on the defined purpose, the following question arises:
Is it true that CSR engagement has no direct impact on the stock price of a company?

To answer the general question above, previous studies have taken on several different approaches and used different cases. For example, Klassen et al. (1996) use the case of announcements of winning an environmental award, while Guidry & Patten (2010) use first-time announcements of releases of sustainability reports as a case. In this thesis, the specific business case used is the CSR ranking report published by Folksam to examine the releases' impact on Swedish publically traded

companies' stock returns. This will be done by empirically investigating and analyzing the effects of CSR ratings on the stock price of companies listed on the Stockholm Stock Exchange (NASDAQ OMX Stockholm). This implies that the listed companies in the Swedish market will function as the population to investigate, which limits the applicability of the study's results. However, for the Swedish market, the results will be more valid and applicable, as the specific characteristics of the Swedish financial market can be used to better understand the results.

To examine this, three samples based on ranking score are chosen to discover whether there are differences in how investors react to top-, bottom- and no CSR performance, respectively. To strengthen the validity of the thesis, sub-hypotheses and robustness tests will be performed to test for potentially important influential factors that could impact the results of the main hypothesis. The sub-hypotheses, as specified and justified in later chapters, will investigate whether there are any differences in how investors consider CSR engagement 1) over the time-span used in this study, 2) if there are any differences in reaction pre-, during-, and post the financial crisis, as well as whether investors react differently to top- and bottom rankings for 3) companies identified as operationally risky and 4) large sized companies.

1.2 Disposition

To answer the research question, the thesis will guide the reader through a chapter on relevant concepts and motives of CSR. Thereafter a separate section regarding the financial markets as well as the characteristics of the Swedish stock market is presented, followed by a presentation on how CSR and financial performance potentially are linked. Finally, a section on existing previous research within the area is reviewed. Based on the theoretical and literature review, the hypotheses of the study are developed. Subsequently, a chapter describing the method and methodology is outlined followed by a chapter reviewing the study's results. Finally, an analysis will follow based on the results where the theories from the second chapter are applied on the findings.

1.3 Delimitations

The study is limited to investigating the effect on the stock price following a specific release on CSR engagement, namely the publication of the Folksam Index of Corporate Social Responsibility (Folksam CSR Ranking Report). Released on an annual/semi annual basis since 2006, the report evaluates and analyses the public reports of Swedish listed companies based on their CSR policies and activities. It evaluates the companies' CSR engagement by reviewing to what extent their work with human rights and environmental issues comply with the UN Global Compact criteria and OECD's guidelines for multinational companies. Consequently, Folksam's CSR Report rates all components of CSR and reports on the overarching CSR efforts for each listed company. This makes this report release a highly suitable event for this study.

To analyse the impact of Folksam's CSR ranking publication on the stock value of firms, an event study will be conducted where the event is defined as the release of the CSR ranking report. The companies selected for this study are divided into three segments, namely the top 31 companies with the highest total ranking, the 31 companies with the lowest ranking, and finally the companies without ranking each year. The ranking is based on the scores that each company receives for both human rights and environment, respectively. For the investigation of the sub-hypotheses, the same approach will be used, however limited to 2006 and 2013 for the first sub-hypothesis. The second sub-hypothesis covers all years grouped as pre-, during- and post-crisis. The third and fourth sub-hypotheses are limited to 2013 and examine companies that are highly exposed to operational risk and large sized companies, respectively.

2. CSR and Financial Markets

This chapter presents previous research within the CSR and financial areas as well as theories within finance and valuation that are relevant for the study. The subjects covered are CSR, CSR motives, CSR benefits and costs, the financial market, valuation and the Swedish market in particular, as well as the causality between CSR and financial performance. Lastly, a literature review is made on the existing research on the relationship between CSR and financial performance.

2.1 Corporate Social Responsibility

There are several proposed definitions of corporate social responsibility available, but often they are unclear or vague. For example, Marrewijk (2003) defines CSR as *"...company activities, voluntary by definition, demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders"*, which is similar to the definition made by McWilliams, Siegel & Wright (2006) explaining CSR as *"...actions that appear to further some social good, beyond the interests of the firm and that what is required by law"*. Pava & Krausz (1996) on the other hand write that as there is so much uncertainty surrounding the definitions of CSR, it is tempting to suggest that there is no such thing as CSR and that there is no difference between socially responsible and non-socially-responsible firms. Anyhow, there is a growing interest in the area of CSR, and especially for the strategic role of CSR for companies (McWilliams et al., 2006). As companies are growing and becoming multinational, the external pressure from stakeholders will most likely continue to increase. Opinions on whether companies should engage in CSR have however varied in the past. For example, Friedman (1970) argues that CSR is a result of possible agency problems within the firm, a misuse of resources that instead could be spent on value-creating activities, while Freeman (1984) rather argues that the firm has to satisfy a number of stakeholders, as they can influence the firm's performance and outcomes, and hence supports companies' CSR activities. Peloza & Shang (2011) use three different categories for distinguishing CSR activities, namely philanthropy, business practices, and product-related. They argue that generalisation of CSR activities is not easy as there is a wide variety of CSR activities included in different measures.

Not only do the definitions of CSR differ, the understanding of "being good" also varies between companies who take on different approaches to CSR (Johnson, 2003). Johnson (2003) considers social responsibility of firms as a continuum ranging from 'illegal/irresponsible' companies acting on an illegal level to 'social advocacy' where companies consider CSR to be a central part of their mission. The levels in between are 'compliant', 'fragmented', and 'strategic'. Based on the continuum proposed, Johnson (2003) examines whether it pays to be good. The author concludes that it does not pay to be bad as illegal activities have a negative impact, but that good behaviour on the other hand only pays off to a limited extent (ibid). Despite this last point, companies continue to engage in CSR activities that might go beyond what is their responsibility as a company and may not be justified by monetary gains, and the motives behind this choice and potential drawbacks are presented in the next section.

2.2 CSR Motives

When it comes to the motives of CSR, there is a wide uncertainty about why companies actually engage in these types of activities, which is a result of the problem of asymmetric information (McWilliams et al., 2006). As CSR engagement is supposed to reflect a focus on other aspects than the bottom line, rather the triple bottom line[1], managers may be reluctant to reveal the strategic motives for their CSR activities. The lack of this information makes it difficult to understand the true motives for engaging in CSR (ibid). However, there are plenty of theories underlying companies' motivations for engaging or not engaging in CSR activities, which are presented below.

Sprinkle & Maines (2010) suggest an explanation to be that it is simply just the 'right thing to do" and that it is a part of being a good global citizen. Another suggestion is that companies use CSR for so-called "window dressing"[2] in order to get an appearance that stakeholders support and appreciate. In that way, firms engage in CSR activities mainly because they feel that it is a requirement to avoid negative publicity (Sprinkle & Maines, 2010). In fact, the power of stakeholders, such as employees and customers, may play an important part in companies' choice of

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[1] A Triple Bottom Line strategy considers ot only economic performance, but also social and environmental
[2] Window dressing is a strategy for improving appearance or creating a falsely favorable impression

engaging in CSR activities (Dechant & Altman, 1994). Stakeholders are often concerned with environmental performance and expect companies to take responsibility, which makes them take action against companies perceived as environmentally irresponsible. In addition, employees' willingness to work for a firm is dependent on how well the firm's environmental performance fits their values profile, which further strengthens companies' willingness to engage in CSR (ibid).

When examining CSR engagement, McWilliams et al. (2006) suggest applying a resource-based view (RBV). The theory of RBV assumes that a firm's resources and capabilities can lead to a competitive advantage given that they are valuable, rare, inimitable and non-substitutional. Consequently, through an RBV-lens, CSR could be seen as a possible source of competitive advantage (ibid). Assuming that two firms produce identical products, McWilliams and Siegel (2001) suggest that a cost/benefit analysis can help assess the optimal level of CSR activities, i.e. the demand for CSR versus the cost of satisfying the demand. Moreover, the theory of the firm perspective implies that CSR can be seen as a strategic investment, and if it cannot be an integral element of the core business, it can at least enhance the firm's reputation (McWilliams et al., 2006).

The value of CSR can be found in several strategic areas. In most industries, CSR characteristics can be incorporated into products, and is hence a strategic choice to consider when differentiating vertically. Most customers know that a hybrid version of a car is "better" than the original version, and some might be willing to pay a price premium, given that this "CSR-characteristic" is valuable to them (McWilliams et al., 2006). Moreover, the differentiation itself can add reputational value to the firm by meeting stakeholder demands (ibid). Bhattacharya & Sen (2004) do however point out that customers not necessarily are rational, and can express a certain demand for a company engaging in CSR, without changing their purchasing behaviour. They suggest that companies instead should focus on possible internal outcomes of CSR, such as consumers' awareness, attitudes, attributions, etc., which eventually can lead to external outcomes (ibid).

2.2.1 Benefits

As McWilliams et al. (2006) suggest, CSR may be seen as a strategic investment. According to Burke & Logsdon (1996), corporate social responsibility is considered to be strategic when "*...it yields substantial business-related benefits to the firm, in particular by supporting core business activities and thus contributing to the firm's effectiveness in accomplishing its mission*". They identify five different dimensions of corporate strategy necessary for firm success, namely centrality, specificity, proactivity, voluntarism, and visibility, which are used for assessment of how CSR activities can add value to a firm. The authors argue that the different dimensions may lead to various benefits to the company, such as philanthropic contributions, employee benefits, and environmental management, which in turn may create value as they lead to customer loyalty, productivity gains, and new products and markets (ibid). Greening and Turban (2000) support the theories related to increased employee motivation, and claim that social performance is attractive to job applicants. In fact, they argue that job applicants have higher self-images when working for firms that are socially responsible compared to their less CSR focused counterparties (ibid).

Weber (2008) proposes five areas of beneficial impacts of CSR activities, which are all presented below.

1. *Company image & reputation:* Both image and reputation can influence the competitiveness of a company and hence have a beneficial effect. Research has shown that CSR can have a positive impact on both, especially on reputation on a more long-term basis (Weber, 2008).

2. *Employee motivation, retention and recruitment:* These positive effects could be a result of enhanced reputation. However, CSR could also increase motivation for those employees who are motivated by a better working environment, by participating in voluntary activities, etc. Regardless, employee motivation and retention could result in increases in productivity and cost savings. The company might also be more attractive to future employees (Weber, 2008).

3. *Cost savings:* Epstein & Roy (2001) argue that implementing a sustainable strategy can improve materials efficiency, time savings, energy consumption, etc.,

which could lead to cost savings. Moreover, this could generate a positive customer reaction, who in turn might benefit from these cost savings or the improvements of the products. Finally, the authors argue that financial analysts or investors can see these improvements as a positive thing regarding the company's manufacturing performance (ibid).

4. *Revenue increases from higher sales and market share:* These benefits could be achieved indirectly through an improved brand image or directly through a CSR-specific product or service, such as a hybrid car (Weber, 2008).

5. *CSR-related risk reduction or management: CSR* can reduce the risk of negative publicity or NGO-related pressure. Furthermore, there might be some direct financial effects from for example avoiding fines, etc. (Weber, 2008).

Weber's (2008) CSR impact model gives a good overview of the benefits achieved from engaging in CSR and is presented in Figure 2.1 below.
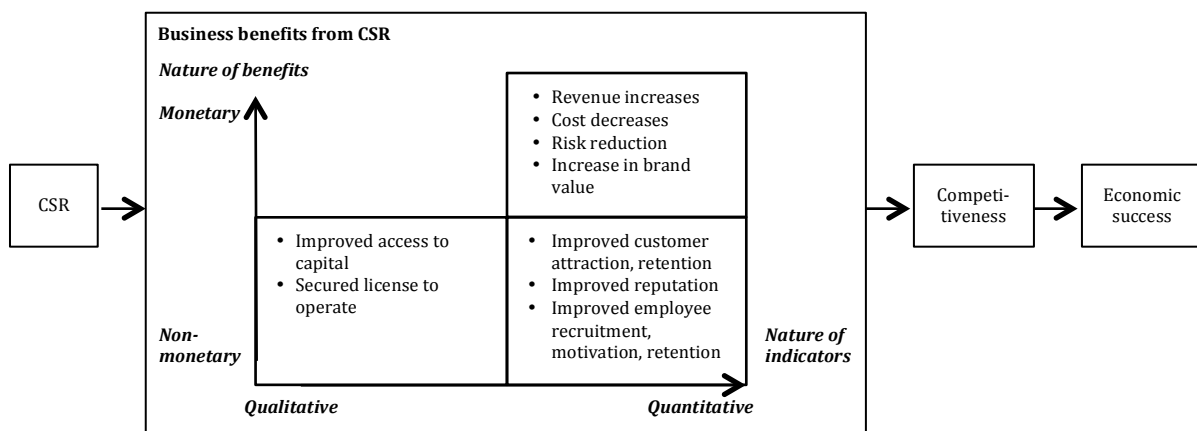
Figure 2.1. CSR Impact Model (Weber, 2008: 250)

To summarize, there are both monetary and non-monetary benefits of CSR, and as the direct monetary ones can be seen as primary value drivers, the indirect ones would be secondary value drivers. Both types can however turn into monetary benefits through for example company competitiveness. Moreover, securing the company in question's "license to operate" can improve stakeholder relations and ensure goodwill and support from governments. This in turn can be crucial when it comes to entering new markets or trading with new countries or regions. The monetary benefits are easier to

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assess the added value of, and using the discounted cash flow method, as for any other investment, this would imply the following model (Weber, 2008):

Formula 2.1 Monetary CSR Value Added (Weber 2008: 253)

$$Monetary\ CSR\ Value\ Added = \sum_{n=1}^{n=\infty} \left(B_{n}^{CSR} - C_{n}^{CSR} \right) * \frac{1}{(1+i)^n}$$

where;
N= period; B^{CSR} = CSR benefits; C^{CSR} = CSR costs; i = discount rate

Barnett (2007) argues that the mentioned benefits, and the potential value added by engaging in CSR, is dependent on the crowd of stakeholders, and he claims that CSR investments overall require a high stakeholder relationship orientation. He introduces the concept of SIC, i.e. stakeholder influence capacity, which is defined as *"the ability of a firm to identify, act on, and profit from opportunities to improve stakeholder relationships through CSR"*. Moreover, he suggests that the path-dependent nature of stakeholders is the basic reason for why different reactions from stakeholders, as well as different effects on financial performance, can occur depending on both the firm in question, its history, and the timing (ibid). Further, he argues that firms with a poor SIC that engage in CSR may find that their stakeholders are sceptical towards, or even overlook, the firms' CSR efforts. Finally, he draws the conclusion that CSR contributions have upper bounds/limits due to this, and that the SIC of a firm is what determines if more CSR efforts will generate positive or negative reactions from stakeholders and hence financial results (ibid).

A final, and separate, CSR benefit related to valuation and risk of a company is presented by El Ghoul, Guedhami, Kwok & Mishra (2011). The authors claim that companies with a high CSR engagement should have lower cost of equity in comparison to companies with a track record showing low CSR engagement. Companies not engaging in CSR, or engaging to a limited extent only, have a reduced investor base and higher perceived risk. Two explanations for this are information asymmetry and investor preferences saying that disclosures of CSR related actions would spread a positive image of the company, which in turn would attract more investors. The results of the study imply that more investors are likely to invest in companies that do engage in CSR than do not (ibid). As a result, CSR engagement

leads to lower cost of capital, which in turn reduces the financing costs and makes the companies more valuable (ibid). The valuation of a company is further described in section 2.3.3 below.

2.2.2 Costs

There are different types of costs related to CSR engagement. Weber (2008) suggests that one-time CSR costs should be seen as separate from continuous costs. One-time costs can for example include installation costs, one-time donations or other similar investment costs (Weber, 2008). Continuous costs could be fees such as for licenses or patents, recurring personnel or materials costs, and CSR-promotion activities such as marketing and campaigns (ibid).

Another potential cost to consider comes from the risk of active CSR engagement leading to higher exposure and more scrutinization from e.g. press and nongovernmental organizations (NGOs) (Weber, 2008). According to Yoon, Gürhan-Canli & Schwarz (2006), CSR may hurt the company image when motives behind the CSR engagement are perceived to be insincere, i.e. that the consumers suspect that the companies engage in CSR only in order to improve their images. Consequently, a single mistake leading to bad publicity will affect a company's reputation more negatively than for a company who does not engage in CSR at all, causing costs that are CSR risk-related (Yoon et al., 2006, Bhattacharya & Sen, 2004; Weber, 2008). In fact, Bhattacharya, Korschun & Sen (2011) point to the risk of CSR activities, even though well meaning, harming the competitiveness of the company. They further suggest that a few basic principles can reduce this risk significantly. Firstly, they highlight the market motives, and state that by being genuine and open with those, together with pursuing genuine CSR objectives, will minimize the risk. Moreover, trying to satisfy the specific needs of the customers will increase the likelihood of them approving the CSR engagement, and accordingly minimize the risk. Finally, constantly trying to align the company goals and stakeholder goals will also increase the likelihood of the CSR activities actually creating value, and for all parties involved (ibid).

A final remark to highlight is that CSR costs are hard to measure and that

conventional accounting systems do not distinguish between costs related to CSR and not related to CSR. There is also an inherent risk of cost distortion due to the overhead being assigned based on for example number of units (Weber, 2008).

2.3 The Efficient Stock Market and Valuation

2.3.1 The Efficient Market

A company's stock price reflects a company's value creation driven by its ability to grow and gain return on invested capital, which are economic fundamentals that drive long-term cash flows (Koller, Goedhart & Wessels, 2010). Consequently, different discounted cash flow (DCF) models in which the future cash flows are forecasted are popular for evaluating companies and determining their stock prices (ibid). According to Koller et al. (2010), the DCF model is the most accurate method for valuing a company, but other methods can be used for testing of the plausibility of DCF forecasts. An example of such a valuation method is a multiple analysis in which the company is compared to peer companies in the industry. The stock price can also be directly found by discontinuation of the dividends that the stock is expected to pay in the future (Koller et al, 2010). The different valuation models, as stated above, should all yield the same results (Petersen & Plenborg, 2012).

The stock market is characterized by competitiveness and market efficiency (Brealey et al., 2014). Fama (1970) defines an efficient market as a market in which *"... security prices at any point in time 'fully reflect' all available information"*. In an efficient market, prices follow a random walk, meaning that price changes in different periods are independent of one another (Brealey et al., 2014). Consequently, there is no pattern in share price changes, and past prices cannot be used for prediction of future prices, as this would lead to effortless profits. Instead, the rule of market efficiency implies that prices are adjusted immediately when investors try to utilize information in past prices, until the superior profits disappear. All information in past prices is therefore reflected in the stock price of today and consequently investors cannot achieve excess returns on a long-term basis (Brealey et al., 2014). Further, the efficient market theory suggests that all other information that is available to investors also is reflected in today's stock price. Following this reasoning, securities are

assumed to be fairly priced and their returns will be unpredictable, thus no consistent superior returns should be achieved in the market. Collecting more information will therefore not make any difference, as all information that is available already will be incorporated in the stock price (ibid).

There are three levels of market efficiency, which differ in degree of information reflected in security prices. These are called weak market efficiency, semi-strong market efficiency, and strong-market efficiency (Brealey et al., 2014). In the weak form of market efficiency, current security prices reflect all information about past prices. In an efficient weak market, prices follow a random walk, which makes it impossible to generate superior returns by using information on past returns. In the semi-strong form of market efficiency, prices reflect both past prices and all other public information. When public information is released, prices immediately adjust, which makes it impossible to gain superior returns consistently. In the strong-market efficiency form, prices reflect all available information through careful analysis of the company and the economy, which makes it impossible to consistently beat the market (ibid). Fama (1970) argues that there is no significant evidence against the weak and semi-strong hypotheses, which indicates that prices seem to adjust to all publicly available information. For the strong-market hypothesis on the other hand, there is some evidence pointing against the efficiency of the theory. It is argued that there is a possibility that some investors or groups have monopolistic access to information, which could lead to abnormal profits. This could for example be the case for corporation officers that have monopolistic access to information about their firms (Fama, 1970).

2.3.2 Signalling Theory

As presented in the previous section, the stock price reflects the underlying value of the stock and any new information about a company should immediately be incorporated in its stock price, which implicates that there is no possibility to make lasting profits (Brealey et al., 2014). The signalling theory on the other hand, suggests that the market is not completely efficient as there in fact are information asymmetries (Copeland, Weston & Shastri, 2014). These asymmetries arise as insiders, i.e. the management of a firm, have more information than outsiders, i.e. security holders. A

signal is defined as an action that is taken by the more informed part, which in turn provides credible information to the less informed part with the purpose of reducing the asymmetry (ibid; Van Horne & Wachowicz, 2005). Consequently, managers may send out signals by taking certain actions to indicate e.g. the future direction of the firm, which is used by less-informed parties when making decisions (Van Horne & Wachowicz, 2005). In addition, as managers' compensation and benefits may depend on the firm's market value, they utilize information that other parties do not have in order to maximize the value of the firm (ibid).

Greening & Turban (2000) make a separate link between signalling theory and corporate social performance of firms. They suggest that a firm's social performance affects its attractiveness as an employer since their CSR engagement signals certain values and norms to applicants. The arguments behind this statement are based on previous research stating that applicants do not have complete information about the potential employer, and therefore use the information they receive as signals about the firm's working conditions.

2.3.3 Valuation and the Investors' Stock Price

When assessing the market value of a company, and hence the fair price of the stock from the investors' point of view, a discounted cash flow-analysis can be used, which is calculated by using formula 2.2 presented below (Brealey et al., 2014). A firm's enterprise value is dependent on future expected cash flows, the weighted average cost of capital as well as the perpetuity growth rate. As previously mentioned, the analysis is used for estimation of the future cash flows, which then are discounted back to today's value.

Formula 2.2. The formula for calculating Enterprise Value

$$Enterprise\ value\ = \sum_{t=1}^{\infty} \frac{FCFF_t}{(1 + WACC)^t} + \frac{FCFF_{n+1}}{(WACC - g)}\ x \frac{1}{(1 + WACC)^n}$$

where;
FCFF = Free Cash flow to Firm; WACC = Weighted average cost of capital;
g = Perpetuity growth rate; n = number of periods

Future cash flows can be estimated through a strategic and a financial analysis (Brealey et al., 2014). The strategic analysis should focus on both micro and macro

factors, and can for example consist of classic frameworks such as Porter's five forces, a PESTEL-analysis and a SWOT-analysis, while the financial analysis takes into account the historical data in the formulated analytical income statement and balance sheet, and can for example include a profitability analysis, a growth analysis and a risk/liquidity-analysis (Petersen & Plenborg, 2012). The results of the three mentioned analyses are then incorporated into the appropriate value drivers, in order to assess an estimate of the company's future performance (ibid).

The frameworks applied in the strategic analysis consider different important factors affecting the company. While the PESTEL-framework analyses the macro-environmental influences that can affect the potential cash flow and risk, such as political, economic, or technological aspects, Porter's five forces assess the industry factors that could affect the cash flow potential and risks (Petersen & Plenborg, 2012). The five forces include buyer- and supplier power, entry barriers, rivalry, and substitutes. The two described frameworks can be combined with an analysis on company specific factors that can influence the cash flow potential and risks, such as human resources, physical resources, financial resources, and intangibles (i.e. brand, image, stakeholders relationships, etc.). Finally, this opens up for a concluding SWOT-analysis on the company's strengths, weaknesses, threats, and opportunities, and hence a final estimation of potential future cash flow can be added to the financial analysis (ibid).

2.3.4 Incorporating CSR into a Valuation

The understanding of how CSR can create value is still being discussed. Some CSR initiatives, such as cutting down energy usage, produce more immediate results and are hence easier to assess the value of (Bhattacharya, Korschun & Sen, 2011). Other CSR activities, such as letting employees engage in voluntary activities, that might lead to value creation in the form of employee motivation and hence efficiency, are more long-term benefits, and are hence harder to assess (ibid). As suggested by Petersen & Plenborg (2012), social responsibility activities could be included as a value adding (reducing) factor in the SWOT-analysis, under opportunities and strengths (threats and weaknesses). However, a survey by McKinsey shows that a significant proportion of investors asked do not fully consider the value of CSR in

their valuations, as the value is too long-term, too indirect or too hard to measure accurately (Bonini, Brun & Rosenthal, 2009). Notable is that three-quarters of investment professionals agree that CSR activities *does* create value, only not how much, and that the most important value sources are maintaining a good corporate reputation and building brand equity. One of the exhibits from the survey results, presented in figure 2.2 below, shows that 49 (43) per cent of the respondents are substantially positive that environmental (social) programs contribute to short-term shareholder value, and that 85 (74) per cent are substantially positive that environmental (social) programs will contribute to the long-term value for shareholders (ibid).
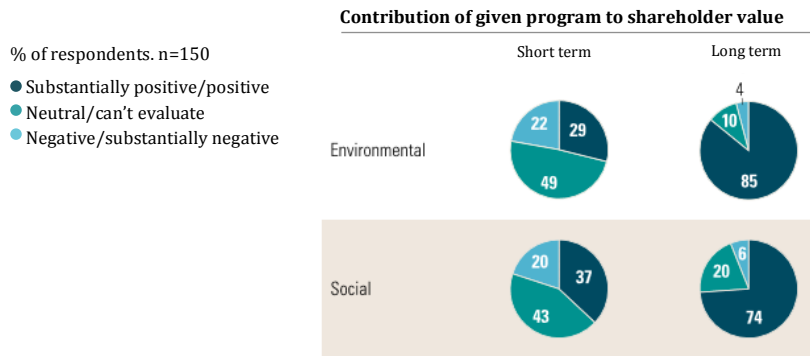
Figure 2.2. Contribution of Environmental and Social programs to shareholder value (Bonini et al., 2009)

The results presented by El Ghoul et al. (2011) related to CSR and cost of capital, mentioned previously in this chapter, have an important implication for how CSR engagement may affect the valuation of a firm. The authors claim that a high engagement in CSR, among other things, leads to a lower equity cost of capital. As can be seen in Formula 2.3 below, the weighted average cost of capital is an independent factor in the DCF-analysis, which plays an important part (Petersen & Plenborg, 2012). The equity cost of capital is linked to the weighted average cost of capital through the following formula (ibid):

Formula 2.3. The weighted average cost of capital formula

$$WACC = \frac{E}{V} * R_e + \frac{D}{V} * R_d * (1 - \tau_c)$$

where;
E = Equity value; V = Total value; D = Debt value;
R_e = Cost of equity; R_d = Cost of debt; T_c = Corporate tax rate

As a result, a lower equity cost of capital, i.e. Re, will give a lower WACC, which in turn will result in a higher enterprise value when incorporated in the DCF-analysis.

2.3.5 Characteristics of the Swedish Equity Market

Together with the fixed-income and foreign exchange markets, the equity market has an important function in the Swedish financial system and is defined as trading in equities and equity-related instruments listed on Swedish market places (Riksbanken, 2014). Currently, there are two regulated markets, i.e. Stock Exchanges, in Sweden, namely NASDAQ OMX Stockholm and Nordic Growth Market (NGM Equity). In addition, there are three trading platforms, which are also called Multilateral Trading Facilities (MTFs) and have simpler regulations compared to regulated markets. These three trading platforms are First North Stockholm, Nordic MTF, and Aktietorget. In the year-end 2013, approximately 513 public limited companies were listed on the Swedish market, where 266 and 247 companies were listed on the regulated market and MTF respectively. Among the Swedish marketplaces, NASDAQ OMX Stockholm is by far the largest with a market value of the listed equities that represents 99 per cent of all listed Swedish equities (Riksbanken, 2014).

The ownership of Swedish equities is widespread and extensive. In the end of 2013, the total market value of equities listed on Swedish marketplaces amounted to almost SEK 5000 billion, where the value belonging to the Swedish households, both directly and indirectly, was estimated to 27 per cent of the total market value. The foreign investors' share of the market was 41 per cent in the year-end 2013, which corresponds to the largest category of shareholders (Riksbanken, 2014).

Companies that are listed, and thus available for trading, on the Swedish marketplaces are obliged to publicly publish information concerning decisions and events that may influence the prices of the stocks. The reasoning behind this regulation is that all traders should have the opportunity to have access to the same information at the same time, which according to the Swedish Central Bank (Riksbanken) creates confidence in the market and protects investors (Riksbanken, 2014). In fact, strong consumer protection is a main objective for the Swedish government (Regeringen, 2014). An important part of this is to maintain transparency and mobility in the

market. According to the Swedish Central Bank, trade on the organised marketplaces makes up an important base for transparency in the market and helps reduce market abuse. Due to clear and transparent rules for trading and collection of information on volumes and prices, all information is available to all market participants (Riksbanken, 2014).

In addition, new and continuously developing regulations in EU regarding market supervision and the enforcement of financial information affect how the Swedish securities and financial markets are developed and how the companies and the monitoring parties should react (Finansinspektionen, 2015). Finansinspektionen is responsible for supervision of the securities market and according to the law of market abuse, it is required that stock exchanges, marketplaces, and companies selling securities report to Finansinspektionen if they discover suspicious transactions that can be related to insider crimes or unjustified market impact (Finansinspektionen, 2015).

All companies listed on NASDAQ OMX Stockholm are included on NASDAQ OMX Nordic, which is a Nordic list that also incorporates all companies listed on the stock exchanges in Copenhagen, Helsinki, and Reykjavik (Riksbanken, 2014). To be listed, the companies need to fulfil a range of requirements, e.g. that the market value of the equities must be equal to or larger than EUR 1 million, that they have enough shareholders and that the company can show a stable profitability or financial resources that cover operations for at least 12 months. The Nordic list consists of three segments, namely large cap, mid cap and small cap, which are divided based on the market value of the companies. The Nordic list includes companies with a market capitalisation of at least EUR 1 billion on large cap, while companies listed on small cap have a market capitalisation smaller than EUR 150 million. Companies with a market value of between EUR 150 million and EUR 1 billion are listed on mid cap (NASDAQ, 2011; Riksbanken, 2014). On the 18th of November 2013, 1 EUR amounted to 8,9556 SEK (Riksbanken, 2015).

In their annual report of the Swedish financial market, Riksbanken presents the historical turnover and market capitalisation on NASDAQ OMX Stockholm. As can be seen in figure 2.3 below, the levels of both turnover and market capitalisation have

varied during the period, which partly can be seen as a result of the financial crisis of 2008, which is elaborated upon more below.
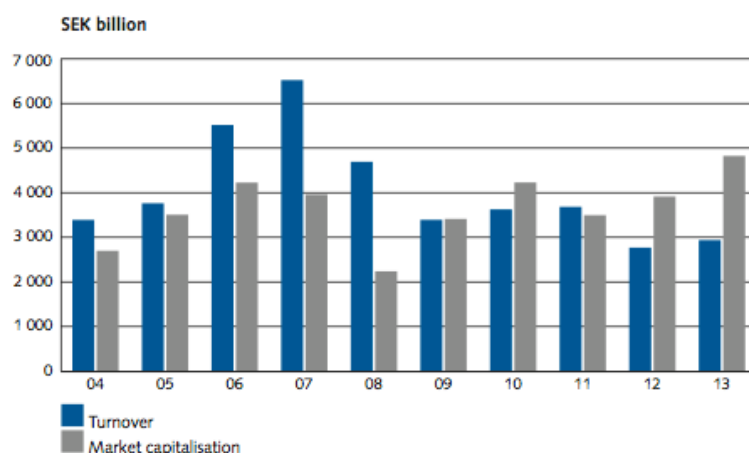
Figure 2.3. The turnover and market capitalisation on NASDAQ OMX Stockholm (Riksbanken, 2014)

2.3.6 Sweden's Cyclical Development during the Period

The development of the Swedish market from 2006 to 2014 is outlined in Figure 2.4 below. Together with the rest of the world, the economic environment in Sweden during 2006 was characterised by an upswing in the economy with an expansive growth in GDP. The Swedish market had an increased employment rate as well as substantial export growth. The growth in GDP continued during 2007, however slower than in 2006, and the employment rate increased. A declining export and employment growth lead to a slowdown in the GDP growth in the beginning of 2008, which was worsened as a result of the worldwide financial crisis the same year and lead to a recession (Konjunkturinstitutet, 2006; 2007:1-2; 2008).
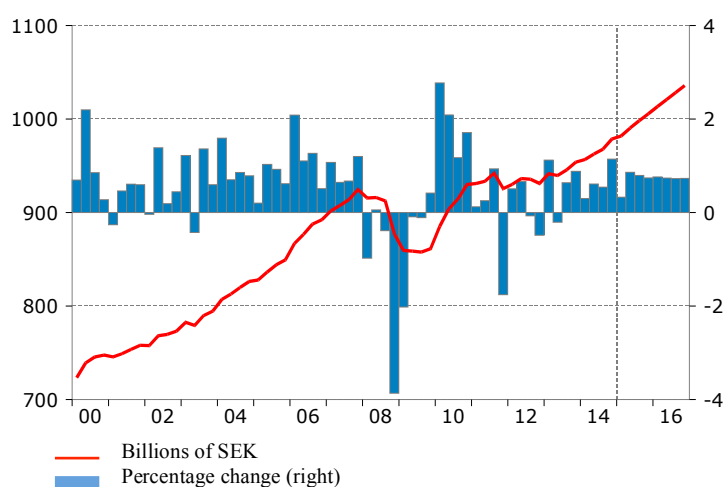
Figure 2.4. The development of the Swedish economy from 2000 to 2015. (Source: Konjunkturinstitutet, 2015).

The bankruptcy of the American investment bank Lehman Brothers during the fall of 2008 was followed by a sharp drop of the stock exchanges all over the world where Stockholm NASDAQ OMX was severely hit with a total fall of 42 per cent during 2008 (Andersson, 2008). This is clearly distinguished in the figure above by the sudden fall of GDP growth and value. The international crisis affected Sweden considerably and in 2009, the Swedish GDP had fallen more than in the US, OECD and Eurozone. In addition, there was a considerate increase in unemployment. Year 2010 was mainly characterised by recovery thanks to fiscal policies and increased demand for Swedish export goods. In 2011, the recovery of the economy was slowed down as a result of financial turbulence in the surrounding world, e.g. the debt crisis in the Eurozone, leading to stock exchange falls. During the initial months of 2012, the households' and the companies' confidence in the economy was strengthened, however the recovery declined once again in the middle of 2012 due to the weak world development. A similar development was present in 2013 with both positive and negative future outlooks leading to a variable GDP development. However, from the middle of 2013 and forward the GDP growth curve has shown a positive slope, but the recovery has in general been slow due to a weak demand for Swedish export goods. Today, the economic outlooks for Sweden are more optimistic, partly as a result of an export growth, and the Swedish GDP growth is expected to increase steadily (Konjunkturinstitutet, 2009; 2010; 2011:1-2; 2012:1-3; 2013:1-2; 2014; 2015:1-2).

The OMX Nordic Stockholm Price Index (OMXSPI) is the index used in daily speech to indicate the movement of the stock exchange, and hence gives a good overview of the development of the Swedish stock exchange (NASDAQ, 2015:1-2). It is a weighted index of all stocks that are listed on the OMX Nordic Exchange Stockholm. The developments and fluctuations of OMXSPI during the period 2006-2015 are outlined in Figure 2.5 below. As can be seen, the index has to a large extent followed the development in the Swedish market with a peak in 2006-2007, followed by a large downturn as a result of the economic crisis in 2008-2009 and a stable recovery from 2012 onwards.

Figure 2.5. The development of OMX Stockholm PI from 1995 to 2015 (Dagens Nyheter, 2015)

2.4 CSR and Financial Performance

The relationship between CSR and financial performance is of importance within the business and management area, and is also in the interest of investors (Weber, 2008). Several empirical papers and theoretical research have examined this relationship in different ways over the years, and the correlation as well as the potential conflict between the two aspects have been subject to investigation over the last 40 years (Bird et al., 2007).

Despite the companies' primary responsibility of earning profits, they can at the same time contribute to social and environmental goals. They can integrate social responsibility as a strategic investment in the central corporate strategy, management instrument, and the business (Folksam, 2013). There is no guarantee that socially responsible activities automatically lead to an increased value for the shareholders. However, evidence indicates that it could be a type of insurance protection and therefore maintains the value for them (ibid).

2.4.1 Previous Empirical Papers

The previous empirical papers on the relationship between CSR activities and firm performance can be divided into qualitative and quantitative studies. The qualitative studies have often focused on the relationship between CSR and the firm's competitiveness, which in turn implies an increased financial performance. The quantitative studies on the other hand have mainly been conducted as either regression studies or event studies, which often have lead to inconclusive results (Weber, 2008). For example, Aupperle et al. (1985) and McWilliams & Siegel (2000)

found that there is a neutral relation between socially-responsible activities and profitability, while Waddock and Graves (1997) found that CSR activities result in an improvement in firm performance. Negative correlations have also been found, however those have not been as common (Vance, 1975; Hassel, Nilsson & Nyquist, 2011). Most of the critique pointed towards these studies has been related to the inconsistency of variables and methodology used in the research (Weber, 2008; McWilliams & Siegel, 2000). It has also been discussed whether there are missing factors in previous research and that this deficiency may lead to misleading results. Examples could be cultural differences of CSR importance, industry differences, the causality between CSR and financial performance, or if a correlation actually is dependent on a hidden variable, such as R&D or advertising (McWilliams & Siegel, 2000). The different results from previous studies are presented in more detail in section 2.5 below.

2.4.2 Previous Theoretical Research

The previous theoretical research has often argued that the relationship between economic performance and the environmental/social performance follows an inverse U-shaped curve (Weber, 2008). This curve shows how the net marginal benefits from environmental efforts will decrease sooner or later, which follows the logic that an indefinite number of environmental activities cannot infinitely increase economic performance (Schaltegger & Synnestvedt, 2002).
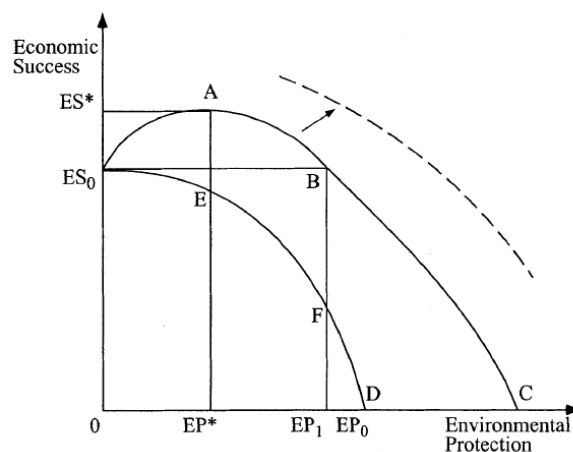
Figure 2.6. Figure of possible relations between corporate environmental protection and economic success (Schaltegger & Synnestvedt, 2002, s.341) The upper (lower) curve shows a more efficient (inefficient) management regarding its environmental activities, and hence a lower (higher) marginal cost.

This could possibly be an explanation for the empirical research results, as it points towards the individual company strategy being a key factor when analysing the impact of CSR on economic performance (Weber, 2008). As the curve in figure 2.6 also shows; the economic success depends on the management applied to the environmental strategy (Schaltegger & Synnestvedt, 2002). Hence, the final question might not be whether it pays to be green but rather *when* it pays to be green, and the discussion of the causality between CSR and financial performance becomes relevant (ibid). If assuming that the economic performance is the dependent variable, there are also a number of factors that will affect the relationship. Examples are the consumers' willingness to pay for environmentally friendly goods, the environmental situation in the country, the stakeholder pressure in the setting (e.g. depending on industry), the level of available technological solutions, and the level of competition (ibid). A more extensive discussion on causality will follow.

2.5 Literature Review

The extensive amount of research on the correlation between CSR and financial performance, of both qualitative and quantitative nature, take on different approaches and use different variables. Regardless of what types of variables that are used, these studies can broadly be divided into two groups, namely studies in which financial performance is used as dependent variable as well as studies where some kind of corporate social responsibility performance, or social concern, is used as dependent variable.

2.5.1 Financial Performance as Dependent Variable

Research on the correlation between financial performance and CSR with financial performance as dependent variable is widespread and has shown ambiguous results (McWilliams & Siegel, 2000). The results from these studies can roughly be grouped into those with results showing negative correlation, results showing positive correlation, and results showing no or insignificant correlation. In Table 2.1 below, a selection of theoretical papers on CSR and financial performance from a quantitative perspective is outlined, in which the variables and main conclusions from the selected studies are summarized.

Author(s)	Fin. Performance Variable	CSR Measure Variable	Key Argument/conclusion
Alexander & Buchholz (1978)	Stock price returns on a risk-adjusted basis	Reputational rankings based on students' and business men's perception	CSR has no significant effect on stock market performance, which indicates that the stock markets are efficient.
Aupperle, Carroll & Hatfield(1985)	Risk-adjusted ROA	Survey answered by corporate respondents to show social-responsibility orientation	No significant relationship between social responsibility and financial performance.
Bird, Hall, Momente & Reggiani. (2007).	1-3 year returns, the market-to-book ratio (MTBV) and the price-to- earnings ratio (PE).	Social issue ratings made by a rating firm	Significant investments (poor practices) on a wide spectrum of CSR activities are rewarded (penalized) in the market place. Little evidence indicates that a wider stakeholder perspective will jeopardize the interest of the stockholders.
Cochran & Wood (1984)	EBIT/Assets, EBIT/sales, and excess market valuation	Reputation index	Older assets indicate lower social responsibility ratings. A marginally significant positive association between social responsibility and financial performance is found.
Guidry & Patten (2010)	Stock Price returns	First-time announcement of the release of a sustainability report	There is no significant market reaction to the announcement. However, companies issuing high-quality reports exhibit significantly more positive market reactions than firms releasing lower quality reports.
Hassel, Nilsson, & Nyquist. (2011)	Net income, Book value of equity and stock returns	Environmental performance evaluations from CaringCompany (CC) Research	Firms rated highly in terms of environmental performance are not highly valued by investors as these activities have a negative impact on expected earnings and market values.
Herremans, Akathaporn & McInnes (1993)	EBITDA, Net Margin, ROA, and ROE as well as stock return and risk	Fortune annual survey of corporate reputations measured with nine intervals	Good CSR reputation and higher reported profitability are strongly related. A good reputation for CSR is strongly associated with lower total firm risk, and investors appear to be cognizant of differences in reputations about CSR among firms.
Klassen & McLaughlin (1996)	Stock market performance, i.e. abnormal stock returns	Announcement by an independent third party of winning an environmental award	Significant positive relationship between environmental events and abnormal stock returns. Significant negative returns after environmental crises. First-time award announcements lead to greater increases in market valuation, although smaller increases were observed for firms in environmentally dirty industries.
Mackey, Mackey & Barney (2007)	Market value of the firm	N/A	When investors' demand for socially responsible investment opportunities is greater than the supply of these, CSR can create value for a firm. If the supply and demand conditions are not favourable, engaging in these activities can reduce the market value of a firm.
Pava & Krausz (1996)	Market-/accounting-/risk and firm-specific based measures	Companies that have been defined as being socially responsible	The firms which have been perceived as having met social-responsibility criteria have generally been shown to have financial performance at least on a par, if not better, than other firms.
Preston & O'Bannon (1997)	ROA, ROE, and ROI	Fortune annual survey of corporate reputations	There is no significant negative social-financial performance relationships and strong positive correlation for both contemporaneous and lead-lag formulations.
Vance (1975)	Stock price	Reputational rankings based on students' and business men's perception	Negative correlation between ranking and stock market performance
Waddock & Graves (1997)	ROA, ROE and return on sales	Index of corporate social performance Control variables: firm size in terms of total assets, risk, and industry	CSP is associated with prior financial performance and future financial performance, especially if the key stakeholder relations are improved.

Table 2.1. A selection of Quantitative Theoretical Papers on CSR and Financial Performance

2.5.1.1 Studies Indicating a Negative Relationship

'*There is one and only one social responsibility of business – to use its resources and engage in activities designed to increase profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception and fraud*' (Friedman, 1970).

This well-known quotation made by Friedman (1970) supports the neo-classical theory stating that the role of the management of a company is to make decisions solely based on maximization of the corporation's long-term market value, which includes the wealth of the company's owners (Bird et al., 2007). As the management of a company acts as an agent for shareholders, it has no mandate to take initiatives on socially responsible activities that do not generate increased incomes to the firm (Pava & Krausz, 1996 based on Friedman 1970). This neo-classical view implicates that investments in CSR activities will put the company at a competitive disadvantage, which in turn leads to a negative relationship between these socially-responsible activities and market performance (Aupperle et al., 1985).

Among the selected studies in Table 2.1, there are only a few that find a significant negative relationship between CSR activities and financial performance. Consequently, there is little evidence supporting the neo-classical advocates' belief in the sole responsibility of the business, namely to increase profits.

An early study showings a negative relationship is Vance (1975), where the CSR engagement is measured as firms' degree of social responsibility based on subjective perception and ratings made by businessmen and students. Vance (1975) uses the ratings as a proxy for CSR to find a correlation with stock price, and it is concluded that CSR firms are not good investments for investors as a negative correlation is found between CSR and stock price.

In a more recent study, Hassel, Nilsson & Nyquist (2011) present similar results as they examine how CSR affects the financial performance of Swedish companies, where CSR and financial performance are represented and measured by environmental information and market value, respectively. The study concludes that high environmental performance is costly and that this type of investment therefore

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negatively affects the expected earnings and market value. They explain their results by using three different factors. First of all, they state that companies' environmental performances are perceived as window dressing of book values and financial performance among investors. Secondly, they argue that environmental activities are made at the expense of increased profits, which investors react negatively upon as their return decreases without a corresponding reduction in risk. The last factor used as explanation is the fact that the market is short-term oriented, which makes investors ignore longer-term environmental information when making investment decisions. Companies with a highly rated environmental performance are therefore not rewarded by investors (Hassel et al., 2011).

2.5.1.2 Studies Indicating a Positive Relationship

The traditional view of stock investors as being profit maximizers exclusively interested in earning the highest level of future cash-flow for a given amount of risk has over the years become criticized (Pava & Krausz, 1996). Initially, it was often assumed that investors were unwilling to pay a premium for socially responsible corporate behaviour, however this has proven to be changed (ibid). In contrast to the neo-classical view, the stakeholder theory takes a different approach, which often is seen to conflict with the former (Bird et al., 2007). Instead of benefiting shareholders only, the stakeholder theory claims that companies have obligations to a wider group of stakeholders and that resources should be utilized in a way that not only benefits the shareholders (Freeman, 1984). This has been criticized, but evidence shows that a wider perspective is not necessarily negative. Instead, several studies have found a positive relationship between different types of CSR activities and financial performance. In fact, it has been suggested that there is no conflict between the two approaches as long as outlays on CSR activities have positive influence or no influence at all on the market valuation of a company (Bird et al., 2007).

Among the older studies of the relationship between CSR activities and financial performance with financial performance as dependent variable, Cochran & Wood (1984) use reputation index as CSR proxy and various financial performance indicators. They study the correlation between these variables over two five-year periods across a wide range of US industries, 29 and 28 respectively. Cochran & Wood find a marginally significant positive correlation between the social

performance proxy and various financial performance indicators and use asset age as an explaining factor. They state that firms with higher CSR rankings have higher reported asset values as they use their assets differently, which affects the financial results positively compared to older competitors (Cochran & Wood, 1984).

Together with 20 other studies from 1972 to 1992, the study made by Cochran & Wood (1984) forms a base for a later study made by Pava & Krausz (1996). Pava & Krausz use the results from these 21 studies, namely twelve studies finding a positive correlation, eight finding no correlation, and only one finding a negative correlation, to argue that there is an indication that firms investing in CSR perform at least as well as other firms. In their own study, they examine the long-term financial performance, defined by various market-, accounting-, risk- and firm-specific based measures of performance, of a group of US firms that have been identified as being socially responsible by the Council on Economic Priorities. The results from the study are consistent with the majority of the previous studies they have presented as they find evidence supporting a positive correlation between socially responsible activities and financial performance (Pava & Krausz, 1996).

Herremans et al. (1993) examine the correlation between corporate reputations and various accounting-based financial measures, stock return and risk respectively, among manufacturing companies in the US. They divide the companies into two groups depending on to what extent they are perceived to encounter social conflicts, to analyse differences. The results show that there is a positive relationship between socially responsible activities and financial performance for both groups. However, for the industries that are more exposed to social concerns, e.g. chemicals, the profitability and stock market performance effects are more noticeable. A control variable testing leverage also shows that companies with a poorer socially responsible reputation have slightly greater leverage.

Klassen & McLaughlin (1996) make a similar study, however using an event study approach, in which they examine the correlation between public announcements of environmental performance rewards and stock market performance, i.e. abnormal stock returns. In their study, they present evidence supporting the hypothesis that strong environmental management has a significant positive impact on stock returns.

In addition, they find differences between industries and for first-time awards. In general, first-time awards have shown to have a greater impact on market valuation, but the impact on stock return for firms acting in environmentally dirty industries is shown to be less than the impact on other firms. Consequently, it is concluded that the market rewards firms that receive awards for investing in socially responsible areas (Klassen & McLaughlin, 1996).

Preston & O'Bannon (1997) study the correlation between social performance, defined as social reputation in terms of different social aspects, and financial performance specified as accounting-based financial measures. The study is conducted on 67 large US firms in the time-span of 1982-1992. The results presented support that there is a strong positive correlation between social reputation and financial performance, which is strongly backed up by the stakeholder theory.

A more recent study within the field made by Mackey et al. (2007) takes a different approach and they claim that the impact of CSR investments on a firm's market value mainly is dependent on the relative supply of and demand for CSR investment opportunities among investors. The study is based on the assumption that some investors prefer to invest in firms engaging in socially responsible activities, which companies use as a way to sell their product to current and potential investors. By engaging in CSR activities, the companies reach investors who value such activities, despite the investments' negative impact on the firm's present value of cash flows. The authors suggest that there can be a positive correlation between socially responsible investments and firm value, despite the investments' negative impact on present value of cash flows. Mackey et al. construct a model that shows the equilibrium in which the demand and supply for socially responsible investment opportunities meet. The authors conclude that if investors' demand for socially responsible investment opportunities exceeds the supply of these investment opportunities, meaning that there are not enough companies engaging in socially-responsible activities, then such investments can create economic value for a firm.

Bird et al. (2007) find various results including evidence showing a correlation between financial performance and CSR efforts. They examine a range of CSR activities' impact on the value of listed firms in the US market, where CSR

performance is measured as positive or negative scores of five different activities. The results show a positive relationship between financial performance and one of the CSR variables, namely strength score for diversity. This implies that the market rewards companies for engaging in diversity matters. In addition, Bird et al. find evidence that companies that are associated with significant investments in a wide range of CSR activities will be rewarded in the marketplace, which implies that there are reputational benefits to gain from engaging in CSR activities other than those one might consider to be related directly to the CSR activities (Bird et al., 2007).

Alexander & Buchholz (1978) state another explanation for this positive correlation, which is based on a view developed by Moskowitz (1972). Simply, managers that are socially aware and concerned and pursue those types of activities are more skilled managers overall and are hence able to generate higher profitability, thus making its company a better investment.

2.5.1.3 Studies Indicating No or Insignificant Relationship

As mentioned above, there should be no conflict between the neo-classical view of a corporation and the stakeholder theory as long as CSR investments have a neutral or positive influence on the company's market valuation (Bird et al., 2007). The studies finding a positive correlation were specified in the previous section, however there are also several studies that indicate no or insignificant relationships between socially responsible activities and financial performance.

In their early study, Alexander & Buchholz (1978) use social responsibility rankings made by students and business men as CSR measure and aim to examine if there is a correlation between this measure and stock return on a risk-adjusted basis. The risk of the stock was approximated based on the beta coefficient. The firms examined were US firms over a five-year period. The results and analysis showed that there was no correlation between the two variables. They link their results to the efficient market theory, which states that positive or negative effects associated with the degree of social responsibility of a firm are reflected immediately in its stock price. As the majority of the firms included in the study did not show abnormal stock returns, the authors conclude that social responsibility does not affect stock prices. In addition,

they conclude that there is an insignificant relationship between risk and degree of social responsibility.

Aupperle et al. (1985) make use of a forced-choice survey method answered by CEOs from American corporations to find a firm's social-responsibility orientation. The social concerns are then correlated to the firms' profitability measured as return on assets. None of the different tests and results shows a significant relationship between a strong orientation toward CSR and financial performance. In addition, they conclude that having a corporate social responsibility committee on the board does not lead to higher profitability in comparison to firms who do not have a CSR committee on their board.

Guidry & Patten (2010) examine announcements of the release of a first-time sustainability report among publicly traded US-based corporations over an 8 year period, and how these announcements affect the financial performance measured by stock price. They use an event study methodology where the standard CAR calculation model is supplemented with two variables incorporating industry risk and size of the firm. The authors also study the importance of report quality and test if differences in the report quality have an impact on how the market reacts on the announcements. The authors find no significant market reaction related to the issuance of a sustainability report, which indicates that there is no correlation between this type of CSR and financial performance, and that investors do not assign value to sustainability reports. However, Guidry & Patten (2010) present evidence stating that high-quality reports with meaningful disclosures do have an impact on the market as they yield more positive market reactions than lower quality reports.

McWilliams & Siegel (2000) support the results presented above as they argue that the reason for previous studies' inconsistent results is the usage of misspecified models. In their study, they want to adjust for this and take a research & development (R&D) variable into account as they claim that the exclusion of this in other studies have lead to upwardly biased estimates of the CSR measure. They argue that many companies that engage in CSR also are pursuing a differentiation strategy including significant investments in research and development (R&D), and that it is these R&D investments that affect the firm performance rather than the CSR activities. Their

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study is based on two models, one including R&D intensity and the other one excluding the same, and they conclude that when the model incorporates the R&D aspect, CSR has a neutral impact on financial performance (McWilliams & Siegel, 2000).

2.5.2 CSR as Dependent Variable

There is also some previous research made on the opposite relation between the two variables, i.e. the financial performance being the independent variable and CSR being the dependent variable. Waddock & Graves (1997) find a positive relationship between corporate social performance (CSP) and financial performance where CSP is the dependent variable. This is supported by the slack resources theory, which argues that firms with slack resources, possibly available from strong financial performance, may have greater opportunities to invest in CSR (Waddock & Graves, 1997).

Waddock & Graves' (1997) results further indicate a possible relationship in the other direction as well, and hence they suggest financial performance as being both the dependent and independent variable. Based on these findings, they discuss a possible virtuous cycle, and where that cycle begins. The question concerns whether it is the initial availability of slack resources due to good financial performance that first leads to CSR performance, or if those initial extra resources stem from good CSR performance. In any case, the authors conclude that better CSR in some way is related to better financial performance (ibid).

Preston & O'Bannon (1997) draw similar conclusions as they examine whether there is a connection between corporate social- and financial performance, and in that case the direction of the relationship, i.e. which variable affects the other, and if there is a synergistic relationship. The study is based on six different hypotheses and the proxies used for social and financial performance are the Fortune annual corporate reputation survey and three different accounting-based measures (ROE, ROA, ROI), respectively. The evidence found shows significant positive correlations between the variables, and no negative correlations, which supports the stakeholder theory. Specifically, the authors' 'available funds hypothesis' is supported in 16 out of 30 tests while contemporaneous positive correlations are dominating in 14 cases. The 'available funds hypothesis' states that *".. although firms may wish to follow the*

normative rules of good corporate citizenship at all times, their actual behaviour may depend on the resources available" (Preston & O'Bannon, 1997). In practice, this would imply that a strong financial performance enables, or at least facilitates, investments in CSR activities. Based on these results, the authors conclude that the best explanations for the social-financial performance correlation are either positive synergies or the 'available funding hypothesis' (ibid).

2.5.3 Critique of Various CSR Measures

The studies presented above have used various proxies to express companies' engagement in environmental and social issues, and some of them have been under some criticism, which is presented below.

First of all, Cochran and Wood (1988) criticize the use of different types of reputational indexes as a proxy for social responsibility, as these indexes are based on surveys and therefore are highly subjective. This may cause significant variation of perception from one observer to another. Ullman (1985) directs similar criticism towards reputation indexes and add that the ratings reflect other unknown influences. Pava & Krausz (1996) direct criticism towards the use of one specific survey, namely the Fortune corporate reputation survey. Despite being regarded as authoritative by some authors, Pava & Krausz question the measures' appropriateness, as it is not clear whether it measures CSR properly since only two of the eight reputation variables are linked to CSR (Herremans et al., 1993; Pava & Krausz, 1996).

Instead of a reputational index as CSR measure, a content analysis is often found in studies on the relationship between CSR and financial performance (Cochran & Wood, 1988). A content analysis is a relatively objective method where the reporting of CSR activities in company publications is measured. The major criticism directed towards this CSR measure is the subjectivity related to the choice of variables to measure. Another drawback with the content analysis is that it relies on what the firms say they are doing, which may not reflect what the companies actually are doing (Cochran & Wood, 1988).

In some studies social disclosure has been used as a proxy for social performance, which also has been criticised (Ullman, 1985). Ullman (1985) argues that there is no

significant link between social disclosure and social performance, which makes social disclosure an unreliable proxy for social performance.

2.6 Clarification

As has been seen in this chapter, the relationship between CSR activities and financial performance can be measured in various ways and by using different variables. Pava & Krausz (1996) categorise financial variables into four major sections, namely accounting-based measures, market-based measures, measures of risk, and other firm-specific characteristics. Among the studies presented above, the most frequently used appear to be accounting-based and market-based measures. Accounting-based measures are different key ratios calculated based on financial statements, while market-based performance measures are based on market data, such as the stock price (Pava & Krausz, 1996). According to Ullman (1985), the choice of variable is linked to the time period of the study. The majority of studies using accounting based measures cover a medium- to long-term time period, corresponding to 1 to 10 years. Market-based studies on the other hand are often more short-term and do not cover more than 24 months. As for the measurement of financial performance, various variables have been used as proxies for companies' engagement in CSR activities in these previous studies. Many of them have been criticised, which was discussed above (Pava & Krausz, 1996; Ullman, 1985).

For the purpose of this study, the main criteria for the measures chosen are objectivity and measurability. It is deemed necessary that the measure is objective in order to avoid subjectivity, which has been subject to much criticism before and may be affected by opinions about the company that are not related to the CSR activities and may lead to misleading results. As a result, a ranking and/or report that is based on publicly available data and made by a third party appears to be suitable as a proxy for CSR engagement and is considered to be more objective than other proxies due to its transparency. A report available for the Swedish market is the Folksam CSR ranking report, which includes an evaluation of the work on environmental and human rights issues among publicly listed companies on the Stockholm Stock Exchange. A detailed description of the report and its characteristics will be presented in the *Method* chapter.

The Folksam CSR ranking report was published every year from 2006 until 2009 and thereafter it has been published every other year. In order to see how this CSR ranking report publication is received among investors, it is deemed interesting to see if and how the publication affects the stock price, and hence the underlying value, of the firm. The purpose of the ranking report is to compare the listed companies' work on CSR, and even though the information is publicly available for each company, the Folksam CSR report may add value to investors' decision-making as it gives a spot on view of a specific company's CSR engagement in relation to other companies. As the objective is to see the direct reaction related to the publishing, a market-based financial performance measure is preferable due to the short time period involved, as was stated by Ullman (1985). In this study, stock price is considered to be the most suitable measure when examining the potential effect of the release of a CSR ranking report as any new information, according to the efficient market theory, immediately should be reflected in the stock price. According to the semi-strong efficient market theory, the stock price should incorporate all information that is available for the company. Consequently, the stock price should be immediately affected in case the ranking creates value to the investors.

In the next chapter, the hypotheses used to test the CSR report publication's impact on the value/financial performance of the Swedish listed firms are presented.

3. Hypothesis Formation

In this chapter, the hypotheses that this thesis intends to test are presented. First of all, the main hypothesis is justified. This will be followed by four sub-hypotheses.

3.1 The Study's Hypotheses

In the development of the hypotheses, this study bases its assumptions on the second efficient market theory, i.e. the semi-strong efficient market, which suggests that investors can only use information that is not publicly available to be able to benefit from abnormal returns on investments, and that this is only possible in the short-run. This implies that when investors receive new information about a company's activities, they take this information into account when making decisions about buying or selling that company's stock. Based on this, the release of new information about a company should immediately and unbiasedly lead to a modification of the company's share price, and this makes long-run abnormal returns unachievable (Brealey et al., 2014).

In the case of the CSR ranking report that is published by Folksam every other year, which is based on publicly available data, it is reasonable to believe that the publication should not have any influence on the stock price. According to the semi-strong market theory, the information should already be reflected in the stock price. However, despite the fact that all information that is used for the CSR rankings is publicly available, this does not guarantee that the investors are aware of the companies' actual CSR engagement in relation to other companies. Consequently, there is a possibility that the ranking adds new information, and thus value, to the investors' decision making and therefore affects their investment decisions. If this is the case, the new information should be reflected in the stock price immediately. This can be linked to the signalling theory, which indicates that a release of CSR information could send a signal to investors on which they react and base their investment decisions. The impact from the CSR rating publication is dependent on what signal the published information sends to the investors. If a specific rating is considered positive by investors, the market should react thereby, and vice versa. Since the investors' reaction to Folksam's CSR ranking report is difficult to predict,

the idea behind this study is to investigate whether the ranking has any impact at all on the stock returns. The formulated hypotheses are therefore double-sided in order to avoid making assumptions of the impact beforehand.

When reviewing earlier studies and literature discussed in the previous chapter, there seems to be no consistent view on if and how CSR creates financial value or not. Several different measures and variables have been tested for, and there is little evidence supporting that CSR and financial performance are directly related. However, as mentioned, the interest for CSR is growing, as are the efforts put in CSR activities. Consequently, this study's first and main hypothesis investigates whether it is true that CSR does not create direct financial value. It is stated as follows:

Hypothesis 1: Folksam's publication of CSR rankings does not have an impact on the companies' stock returns in the form of abnormal returns

In addition, four separate sub-hypotheses will examine whether the impact on stock returns differs over time, or whether it depends on what segments the data is grouped into. The sub-hypotheses used are presented next.

1. As the interest for and attention towards CSR seems to be continuously increasing, it is likely that there is a difference in how much the release of Folksam's report affected stock returns in 2013, in comparison to when the report was released for the first time. To examine these differences over time, 2006 has been chosen as a reference year to which the test results from 2013 separately are compared. In addition to being the first year of the release, 2006 is similar to 2013 in terms of economic situation of the Swedish market and value of the OMX Stockholm PI. Based on the general perception that the interest for CSR has increased over time, the first sub-hypothesis is formulated as follows:

   Sub-hypothesis 1: There is a difference between the impact of Folksam's CSR report release on stock returns in the beginning of the studied period (2006) and in 2013

2. As can be seen in the CSR and Financial Markets chapter, the economic development in Sweden and the rest of the world has fluctuated over the past 10 years. Specifically for Sweden, the years of 2006 and 2007 were characterized by growth, while the following years were hit by the financial crisis. This lead to an economic downturn that lasted until 2012. Consequently, the economic environment in which the Swedish companies operated during these years has varied. A financial crisis could potentially have an impact on how investors prioritise CSR investments/engagement and how they value these. In addition, as pointed out by Schwert (1989), stock price volatility is higher during a recession than during times of prosperity. It is therefore considered relevant to examine if there are any differences between the cycle periods and if, in a recession, CSR is not as high a priority as during other times, since resources and focus need to be put elsewhere. To distinguish between the different economic situations, the years have been bundled into pre-crisis 2006-2007, crisis 2008-2011 and post-crisis 2013. The hypothesis to test for the economic fluctuations is formulated as follows:

Sub-hypothesis 2: There is a difference between the impact of Folksam's CSR report release on stock returns pre-, during- and post-crisis

3. As some industries or fields have a naturally higher operational risk, companies operating in these industries are often regarded as being 'bad' and are hence more exposed to the risk of criticism and accidents, while others are "better" and less exposed to this risk (Klassen & McLaughlin, 1996). In this study, the industries regarded as having a high operational risk are those with issues of high greenhouse gas emissions, high energy consumption, as well as other industry specific issues. For the Swedish market, those industries deemed to have a high operational risk are utilities, energy, capital goods, materials and transportation. This is also supported by several other authors (e.g. Guidry & Patten, 2010; Herremans et al., 1993; Brammer & Millington, 2005; Klassen & McLaughlin, 1996). After identifying the companies with a high operational risk, it is interesting to see if the reaction when the ranking report is released differs within this group for those that receive a high ranking versus a low ranking. The motivation for this is that it might be more important for investors that a company

that is considered to be an operationally high-risk company is engaging in CSR. This leads to the third sub-hypothesis:

Sub-hypothesis 3: Within the group of operationally high-risk companies, there is a difference between the impact of Folksam's CSR report release on stock returns for companies that receive top environmental rankings compared to those that receive low environmental rankings

4. As Herremans et al. (1993) and other previous researchers highlight, larger companies are more visible and consequently more vulnerable to negative publicity related to CSR. As a result, it is likely that there is a difference in how investors react to high and low rankings in Folksam's CSR report. These companies are often multi-national and multi-divisional companies who are exposed to differing business norms and standards, regulatory frameworks, and stakeholder demand for CSR across the nations they are operating in. Hence, they are more dependent on good relations with stakeholders and maintaining their "license to operate". To test for the investors' reactions, companies listed on large cap are grouped depending on top-, bottom- and zero- ranking, and tested separately. Thus, the final sub-hypothesis is:

Sub-hypothesis 4: There is a difference between the impact of Folksam's CSR report release on stock returns for large cap companies with a high ranking compared to those with a low ranking

3.2 Delimitations

In all hypotheses, the companies are grouped into segments depending on ranking. The main hypothesis is limited to investigating the top, bottom, and zero companies for all years, while the first sub-hypothesis tests for 2006 and 2013 only. The second sub-hypothesis includes data from all years, which are distinguished by pre-, during- and post-crisis. The third and fourth sub-hypotheses on the other hand investigate top- and bottom performing companies within the selected sample from 2013 only. In addition, the third sub-hypothesis is limited to investigating environmental rankings only, as these rankings separately are more closely related to operational risk.

4. Method

In this chapter, the approach and execution of the study is presented. First of all, a description of the Folksam CSR ranking report is given together with a presentation of other CSR indexes on the global market and a comparison between these and Folksam's report. Secondly, a theoretical methodology section presents the literature and theories behind the chosen methodology. This is followed by data collection, criticism of data, and adjustment of data. Further, a comprehensive description is made of the event study approach used and the statistical testing procedure of the hypotheses. Lastly, the study's validity, reliability and replication is evaluated.

4.1 The Folksam CSR Ranking Report

Folksam is one of Sweden's largest asset managers, insurance- and pension companies (Folksam, 2015). They have approximately four million customers and manage more than 230 billion SEK on behalf of their clients. Since 2006 Folksam has released a report on Swedish listed companies work within CSR yearly until 2009, and since then every other year. The main purpose of this CSR report is, as stated on their website, to affect companies to take on more responsibility for the environment and for human rights (Folksam, 2013).

The report includes a study and ranking of the Swedish listed companies on OMX Nordic Stockholm exchange's large-, mid- and small cap (Folksam, 2013). The report is based on information on the companies' engagement in the environment and in human rights, with focus on each company's ability to handle risks concerning these two areas, namely environmental risks and risks related to human rights. The assessment of these two areas is based on the companies' publically available information, which is found on their websites, in their annual reports, in possible sustainability reports as well as in similar other reports and press releases. Moreover, information is collected from other sources such as media, international organisations, governments, etc., to complement and check the information collected directly from the companies. Then, a final judgement is made based on all collected material (ibid).

The analyses of the two areas, environment and human rights, are based on the criteria defined by the UN Global Compact & OECD's guidelines for multinational companies, which are presented in figure 4.1 below (UN Global Compact, 2015). These principles are in turn based on internationally approved standards, such as ISO14001 and SA8000 (Folksam, 2013).

The UN Global Compact's 10 Principles

The ten principles have universal consensus and are derived from The Universal Declaration of Human Rights, The International Labour Organization's Declaration on Fundamental Principles and Rights at Work, The Rio Declaration on Environment and Development and The United Nations Convention against Corruption

Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights
Principle 2: Make sure that they are not complicit in human rights abuses

Labour Standards

Principle 3: Businesses should uphold the freedom of association and the effective
recognition of the right to collective bargaining
Principle 4: The elimination of all forms of forced and compulsory labour
Principle 5: The effective abolition of child labour
Principle 6: The elimination of discrimination in respect of employment and occupation

Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges
Principle 8: Undertake initiatives to promote greater environmental responsibility
Principle 9: Encourage the development and diffusion of environmentally friendly technologies

Anti-Corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery

Figure 4.1. The UN & OECD's guidelines for global compact (UN Global Compact, 2015)

In the Folksam ranking report, five essential components of the companies' management systems are examined for each of the criteria. The definition of a management system is the same as the one used in several other recognized international standards, such as ISO9000, i.e. based on the PDCA-cycle (Plan, Do, Check, Act). The five components of the analysis are:

1. *Policy: Does the company have a relevant policy, e.g. to promote health and safety?*
2. *Management system: Are there routines and procedures and an organisation that can ensure compliance with the policy?*

3. **Plans/programs:** *Is the policy broken down into relevant targets and objectives, and are there concrete plans of action for these?*

4. **Accounting:** *Is there available information to be able to assess to which extent improvements are achieved?*

5. **Verification:** *Does any third party verify the management system?*

The two areas of consideration, the environment and human rights, are briefly described below.

4.1.1 The Environmental Analysis

The environmental analysis consists of a general assessment of the environmental management system, i.e. environmental management, and a control of significant direct or indirect environmental impact, i.e. environmental performance.

The evaluation of the environmental management has the following criteria:

1. *Environmental policy and plans:* Evaluates the company's overall ambition level of environmental engagement. Proactive ambitions and plans will be rewarded

2. *Management systems & the organisation:* Evaluates whether a management system is implemented in the organisation

3. *External certificates:* Evaluates whether the management system is certified against a relevant standard

4. *Environmental reporting:* Assesses the overall quality of the reporting systems

5. *Supply chain management:* Assesses whether the suppliers are part of the management system

The second part, the environmental performance, assesses whether the company can handle their most significant environmental impact, under the following criteria:

1. *Emission of greenhouse gases*

2. *Energy consumption*

3. *Industry specific criteria[3]*

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[3] Examples of industry specific criteria are emissions of hazardous substances, transport usage etc. (Folksam, 2015).

4.1.2 The Analysis of Human Rights

The analysis of human rights has three main areas of interest; the employees, the role of the company in the surrounding society, and human rights in the supply chain. The criteria for these are as follows:

Employees:
1. *Health & safety*
2. *Discrimination*
3. *Freedom of association*
4. *Work & wages*
5. *Child labour*
6. *Forced labour*

Society:
1. *Business-related social responsibility*
2. *Corruption*

Supply chain:
1. *Codes of conduct*
2. *Management systems & plans/verification systems*
3. *Reporting*

4.1.3 The Rating System

For each criteria evaluated in the environmental analysis and the analysis on human rights, companies are given points on a scale from 0 to 7. Maximum number of points is given to those companies who cover all five components of the criteria in their reporting, or if there are other clear indications of the company in question being very well prepared in the matter. If the reporting indicates improvement work regarding policy, management system or plans, some points may be received. An example could be a graph over energy consumption over time, signalling a clear and steady improvement curve. For each main area, the sum is calculated of the points given for the different criteria. Thereafter, the mean for the main area is calculated, which is the final point used in the ranking (Folksam, 2013).

4.1.4 The Industry Classification

In the report, Folksam also assesses the industry performance and industry-risk, respectively, within the area of CSR. The industry classification used in Folksam's CSR ranking report has gone from being based on Affärsvärlden's industry classification, one of the biggest business magazines in Sweden, for the years of 2006 to 2009, to classifying the industries as suggested by MSCI/Standard & Poor's Global Industry Classification Standard (GICS) since 2011. Henceforth, as the industry classification differs slightly from the first reports to the more recent ones, only the latter classification has been chosen to use for this study, as it has the advantage of

being in English and fully international. An overview of the two systems can be found in Appendix 9.1.

As mentioned, the report also assesses the general risk associated with the industries, as high, medium or low, based on a global perspective. The overall assessment of industry risk is used as a reference or measurement of how important it is for the companies within the industry to consider these types of social responsibility issues (Folksam, 2013). The same guidelines as used for grading the companies, i.e. the OECD and UN Global Compact, are used to determine the risk of each specific industry. For example, any industry with a high frequency of serious and/or systematic deviations from the standards as defined by the UN & OECD, are classified as a higher risk industry.

4.1.5 Other CSR Indexes

As for the Swedish market, Folksam appears to be the single available well-renowned index that ranks all listed companies on the Swedish stock market. However, there are a couple of other known indexes and rankings internationally. These do most of times not consider all, or even some, of the Swedish companies, but are interesting to review to benchmark the Folksam ranking report against other available indexes overall.

A selection of other considerable reports and indexes are described shortly below, and thereafter a section on critique of the Folksam ranking report is presented. These are presented in alphabetic order.

1. *Business in the community (BITC)*: BITC is a more than 30 years old, business-led, charity organisation, with HRH The Prince of Wales as president. With a network of over 800 organisations as members, they offer practical guides and programmes, training and peer learning, as a part of making the business community more responsible. Since 2002, they also release a business responsibility report, namely the CR Index of BITC. The index report is, in contrast to Folksam's report, based on an online survey for the companies followed by a self-assessment process to identify strengths and gaps, and is based

on a five star rating system. All submissions from the companies must be signed at board level, and BITC then reviews the consistency and validity of the submissions. Any organisation, regardless of location, size, industry or similar can join, but it requires an active engagement. In the BITC report of 2014, the rating includes 77 companies, defined as either UK only-coverage, National coverage, Global coverage, or as two companies under Australia-coverage. Moreover, the companies are classified according to industry sector (BITC, 2015:1; BITC, 2015:2).

2. *Calvert Social Index:* This index was created in 2000 by Calvert Investments and covers only US based companies. In contrast to Folksam, the Calvert Index has chosen to take the 1 000 largest companies included in the Dow Jones TMI, measured on total market capitalisation, and then assesses whether they satisfy the criteria that the Calvert Social Index requires, to be included in the index. The criteria to satisfy are 1) environment, 2) community relations, 3) governance and ethics, 4) human rights, 5) indigenous people's rights, 6) product safety & impact, and 7) workplace. Just as Folksam, they base their decision on whether the criteria are satisfied for each company, by looking at the companies' publicly available information, advocacy organisations, corporate engagement, and their own former Calvert Reports. However, in contrast to Folksam's ranking report, only those companies who satisfy *all* criteria will be included in the index (Calvert, 2015:1-3).

3. *CDP A-list Index:* CDP works with businesses, investors, cities and governments to analyse the global climate situation around the world. They release different indexes, for example divided by supply chains, global forests, global cities and the so-called A-list of companies. The A-list index, launched in 2010, is probably the most relevant one to be discussed in relation to Folksam. It is however, in contrast to Folksam's report, based on responses by the companies themselves about greenhouse gas emissions, water usage, climate strategies, etc. The companies receiving an "A-grade" are then presented on a list segmented by industry, and the number of years the company has been on the A-list, or if they are new, is also stated (CDP, 2014; CDP, 2015).

4. *CR Magazine 100 Best Corporate Citizens:* Since 2009, the CR Magazine releases a ranking of the 100 best corporate citizens, covering the Russell 1000 index which is an index of the largest US companies, every year. The ranking is however, just as Folksam's, based on publicly available information, and points are given for "Disclosure", "Policy" and "Performance" (Thecro, 2015).

5. *Dow Jones Sustainability Index:* This index was first released in 1999, and has since the beginning been an informative platform for investors who are interested in investing in socially responsible companies, as well as an engagement platform for companies interested in engaging in CSR practises. The index considers the financial performance of handpicked socially responsibly engaged companies, rather than the level of CSR engagement, which Folksam does. Only companies determined to be global industry group leaders are included in the index (Dow Jones, 2014:1; Dow Jones, 2014: 2; Dow Jones, 2015).

6. *Ethisphere's World's Most Ethical Companies:* The Ethisphere Institute is engaged in defining and developing business ethics standards, and since 2007 they have released a ranking of the world's most ethical companies. Companies pay a fee of approximately 500 - 1500 USD as they apply to participate, and the evaluation of their ethical performance is then based on responses they hand in on a specific questionnaire. Hence, the ranking differs from Folksam's rankings in several possible ways, for example as it is based on voluntary applications made by companies to apply and a payment is required. Hence, it is imaginable that only bigger companies find the ranking interesting or worthwhile to participate in (Ethisphere, 2015:1; Ethisphere, 2015:2).

7. *FTSE4GOOD Index Series:* FTSE is a global market leader in indexing in general, and the organisation creates and calculates indexes covering all corners of the world and all possible types of markets. The index covering CSR, namely FTSE4GOOD, was launched in 2001, and measures the performance of companies engaging and showing strong performance in ESG (Environmental, Social & Governmental) practises. The index covers a global basis of companies, and FTSE has together with a broad range of stakeholders (e.g. NGOs, consultants, governments and academics) set up criteria that companies have to

meet to be included in the index, in contrast to Folksam, who uses the UN & OECD Global Compact as a basis for the chosen criteria. The main reason behind the launching of the index was to facilitate for investors to invest in responsible companies (FTSE, 2015:1-3).

8. *MSCI World ESG Index (from KLD global sustainability index series (GSI)):* In 2007, KLD Research & Analytics released their social responsibility index, which in 2010 was transitioned into MSCI World ESG Index. The index includes only the best-in-class CSR performers in each sector in the report. In contrast to how Folksam creates their ranking report, eligible companies for this index are those that comprise approximately 85 % of the market capitalisation of each sector in over 23 developed markets. MSCI also releases a couple of similar indexes, based on e.g. size, industry, regions, systematic risks, and other specifics (MSCI, 2015:1; MSCI, 2015:2). None of these are however any more relevant to discuss in this study than the World ESG Index, and will therefore not be discussed further.

9. *Thomson Reuters:* Based on the former ASSET4 ESG database, which was acquired in 2009, Thomson Reuters launched a sustainability index in 2013. The index is based on a large number of ESG key performance indicators, and the first two sets of indexes covered the US and North America. However, they state in the report that the intention is to expand the universe of companies in the index by approximately 300 per year, and the rankings are completely quantitative, e.g. emission reduction, and hence as objective as possible. For each KPI the companies are given a raw score and then their ranking, respectively (Thomson Reuters, 2013:1-4; Thomson Reuters, 2015:1). This index methodology is the most similar to the Folksam's methodology, but as the index is not yet available for the Swedish Market, it is unusable for this study.

4.1.6 Assessment of Folksam's CSR Ranking Report
From the previous section, it can be concluded that the indexes and rankings of sustainable companies today do vary to a large extent in terms of both methodology and purpose. It can for example be seen that Folksam seems to be the only

organisation basing their ranking report, at least outspoken, on the guidelines of UN & OECD. Those guidelines are created to be used as a worldwide standard, and Folksam may therefore gain validity from using these as a benchmark compared to other reports using performance indicators that some may think are chosen arbitrarily or at least subjectively.

Moreover, it seems that there is little consistency in the methodologies across the indexes. For example, the universe of companies that the indexes are based on differs substantially. Several indexes choose for example only to consider top-performing companies in the CSR area, and within different markets, while Folksam considers *all* listed companies on one specific market only, namely the Swedish stock exchange. This implies that even those companies performing worse, or not at all, within the area of CSR, are still analysed and ranked by Folksam. By doing this, potential users of the ranking report can easily assess an overall picture and also follow companies' progress when moving from one ranking to a better ranking the year after. The indexes that do not include all companies for a certain market give no indication of the relative performance of the companies within that market, which is deemed to be a shortage and prevents transparency.

Throughout the indexes the problem of subjectivity in scoring seems to be unavoidable. This may not come as a surprise as CSR, as discussed in the theoretical chapter, is hard to define and can only be measured in a subjective and qualitative way. Among the different indexes above, it is most common to either base the rankings on the indexes' own subjective assessment or on the companies' self-assessments or questionnaire responses. When comparing these two approaches, the first may be perceived to be the most objective and accurate as it is made by a third party rather than the company itself. This is an advantage with the Folksam ranking report, where the rankings are made by Folksam, through information both directly from the companies, but also from other sources. However, subjectivity may also be a problem when the ranking is made by a third party as the underlying intentions of the organisation or people standing behind the indexes are not always known. They may be subjective or biased in their assessment to favour or disfavour a certain company. A problem related to this subjectivity for the Folksam ranking report is that users may question why a company is given for example a 5 instead of a 6 in grades. Hence,

there is room for improvement and clarity, and Folksam might benefit from adding a section on explaining more carefully the reasoning behind each company's' ranking.

Finally, it could be questioned whether these indexes/rankings are used at all by investors, or even to what extent investors or other stakeholders are aware of the existence of them. This will be further discussed in the analysis section once the results are available.

Despite these critical arguments, the foundation of this study is still to consider whether companies' CSR activities affect the stock price in the Swedish stock market, and hence the most straightforward approach is to use the release of a ranking such as the above discussed, as there seems to be no other given events related to CSR that happens annually/semi-annually. Limited by this approach, the Folksam ranking report is the only appropriate choice within the Swedish Market. In addition, the methodology used by Folksam for measuring and marketing their CSR report has not changed considerably during the studied years, which indicates that any impact on the stock price stems from how the market perceived the ranking, and not from how the report is structured.

4.2 Theoretical Methodology

When deciding on choices regarding methodology, the problem statement plays an important role (Bryman & Bell, 2005). This study aims to examine whether CSR engagement is financially value adding for companies measured by stock price. Since this requires quantifiable parameters, a quantitative approach is justified. Initially, the influence on stock price was conceived to be examined most accurately through a correlation analysis between the two parameters, which was supported by several previous studies (e.g. Preston & O'Bannon, 1997; Herremans et al., 2003; Hassel et al., 2011). However, developing a measurable variable for CSR engagement would require several delimitations and definitions, which by previous researchers has proven to be difficult, and a common variable is clearly lacking. The chosen research approach in the form of an event study would circumvent this issue by not having to define and quantify CSR in terms of such a variable. Instead, the impact from the announcement of CSR engagement on stock price, in the form of a CSR ranking, is

measured by looking at abnormal returns. In addition, the publishing of Folksam's CSR ranking report is deemed to be a good approximation of Swedish listed companies' CSR engagement, which makes it convenient to use as CSR proxy as the necessary data is already publicly available. This, in combination with being interested in different time periods to be able to define normal versus abnormal returns for the remaining variable, i.e. stock price returns, led to the conclusion that the most suitable type of study for this thesis is an event study, which is a recognized methodology approach within the research field. Among the event studies found, only two investigate the effect of any kind of "CSR-event" on stock price, namely Klassen & McLaughlin (1996) and Guidry & Patten (2010). In other event studies, it has been more common to investigate the effect of events such as mergers and acquisitions, earnings announcement, issues of new debt/equity etc. (Campbell et al., 1997). In these studies, several differences have been identified in terms of observations used for estimating normal and abnormal returns and the number of days to include in the event window. For example, Strong (1992) identifies studies using 60 to 600 observations for the estimation window for daily data. As for event windows, studies have used event windows that are both short-term and long-term (e.g. Guidry & Patten, 2010; Auerbach & Hasset, 2005; Klassen & McLaughlin, 1996; Koh & Venkatraman, 1991). However, a similarity observed in the majority of the studies is the model used when estimating the normal and abnormal returns, namely the market model. Moreover, there are several renowned books and articles about the event study methodology supporting the same choice of model, and these also suggest rules of thumbs regarding both the choice of the number of days in the estimation window as well as in the event window. Due to this, the event in itself is irrelevant, and the previous studies can be used as a foundation and stepping stone for choices made in this study, which are based on both these guidelines and previous studies. However, due to the available data and the purpose of the study some modifications are made.

4.3 Data Collection and Source Criticism

4.3.1 Data Collection

This study consists of a secondary analysis, as the data is collected by other institutions and for other purposes than for this specific study. There are several

advantages of using this type of data, particularly if the quality of the data can be secured (Bryman & Bell, 2005). Firstly, it is a cost- and time effective approach to gathering data. Secondly, the quality of the data is often very high, meaning that sampling has been rigorous, the organisations responsible are accredited and reliable, the researchers responsible are highly experienced, and the data has gone through several quality checks and similar procedures. However, it is important to remember the absence of control over the quality checking, and hence to the extent possible, some caution should be taken when using and analysing the data (ibid).

To enable the examination of this study's problem statement and answer the chosen research question, quantitative data in the form of daily stock prices for all companies in the population, i.e. all listed Swedish companies within the event- and estimation windows between May 10th 2006 and November 21st 2013, as well as daily index prices for OMX Nordic Stockholm, are retrieved from *Thomson Reuters Datastream*. Thomson Reuters Datastream is also used for extraction of data on market capital, total assets, turnover, and number of employees for 2013. The chosen database is a widely used and acknowledged source, and is hence considered a reliable and authentic mean for data gathering. An alternative source could for example be Bloomberg, but as they have similar reputation as Thomson Reuters Datastream, and both are widely used, the choice between these would not make a difference for the study and its results (ThomsonReuters, 2015:2; Bloomberg, 2015). As for the market index, used for example to calculate normal and abnormal returns, OMX Nordic Stockholm Price Index (OMXSPI) is chosen. OMXSPI includes all stocks that are listed on OMX Nordic Exchange Stockholm and is cleared from dividends (NASDAQ, 2015:1-2). An alternative could be to use OMXS 30, i.e. the index of the thirty most sold stocks on the Stockholm Stock Exchange. As can be seen in Figure 4.2 below, these two indexes correlate highly, which indicates that the choice of index would most likely not have any significant effects on the results of the study. However, as mentioned, OMXSPI includes all listed stocks, and hence the use of the first index is justified.

Figure 4.2. Correlation between OMX StockholmPI and OMX Stockholm30Index 1995-2015 (DN Ekonomi, 2015).

Further, organisational documents are used to approach the event of CSR-rankings in the Swedish stock market. The chosen ranking report is Folksam's CSR ranking report, as described in section 4.1. As mentioned, the report is based on the UN Global Compact guidelines, and would hence be applicable on a global basis, which simplifies the analysis of applicability of this study's results on other local markets.

4.3.2 Data Criticism

To the greatest possible extent, only well-cited articles from well-reputed journals are used as a theoretical base. In this study, well cited implies both the number of citations, but especially the quality of them. As for the journals used, they are considered being of high quality and high reputation, which is also shown in rankings made by e.g. the Financial Times. The books chosen have either been used during courses at Copenhagen Business School, or are other well-cited books by famous researchers. The chosen articles are often also cross-cited, which implies a connection and a clear platform for existing research. However, the previous literature has had different views on, and results from, looking at the relationship between CSR and financial performance, and therefore the arguments and results from both sides have been highlighted. Throughout the thesis, a critical approach is taken, and the intention and goal is to be as objective as possible.

As for the event study methodology, theoretical and methodological books, as well as previous event study based research articles, are used to assess how the best possible event study is executed for the purpose of this study's research question. As the majority of the articles found focus on other types of events, and hence have different

research questions than this study, it is rather the choices of models within the event studies that are considered interesting to examine to ensure a stable ground for the methodology. Since the methods used in these various event studies are similar and follow similar patterns based on renowned theory and methodology, it is considered reliable to base this study's models on the same.

4.3.3 Data Adjustment

During the execution of the event study, some data adjustment is made to ensure accurate results. When estimating the normal returns of the stocks, the returns included in the estimation window described below are used in a linear regression to estimate what the normal return would be in the event window. These are then compared to the actual returns during the event window to estimate the potential abnormal return during the period, as further described in section 4.4.3 Normal returns.

To ensure that the normal return estimation is as unbiased and accurate as possible, bigger events such as mergers and acquisitions are adjusted for. Hence, companies that have had these types of events within the estimation period will be removed from the analysis. A list of these adjustments can be found in Appendix 9.2.

4.3.4 Analysis of Missing/Excluded Data

As mentioned in the previous section, the aim is to generate results that are as unbiased as possible. Hence, any events that may affect the results of the study considerably need to be removed in order to avoid any bias. This is especially relevant during the period of estimation of normal returns, as these numbers are an important component when finding abnormal returns.

In total, 4 companies have been excluded as a result of having a substantial event during the period that may have a significant influence on the study results. However, any potential name change during the period is not considered to be a large event and is hence not excluded, as this is not considered to have any significant effect on the value of the company.

In addition, all companies that do not have complete data during the whole estimation period are excluded, as these companies do not meet the criteria of being listed 126 days prior to the event. This can for example occur when companies go from listed to unlisted and back to listed. More on the criteria is presented in section 4.4.2 below. In addition, the companies that are no longer listed on the day of the event or any of the event days are also excluded as that indicate that no abnormal returns can be calculated, which would lead to an error. As Folksam ranks all companies that are listed on the 31st of May for each year, there is an inherent risk that some of the companies merge or acquire other companies, or become acquired, stop their business, or leave the stock exchange during the estimation or event period and hence do not have complete data for the period. The number of companies excluded for this reason amounts to 4.

4.4 Event Study and its Criticism

Event studies have been used since the 1930's, however the methodology has developed during the decades (Campbell, Lo & MacKinlay, 1997). The event study methodology that is used today was introduced by Fama in 1969, and has since become a widely used methodology in the areas of finance and accounting to study security price reactions to some specified event or announcement (Binder, 1998; Campbell et al., 1997; Benninga, 2014). An event study attempts to examine whether a given event during the life of a company has affected the company's performance in the stock market, i.e. caused abnormal returns (ibid). Two major reasons for using the event study methodology can be stated; the first being to test a null hypothesis that the market is efficient, i.e. incorporates information, and the second being (under the same hypothesis, assuming publicly available information) testing how some event affects the wealth of the security holders in question (Binder, 1998; Benninga, 2014; Campbell et al., 1997).

Some criticism has been directed towards the event study method, which mainly focuses on uncertainty in event dates and possible impacts from other happenings that surround the main event (Wright, Ferris, Hiller & Kroll, 1995). To avoid this type of noise, an effort has been made to avoid any major events close to the event, which was presented in the previous section. In addition, the problem of defining the event

date is not a cause for concern in this study as the event day is clearly defined as the date when Folksam releases their ranking report. Both these issues are elaborated on more below.

Another critique against the event study methodology is the possibility of collected daily prices being biased and assumed to be daily prices when in fact they are closing prices, i.e. the last price of a stock sold during that day (Campbell et al., 1997). Hence there is an inherent problem of assuming daily prices to be equally spaced over a 24-hour interval, when in fact it is not (ibid). However, as this should not give any significant effects on the estimations of normal and abnormal returns, it will be ignored.

MacKinlay (1997) describes an event study as a seven-step process including event definition, sample criteria, calculation of normal returns, estimation, abnormal returns, accumulation of abnormal returns, and lastly interpretation and conclusion. The seven-step process is presented in the following sections.

4.4.1 Event Definition

The first step in performing an event study is defining the event in question, and the time frame in which the event takes place, which is called an event window (Benninga, 2014; MacKinlay, 1997). The event day can for example be on the day the press release or similar actually takes place, and the event window, in which the method detects abnormal returns, usually consists of the following three, five or ten working days (Benninga, 2014). Fama (1998) criticises longer-term event windows, as he suggests that these cannot capture the true movement caused by the event, but rather will consist of a lot of noise. Hence, even though a specific event might create more long-term abnormal effects, the event study methodology might not be able to capture this due to all other factors affecting the possible abnormal returns during the same time period. Instead, Fama suggests that a short-term period of a few days after the event, and sometimes also a day before, is more suitable (ibid).

The event of this study is defined as the release of the Folksam CSR ranking report every (second) year in between 2006-2008 and (2009-2013). The event date, i.e. day

0, for each year is hence defined as the day of the press release announcing each report. According to website press releases by Folksam, it is clear that the CSR ranking reports have been released in November or December each year, while the specific dates have varied. Therefore, the data collection period of stock prices differs slightly from year to year.

4.4.2 Sample Criteria

The second step is to identify the companies to be included in the study (MacKinlay, 1997). Since the Folksam CSR ranking report grades and ranks all companies listed on the OMX Stockholm Stock Exchange on the 31st of May that specific year, the population is defined as all companies listed on OMX Stockholm on the 31st of May in 2006, 2007, 2008, 2009, 2011 and 2013 respectively. Among this population, three different segments are selected based on their CSR ratings, namely the thirty highest and the thirty lowest rated companies as well as those companies that have proven no CSR engagement and consequently have not received any rating (henceforth referred to as "zero companies").

The selection of companies and specific stock data is based on the following criteria, which are all described further below:

- The chosen thirty-one highest (lowest) rated companies have the highest (lowest) total rating, i.e. environmental and human points combined
- The zero companies are defined as those who are not given any environmental or human points
- The companies must have been listed at least 126 business days in a row before the event window and also during the whole event period
- As for companies with more than one stock type with different voting rights, the stock type with the highest turnover on OMX Stockholm has been used, normally the "B" stock
- When calculating abnormal returns, dividends are not considered, which as stated above is in compliance with the market index used which does not take dividends into considerations

To be able to detect differences between how high or low rankings are perceived among investors, it has been decided to only use the companies with the highest

grades, lowest grades and no engagement. These rankings are believed to be more likely to affect the stock price as they indicate something distinctly positive or negative. They may therefore add value to the investors' decision-making in contrast to the companies that are middle-ranked and are neither very good nor very bad in terms of their CSR performance.

First of all, the points given for the two different CSR measures (human and environment) are added to get an aggregated score for each company. An aggregated ranking list is then developed, by using those scores, and hence only the companies that work with both human right and environments are in the top, and only the companies that work the least with human rights and environment are in the bottom. By combining the points, there is no risk of mixing companies that are performing badly in one of the areas and good in the other, which potentially could even-out any potential effect on the stock price and provide misleading results. These companies do not end up in any of the ranking segments as they have one good ranking and one bad ranking and therefore get a total point that is in between the top and bottom.

Based on the ranking list, the highest rated top 31 companies, the lowest rated bottom 31 companies, and all zero companies, are used as samples for each year. Consequently, the chosen sample is what Bryman & Bell (2005) would call a non-probability sample, as it has not been selected using a random selection method. The reasoning behind this sample selection is based on the data available. As the CSR ranking report provides an overview of all listed companies' CSR engagements, the companies are required to be divided into different segments to examine if there is any difference between the segments. While Bryman & Bell (2005) argue that the sample size often is determined by time and cost limitations, the sample size in this study is limited due to the required distinction between the different segments. Since the top/bottom companies are clearly distinguished from other companies in the mid range, in terms of points received in the ranking, it is deemed necessary to limit the number in each group to keep this distinction. For the purpose of this study, 31 companies in the top and bottom of the ranking list have been chosen. This is to fulfil the minimum requirement of $n > 30$ for the sample to be assumed approximately normally distributed, which is an underlying assumption for the parametric t-test (Newbold et al., 2013). The total population of companies varies between 220 and

300 depending on year, and if a larger number of companies would be chosen for each group, it would leave too little difference between the points received for the top and bottom. This might make conclusions more difficult to draw, as the companies in this case would not be as uniform in terms of points received. A smaller sample in each group on the other hand could be considered to give too few observations, and is therefore not considered to be an option. Hence, 31 companies for each year is considered to be a good sample size as it brings a solid number of observations for the significance tests that are made later in the study.

The criteria of a minimum of 126 listed days before the event is chosen for several reasons and is supported by theory, however the chosen number is different from many other event studies that include more days in their estimation windows. For example, Klassen & McLaughlin (1996) who investigate the impact of environmental management on financial performance use 200 trading days as estimation window. Many other event studies include even more business days, often a full business year, i.e. 252 trading days. However, Benninga (2014) considers the minimum number of days to be 126 as a thumb rule to be able to make sure that the true stock price movements are captured (Benninga, 2014; MacKinlay, 1997). Due to the nature of the data of this study, 126 days is deemed to be the most reasonable number to use for this study. For example, it is believed that using 252 days could potentially bias the estimate of the normal return, since that would imply that the days in the event window from the previous year would be included in the estimation window. In addition, in order to reduce the impact of large events and the release of the annual report in particular, 126 days is deemed to be a valid number in order to avoid an overlap as the earliest estimation window starts in the beginning of May while the annual reports for most companies on the Swedish Stock Exchange are published in February/March each year as they have standard fiscal years. Finally, if using a larger number of days than 126, those companies that were not listed much earlier than the 31st of May (i.e. the date Folksam uses every year for choosing which companies to include in the report) would have to be excluded from the sample, as 126 listed days before the release date in November or December would not have been reached. In addition, the companies that are included in the study must have been listed during the whole event period as data otherwise is missing leading to inability to calculate abnormal returns for the event.

As for the stock types, only the stock type with the highest turnover on OMX Stockholm, usually stock type "B" is considered. Stock type "A" normally empowers the owner to a higher number of votes, and hence these stocks are often held by the original stockowners (Swedbank, 2015).

Criteria used for segments:

- The years of 2006-2007 are defined as pre-crisis when the Swedish market was characterized by an upswing in the economy and an expansive GDP-growth
- The years of 2008-2011 are defined as the financial crisis characterised by a slowdown in GDP growth as well as a fall in the stock market and recession
- The year of 2013 is defined as post-crisis and is the year when the GDP growth and the equity market had recovered from the crisis
- Operationally risky companies are those operating in industries that are considered being more exposed to environmental hazard risk, namely Energy, Capital Goods, Material, Utilities and Transportation
- Large companies are defined as those listed on OMXPI Stockholm large cap, i.e. has a market capitalisation of more than 1 billion EUR

The different periods chosen for the second sub-hypothesis are based on the characteristics of the Swedish market and the development during the past 10 years. Specifically for Sweden, the years 2006-2007 were characterized by growth, while the following years were hit by the financial crisis, which lead to an economic downturn that lasted until 2012. These economic situations will define the three groups of years, i.e. the pre-crisis years (2006-2007), the crisis years (2008-2011), and the post-crisis years (2013).

As mentioned in the hypothesis chapter, some industries have a higher operational risk by nature, and are often regarded as being 'bad'. Therefore they are also more exposed to the risk of criticism and accidents, than other industries that are considered "better" and less exposed to this risk. In this study, the industries regarded as having a high operational risk are those with issues of high greenhouse gas emissions, high energy consumption, as well as other industry specific issues. For the Swedish

market, those industries deemed to have a high operational risk are utilities, energy, capital goods, materials and transportation, which is justified by previous studies too.

The companies listed on OMXPI Stockholm are divided into three different segments depending on size, namely large cap, mid cap and small cap, which were described in the theoretical chapter. This segmentation system is used in this study as size differentiator since it is regarded to be more objective than arbitrarily chosen limits of market capitalisation or any other financial or accounting measure, for segmenting the companies based on size. For the purpose of this study, however, only the large cap companies will be used since the purpose is to examine the impact on large companies. The data retrieved for the 31st of May each year from *Thomson Reuters Datastream* on market capitalisation for the companies is stated in SEK. Hence, the exchange rate for EUR/SEK has been retrieved from Riksbanken for these dates to be able to adjust the values for market capitalisation from SEK to EUR (Riksbanken, 2015).

4.4.3 Normal Returns

The normal return is defined as the return that would be expected if the event did not take place. It can be estimated based on the returns in the estimation window, and calculated in several different ways. The possible methods used to calculate normal returns can be categorised under statistical or economic methods (MacKinlay, 1997). Those falling into the statistical category follow statistic assumptions concerning returns, and might hence be more flexible, while the economic methods also take into consideration economic arguments such as investors' behaviour. It can therefore be argued that choosing an economic model would give a more precise answer, however due to the lack of any completely valid economic model, it could instead lead to validity restrictions (ibid). For example, the capital asset pricing model (CAPM) and the arbitrage pricing model (APM), that are two of the most commonly used economic models, both suffer from different drawbacks (MacKinlay, 1997; Binder, 1998). While CAPM suffers from research during the past decade showing deviations from the restrictions that the model imposes, APM suffers from complicating the calculations in an event study while still not adding much extra value compared to a commonly used statistical model, such as the market model (ibid).

The market model is the most common model for calculation of normal returns, and is essentially a least squares regression of the correlation between the stocks' returns and the returns of the market index (Benninga, 2014). Nevertheless, as all models can be considered to be only representations of reality, the market model has as most other models received some critique. For example, the beta value for each company is based on historical numbers, which implies that the model assumes the same constant beta over the coming event period. However, this assumption may not always be accurate since stock price volatility (i.e. beta) seems to be higher during a recession than during times of prosperity, meaning that the efficiency of the market model might be decreased (Schwert, 1989).

Another possible statistical model to use is the constant-mean-return model, which assumes a constant average return over time, and hence is simpler than the market model. However, it suffers from critique suggesting that the model lacks sensitivity and it has been proposed that the market model is an improvement of the constant-means-return model (Campbell et al., 1997).

For the purpose of this study, the market model has been chosen, as it is deemed to be the most appropriate choice for this study and also the model that is best supported by previous studies. The choice is based on theories and previous event studies indicating that no other model would give a more precise or accurate result, but only be more time consuming and costly. Moreover, the market model considers the return that is related to the return of the market index, potentially leading to increased ability to detect the effect of an event (Campbell et al., 1997). However, as Brown and Warner (1985) show, the results of an event study with a larger number of observations is not that sensitive to the choice of model for estimating normal returns.

The market model can be expressed as (MacKinlay, 1997):

Formula 4.1. The market model

$$ER_{i\tau} = \alpha_i + \beta_i * R_{OMXSPI\tau} + \varepsilon_{i\tau}$$

where;

$ER_{i\tau} = Expected\ return\ on\ stock\ i\ on\ day\ \tau;\ \alpha_i = Alpha\ value\ for\ stock\ i$
$\beta_i = Beta\ value\ (systematic\ risk) for\ stock\ i;\ R_{OMXSPI\tau} = Return\ on\ OMXSPI\ on\ day\ \tau$
$\varepsilon_{i\tau} = Error\ term\ in\ the\ model\ on\ day\ \tau$

To be able to use the market model, an estimation of the included variables needs to be performed. The calculations of these variables are outlined in the following paragraphs.

To start off, the daily returns for the sample companies' stocks are calculated as:

Formula 4.2 Daily Return for the Individual Stock

$$R_{i\tau} = \frac{P_{i\tau} - P_{i\tau-1}}{P_{i\tau-1}}$$

where;

$R_{i\tau} = Return\ on\ stock\ i\ on\ day\ \tau;\ P_{i\tau} = Closing\ price\ for\ stock\ i\ on\ day$
$P_{i\tau-1} = Closing\ price\ for\ stock\ i\ on\ day\ \tau - 1, i.e. the\ day\ before\ \tau$

Then, the return of the market index is calculated, by using the following formula;

Formula 4.3. The daily return on OMXSPI

$$R_{OMXSPI\tau} = \frac{P_{OMXSPI\tau} - P_{OMXSPI\tau-1}}{P_{OMXSPI\tau-1}}$$

where;

$R_{OMXSPI\tau} = Return\ on\ stock\ i\ on\ day\ \tau;\ P_{OMXSPI\tau} = Closing\ price\ for\ stock\ i\ on\ day$
$P_{i\tau-1} = Closing\ price\ for\ stock\ i\ on\ day\ \tau - 1, i.e. the\ day\ before\ \tau$

The calculation of the beta value is based on the following formula:

Formula 4.4. The beta value for the individual stock

$$\beta_{i\tau} = \frac{Cov(R_{i\tau}, R_{OMXSPI\tau})}{\sigma^2_{OMXSPI\tau}}$$

where;

$Cov(R_{i\tau}, R_{OMXSPI\tau}) = Covariance\ between\ the\ return\ on\ stock\ i\ and\ OMXSPI\ on\ day\ \tau$
$\sigma^2_{OMXSPI\tau} = Variance\ for\ oMXSPI\ on\ day\ \tau$

And finally, the alpha is estimated by using:

Formula 4.5. Alpha value for the individual stock

$$\alpha_i = R_{i\tau} + \beta_i * R_{OMXSPI\tau}$$

4.4.4 Estimation Procedure

In an event study, three time frames can be included, namely the estimation window, the event window, and the post-event window (Benninga, 2014). As previously indicated, the estimation window is used to calculate a stock's normal return based on a fixed time period before the event window. The event window on the other hand often starts a few trading days before the actual event day and its length varies from 3, 5 or 10 days. The purpose of the event window is to investigate whether the event announcement was anticipated or leaked and how fast the market is to absorb the event information. The purpose of a post-event window is to examine the longer-term impact on the company following an event (ibid). Supported by Fama (1998), the long-term post-event window is excluded in this study, as it is possible that the true movement caused by the event might be hard to distinguish from noise, and therefore does not add any value. The chosen time frame divided into estimation- and event period/windows for this study is illustrated in Figure 4.3 below. As stated and argued for earlier, the chosen number of days for the estimation window is 126 days before the event period. The event itself takes place on day 0, i.e. when t = 0, when Folksam's CSR ranking report is published. The event window consists of five days, from the day before the event day, the event day itself, and the following three business days, i.e. day -1 to day 3. It has been decided to include the day before the event day as part of the event period in order to detect any potential insider or leaked information, as proposed by Benninga (2014).
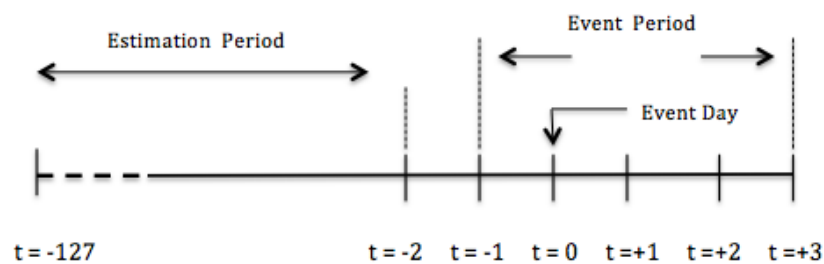
Figure 4.3. Time Frame for Event Study

4.4.5 Abnormal Returns

The calculations of abnormal returns are based on the estimation of normal returns as subtracted from the actual spotted returns (Benninga, 2014; Campbell et al., 1997). This number shows the return that can be explained by the event, and not by the general market development (ibid). The formula used is (MacKinlay, 1997):

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Formula 4.6. Abnormal return for the individual stock

$$AR_{i\tau} = R_{i\tau} - ER_{i\tau}$$

where;
$AR_{i\tau}$ = Abnormal return for stock i on day τ; $R_{i\tau}$ = Return for stock i on day τ;
$ER_{i\tau}$ = Expected return for stock i on day τ

4.4.6 Accumulation of Abnormal Returns

When the abnormal returns have been calculated, they need to be aggregated both across stocks and time, in order to enable drawing of overall conclusions. First, the average return for all companies' abnormal returns per day are calculated, which as proposed by Campbell et al. (1997) is defined as:

Formula 4.7. Average Abnormal Return

$$AAR_{\tau} = \frac{1}{N} \sum_{\tau=1}^{N} AR_{i\tau}$$

Then, the cumulative abnormal return for each company over the event window can be defined as (Campbell et al., 1997):

Formula 4.8. Cumulative Abnormal Return

$$CAR_{i(\tau1,\tau2)} = \sum_{\tau=\tau1}^{\tau2} AR_{i\tau}$$

Finally, the cumulative average abnormal return can be calculated by taking the average of the sum of all abnormal returns over all event windows (Campbell et al., 1997):

Formula 4.9. Cumulative Average Abnormal Return

$$CAAR_{(\tau1,\tau2)} = \frac{1}{N} \sum_{i=1}^{N} AR_{\tau}$$

4.4.7 Interpretation and Conclusion

At this point the results from the empirical study need to be statistically tested against zero to secure the significance, but also to be able to analyse and distinguish between

explanations (Campbell et al., 1997). Hence, a testing of the formulated hypotheses will be performed, which is presented in the next section.

4.5 Testing Procedure

In order to assess to what degree the results in this study can be generalised, statistical tests of significance need to be performed. These tests provide information on how valid the results in this study are, but also indicate the risk of concluding that the publishing of the CSR rankings induces abnormal returns when in fact it does not (Bryman & Bell, 2005). A common criteria for test selection is power; the most powerful test should be used (Siegel, 1957). Power is defined as 1 minus the probability of a Type II error. This equals the probability of rejecting the null hypothesis when it is false and hence shall be rejected. In other words, a statistical test is considered to be good when the probability of rejecting H_0 when H_0 is true is low, and the probability of rejecting H_0 when it is false is high (ibid).

Campbell et al. (1997) suggest two possible types of statistical tests, namely parametric and nonparametric tests, which differ in terms of distribution and the size of the data. A parametric test is based on a number of assumptions regarding the nature of the population sample and is only applicable on numerous data (Siegel, 1957). For example, it requires that the data is approximately normally distributed and according to the central limit theorem (CLT), a sample of at least 30 observations ($n>30$) can be considered normally distributed (Agresti & Finlay, 2014). If the sample fulfils the normal distribution requirement and the other assumptions, a parametric test is often preferable as it provides more information and is stronger and more precise compared to its non-parametric counterpart (Siegel, 1956). A non-parametric test, on the other hand, does not make any strict assumptions about the population and may be used with data that is not numerical (ibid). Consequently, there is no requirement for the sample to be normally distributed (Campbell et al., 1997). However, the nonparametric tests do require that the data can be ranked or ordered (Lind, Marchal & Wathen, 2015).

For the purpose of this study, both a parametric and a nonparametric test are used in order to deal with the potential risk of violating any of the underlying assumptions of

the parametric tests. This choice is supported by both MacKinlay (1997) and Brown and Warner (1985) who state that the two tests should be used in conjunction rather than isolation when testing the significance of abnormal returns. In fact, nonparametric tests can be used as robustness checks of conclusions that are made based on parametric tests (MacKinlay, 1997). Moreover, and maybe more important in relation to studies performed on stock returns, a study by Campbell and Wasley from 1993 shows that a non-parametric rank test provides more reliable results than its parametric counterpart for daily stocks returns on NASDAQ stocks (Campbell et al., 1997).

One of the most commonly used parametric tests is the t-test, which has been chosen in this study due to its simplicity and widespread usage. As the purpose is to test whether the abnormal returns (AR) and the cumulative abnormal return (CAR) is greater or less than zero against the possibility that these are equal to zero, the hypothesis is formulated on the basis of a double-sided test. The significance level used for the t-test is 5%, which corresponds to a critical t-value of 1.96. This implies that if the absolute t-value is greater or less than 1.96 and -1.96, respectively, the null hypothesis should be rejected and evidence support the alternative-hypothesis stating that AR and/or CAR is different from zero. In that case, it is evidenced that the CSR rating publication affects the stock price. If the t-value on the other hand is somewhere between the critical values, i.e. between -1.96 and 1.96, the null hypothesis fails to be rejected as a result of a true null hypothesis or a lack of evidence supporting the alternative hypothesis (Newbold et al., 2013). The decision rule for the t-test is presented in Formula 4.10 below (ibid).

Formula 4.10: Decision rule according to the double-sided t-test

$$Reject\ H_0\ if\ \frac{x - \mu 0}{\frac{\sigma}{\sqrt{n}}} < -z_{\frac{\alpha}{2}}\ \ or\ \ \frac{x - \mu 0}{\frac{\sigma}{\sqrt{n}}} > z_{\frac{\alpha}{2}}$$

The nonparametric test chosen for this study is Wilcoxon's signed rank-test, which is a common choice of nonparametric tests for event studies (Mackinlay, 1997; Agresti & Finlay, 2014; Bryman & Bell, 2005; Campbell et al., 1997). An alternative non-parametric test to use would be the sign test, which is simpler and based on the sign of

the difference (sign of the abnormal return for an event study) between two observations (Lind et al., 2015). Two requirements for this test are that the cumulative abnormal returns are independent across securities/stocks and that the expected proportion of positive abnormal returns is 0,5 under the null hypothesis (MacKinlay, 1997). A weakness of the sign test is that it only takes the sign into consideration (Newbold et al., 2013). In addition, if the distribution of abnormal returns is skewed, the sign test will not be well specified, which is often the case for daily data. Hence, it is more relevant to use Wilcoxon's signed rank test, which makes up for the potential weaknesses of the sign test, and is more justifiable as there is no guarantee that the sign test would add any value to the testing (MacKinlay, 1997). In addition to providing the sign of the difference, Wilcoxon's signed rank test ranks the absolute size of the differences, hence additional information is incorporated compared to the sign test, which adds value to the study (Newbold et al., 2013). According to Corrado (1989), the rank test is expected to be more powerful than its parametric counterpart in case of abnormal performance due to the highly non-normal distribution characteristics of daily security returns. This comes as no surprise, as non-normal returns implies statistic outliers, and hence the median, which is used for non-parametric test, might give more accurate results than the mean, which is used in parametric tests.

For the purpose of this study, the nonparametric test chosen examines whether the median of the abnormal and cumulative abnormal returns differ from zero, as mentioned above. The Wilcoxon signed-rank test is formulated as a double-sided test and is, as the parametric test, tested at a 5 % significance level.

As suggested by Newbold et al. (2013), the sample of this study can be approximately normally distributed for the non-parametric test given that the number of observations exceeds 20 (n>20). The decision rule for the non-parametric test is presented in Formula 4.11 below (ibid).

Formula 4.11: Decision rule for double-sided Wilcoxon's signed-rank test

$$Reject\ H_0\ if\ \ Z_{obs} = \frac{T - \mu_T}{\sigma_T} < -z_{\frac{\alpha}{2}}\ \ where\ \sigma_T = \sqrt{\frac{n(n+1)(2n+1)}{24}}\ and\ \ \mu_T = \frac{n(n+1)}{4}$$

The testing procedure has the following structure, which is supported by several previous researchers (e.g. Agresti & Finlay, 2014; Bryman & Bell, 2005):

1. *A null hypothesis is formulated.* In the main case of this thesis, the null hypothesis is defined such as that there is no relationship between the release of the Folksam CSR ranking and abnormal returns of stock prices. This is based on the intention to see if investors consider the CSR ranking made by Folksam to be value creating and supportive to their investment decisions. Based on theories presented by Newbold et al. (2013), the only way to prove that the CSR ranking adds value leading to abnormal returns is that the null hypothesis is rejected. Consequently, the null hypothesis reflects the theory this study attempts to investigate and refute.

The main hypotheses tested are:

H_0: *Folksam's publication of CSR rankings does not have an impact on the companies' stock returns in the form of abnormal returns*

H_1: *Folksam's publication of CSR rankings does have an impact on the companies' stock returns in the form of abnormal returns*

Here, the abnormal return (AR) for each day within the event window, as well as the cumulative abnormal return (CAR) for the whole event window, will be tested statistically against zero for all years. An alternative could be to use the cumulative average abnormal return (CAAR) for the test. However, as CAAR gives an average of all CARs, i.e. one single number across both time and all securities, this would result in a total sample size of six CAARs, i.e. one CAAR for each of the six events. This sample size is not considered to be big enough to function as a basis on which general conclusions can be drawn and will therefore not be tested in this study.

In addition, the study aims to test four complementing sub-hypotheses. The first sub-hypothesis investigates whether the results have changed from the first release of the report in 2006, to the release of the latest published report in 2013. The set of hypotheses is hence:

H_0: *There is no difference between the impact of Folksam's CSR report release on stock returns in the beginning of the studied period (2006) and in 2013*

H_1: *There is a difference between the impact of Folksam's CSR report release on stock returns in the beginning of the studied period (2006) and in 2013*

The second sub-hypothesis considers the possibility of economic cycles influencing the results. As Schwert (1989) points out, the volatility of stock prices seems to be higher during recession than during times of prosperity. Hence it is deemed interesting to test the robustness of the former results by separating the years into pre-crisis, financial crisis, and post-crisis, formulated as:

H_0: *There is no difference between the impact of Folksam's CSR report release on stock returns pre-, during- and post-crisis*

H_1: *There is a difference between the impact of Folksam's CSR report release on stock returns pre-, during- and post-crisis*

As with the main test of this study, the two sub-hypotheses defined above will be tested for top-, bottom- and zero companies only. The reasoning behind the choice of only testing the top-, bottom- and zero companies, rather than all companies ranked, is that this will support the main hypothesis in the form of a robustness check; both for the potential change of influence of CSR over time, and for the potential differences in reactions to CSR pre-, during-, and post-crisis. Therefore, it will generate more detailed information about the impact on the main groups as defined in the main hypothesis, i.e. top-rankings, bottom-rankings and zero-rankings.

The third sub-hypothesis regards whether operational risk is an affecting variable, where operationally risky companies are defined as those facing a naturally higher risk of environmental hazard as a result of operating in certain industries. The purpose is to investigate whether the stock returns of companies acting within these industries and perform well are differently affected by the high ranking compared to companies within same industries receiving a low ranking. In other words, it will investigate if

investors specifically seem to reward (punish) companies in these industries that receive a high (low) ranking. Hence, the set of hypotheses is as follows:

H_0: *Within the group of operationally high-risk companies, there is no difference between the impact of Folksam's CSR report release on stock returns for companies that receive top environmental rankings compared to those that receive low environmental rankings*

H_1: *Within the group of operationally high-risk companies, there is a difference between the impact of Folksam's CSR report release on stock returns for companies that receive top environmental rankings compared to those that receive low environmental rankings*

For this test, the companies of 2013 are divided into industries where the industries that are considered to be operationally high-risk industries are selected as sample. The companies are then segmented into groups of top-, and bottom companies depending on their performance on Folksam's ranking list of environmental work.

The fourth and final test is performed to investigate whether there is a difference between the impact on large sized companies depending on a high or low ranking. As indicated by several authors, larger firms seem to work more with environmental issues and human rights compared to smaller firms since they often face more strict requirements, but also generally have more resources. Therefore, it is possible that investors react differently to how large companies specifically perform in the ranking, which is considered interesting to test. The final set of sub-hypotheses is consequently formulated as follows:

H_0: *There is no difference between the impact of Folksam's CSR report release on stock returns for large cap companies with a high ranking compared to those with a low ranking*

H_1: *There is a difference between the impact of Folksam's CSR report release on stock returns for large cap companies with a high ranking compared to those with a low ranking*

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For this test, the market capitalisation of all Swedish listed companies is retrieved and converted to EUR. All companies with a market capitalisation above 1 billion EUR, i.e. all large cap companies, are selected as sample for the test. Finally, the testing is conducted separately on the best and worst performing half of companies, respectively, both in terms of environmental and human issues.

Regarding the testing procedure of the sub-hypotheses, the first sub-hypothesis test procedure will be the same as for the main hypothesis. Hence, both the abnormal return (AR) for each day within the event window, as well as the cumulative abnormal return (CAR) for the whole event window will be tested statistically against zero, however for 2006 and 2013 separately. Since the days separately could show differences within the event window that a test of CAR only would not detect, it is deemed necessary to test both AR and CAR in order to explore all potential differences between the two years. For the second sub-hypotheses, i.e. pre-, during- and post-crisis, only the CAR for the full event window will be tested against zero. This is justified as these tests detect the differences in the segmented groups over the whole event period. To explore the potential total effect aggregated over the whole event period is deemed to be more interesting and relevant for this study instead of testing each day separately, which is considered to not add any specific value. For the third and fourth sub-hypotheses, the testing procedure is the same as for the main hypothesis and the first sub-hypothesis testing both AR for each day as well as CAR over the whole event period, however for 2013 only.

2. A for this study acceptable level of significance (denoted α) is established. This is a measure of the degree of risk of rejecting the null hypothesis when it should be accepted, which is called a Type I error. A p-value will be calculated, which expresses the probability of that risk. The smaller the p-value, the stronger the evidence against H_0. Among most researchers, an acceptable p-value would be $p < 0.05$, which implies that it is fewer than five out of hundred chances that this study's sample shows a relationship when there is none, and corresponds to the critical t-value of 1.96 (Bryman & Bell, 2005; Agresti & Finlay, 2014).

3. Determination of the statistical significance of this specific empirical study. If the calculated t-value is less than or higher than the critical values of -1.96 and 1.96,

respectively, the test will provide evidence that the market is not affected by the event defined in this study. If the t-value is within the range of the two critical values, the there is evidence supporting that the returns are not affected by the event and hence not different from zero (Agresti & Finlay, 2014). For the purpose of this study, the test is two-tailed with 2,5% in each tail as a result of the choice of a two-sided alternative to the null hypothesis.

4. Conclusions can be drawn on whether the null hypotheses can be rejected or not.

4.6 Testing Schedule

The testing schedules for both the main hypothesis and sub-hypotheses as well as for the robustness tests are presented in the following section.

4.6.1 Statistical Tests for the Main Hypothesis

1. T-test for each segment, i.e. top-, bottom- and zero- performers, using abnormal returns (AR) for each day within the event window respectively, accumulated over all years

2. T-test for each segment as above, but for the whole event window, i.e. day -1 to day 3, using the cumulative abnormal return (CAR), and accumulated over all years

3. Wilcoxon signed-rank test for the same as 1 and 2, as there are outliers to consider (see Appendix 9.3)

4.6.2 Statistical Tests for the Sub-hypotheses:

1. Both T-test and Wilcoxon signed-rank test for all sub-hypotheses:

   a) Top-, bottom- and zero-performers for 2013 and 2006 respectively tested per day using AR, and over the whole event window using CAR

   b) Top-, bottom- and zero performing companies within the different economic cycles are bundled and tested separately over the whole event window using CAR

   c) For 2013, the top and bottom performing companies in industries considered to be more operationally risky are tested both daily through abnormal returns and over the whole event window using CAR

d) The top- and bottom performing companies listed on large cap in 2013 are tested both daily through abnormal returns and over the whole event window using CAR

4.6.3 Robustness Tests

a) *Considerable events:* When estimating normal and abnormal returns using the market model, a presumption is that the estimation period chosen will reflect the actual normal return. However, even though the period chosen is rather short to avoid as many big events as possible, e.g. mergers and acquisitions, there are still considerable events taking place for several companies that potentially could bias the estimation. Therefore, a robustness test is performed to measure these events' influence and ensure that examples of these events do not have a significant impact. This robustness test will hence function as a sensitivity analysis, and is used to further validate our results. The following events will be excluded from the normal estimation:

   i. A release of a report related to increased raw material prices/cost
   ii. A change of CEO
   iii. A release of a Q2 report with positive information

b) *Environmental versus human rights issues:* The main test will be divided into two separate tests, namely for the environmental ranking in 2013 and human ranking in 2013, respectively. This is to ensure that any potential effect related to one of the areas specifically is detected, if it was not detected when the points were combined into one ranking.

c) *Size:* For sub-hypothesis 4 testing large sized companies separately, the choice of size-measure can be discussed. In the sub-hypothesis, the cap on which the companies are listed has been chosen as distinguisher, where the market values of the firms determine the size. Hence, as the largest companies in terms of market value are listed on large cap, the large cap companies are used for the size test. To test how robust the choice of size measure in this study is, compared to possible other measures of size, data will be collected for all

companies from 2013 on total sales, total assets and number of employees, and then tested for correlation with market value. These measures are chosen as comparison as they are considered to cover important perspectives of how each company could be measured, in addition to the financial measure, i.e. market value reflecting the market size. The "operational size" is measured by total sales, which reflects the income statement, while the "accounting size" measured by total assets reflects the balance sheet. The number of employees is the final size measure tested for and reflects the "organizational size" of the firms.

4.7 Validity, Reliability and Replication

For evaluation of business and management research, three criteria are prominent, namely reliability, replication, and validity. Reliability concerns whether the results of a study are repeatable and if concepts are consistent, which is particularly relevant for quantitative studies. Replication on the other hand concerns whether a study has clearly specified study procedures, and therefore is replicable. Lastly, validity can take many different forms, e.g. internal and external, but is overall linked to the integrity of the conclusions that are generated from a research study (Bryman & Bell, 2005). The applicability of each criterion for this study is specified below.

4.7.1 Internal validity

The internal validity concerns whether a conclusion about a causal relationship between at least two variables hold tight, i.e. is valid, and is per definition weak for most types of research designs. An exception is experimental designs, which however is not an option for this thesis (Bryman & Bell, 2005). The weakness is explained by the fact that causality never can be established, but only detection of a relationship in any direction is possible, which is also the case for this study (ibid). Just as discussed in the literature review, it could potentially go in any, or both, of directions. As MacKinlay et al. (1997) suggest, the chosen event window is rather short, and hence the risk of other events affecting the stock returns is minimised, which does increase the validity in the sense of excluding potential noise. However, the potential noise can never be fully excluded, and even if some relationship is detected, the causality can only be speculated on.

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4.7.2 External Validity

The external validity examines whether the sample is typical, and if the results therefore can be applied outside the local context, i.e. if the results are generalizable (Bryman & Bell, 2005). The results in this study are however within some bounds. The results could be applicable on other geographical markets, as long as the rankings chosen are similar to the one in this study. In addition, the other markets must have the same transparency as the Swedish market with strong regulations on CSR disclosures etc. in order to be comparable. This is not a major problem for companies listed on European stock exchanges as these are governed by the European union and are subject to the same regulations. However, companies outside the European market on the other hand may have different regulations and may not need to disclose the same information regarding CSR activities. Furthermore, the results are only considered applicable to other listed companies, since the methodology in this study requires daily stock prices as a quantitative measure. Nevertheless, a similar type of research question could be applied to non-listed companies, for example by using a case study, or by using some accounting measure instead of stock price. This will further be discussed under the section of *Future research*.

4.7.3 The Validity of Concepts

The concept of CSR is as discussed throughout the thesis vague. Critique against quantifying CSR engagement has especially focused on whether the measure has measured what it was supposed to, and whether all aspects of CSR have been included in the measure. This has further been used as a main criticism against previous studies, and is circumvented by using the event study methodology. Moreover, the Folksam CSR ranking is based on global guidelines from the UN Global Compact in combination with an objective collection of public materials regarding CSR engagement from both the companies in question and more objective sources such as media and governments. Therefore, the ranking is considered a solid event.

As for (ab)normal returns, the validity of the concept depends on the reliability of the measure. As long as the measure does not fluctuate, as further discussed below, the validity of the concept is high.

4.7.4 Reliability

When assessing the reliability, defined as the quality of chosen measures and whether the measure is stable or not, both the stability of measures and the inter-observer consistency are considered (Bryman & Bell, 2005).

4.7.4.1 Stability

The consistency and stability of measuring stock price over time and place is considered very high (Bryman & Bell, 2005). Firstly, the use of *Thomson Reuters Datastream* allows an objective collection of daily prices, which will be the same for anyone collecting those at any time. Moreover, the measures of return are globally established and the formula for daily returns (based on actual stock prices) is logical and of common sense. Continuing with the formula for estimating normal returns, the chosen method (i.e. the market model) is considered both reliable as it is frequently used by other researchers, as well as based on proper statistical foundations, and is hence of high stability (Campbell et al., 1997; Benninga, 2014; Binder, 1998; Brown & Warner, 1984). In this study, the calculations of these measures have been performed in Excel, based on Benninga's (2014) guidelines, and spot-checks have been performed systematically. This minimises the risk of random errors made in the study.

As for the chosen CSR ranking report, which is based on the UN Global Compact Guidelines that were established as a global platform for how to engage in CSR, the stability is considered high as long as the report continues to exist. So far, Folksam has used the same methodology for their CSR ranking report since the first report was released. However, since the definition of CSR engagement and how to measure it is unclear, it cannot be concluded that the creation of CSR rankings would have given the same result in another setting. It can be argued that CSR and its effect on which ever chosen variable, might have to be analysed locally, as the definitions and importance of CSR may vary over geographical areas. Hence, the stability and reliability is considered more stable for the Swedish market, than in a global setting.

4.7.4.2 Inter-observer consistency

The level of subjective judgement in this study is limited, as both the CSR rankings and stock prices are gathered from external and independent sources. Therefore, both

variables would be consistent for any other researcher gathering the same data, as described above. However, a separate aspect to consider is the classification of high-risk industries and the definition of a large company in this study. As the definition of high operational risk has been supported by several other researchers, the inter-observer consistency is rather high, but it is important to remember that each choice of placing an industry into the group of operationally high-risk industries is more or less subjective, and hence might have been slightly different if done by someone else. Similarly, the definition of a large company could be based on different variables, e.g. capital, turnover, certain ratios etc. It is therefore possible that another variable would be used if someone else conducted the same study.

4.7.5 Replication

The methodology of this study has been described in detail through this chapter. The collection of data, the models chosen, the calculations and estimations performed and the coming analysis of the results, are accounted for, and should hence be easy to replicate (Bryman & Bell, 2005). However, a replication in other markets or settings could be more complicated, as the definition of the local CSR-event in question might be different from the CSR report Folksam publishes. As for the performance of the actual event study, a replication is deemed to be possible at any time since the event study process is supported by previous studies and follows a clear and generally approved 7-step process.

5. Results and Discussion

In this section the results from the event study will be presented, including the statistical tests and a short discussion on each result. Further analysis, where the theoretical chapter will be drawn upon, will be discussed under the next chapter.

5.1. Main Hypothesis

The average cumulative abnormal returns for the main hypothesis are outlined in Figure 5.1 below, where all top- bottom- and zero companies for the whole study period, i.e. all 6 years, are aggregated per day across the years.
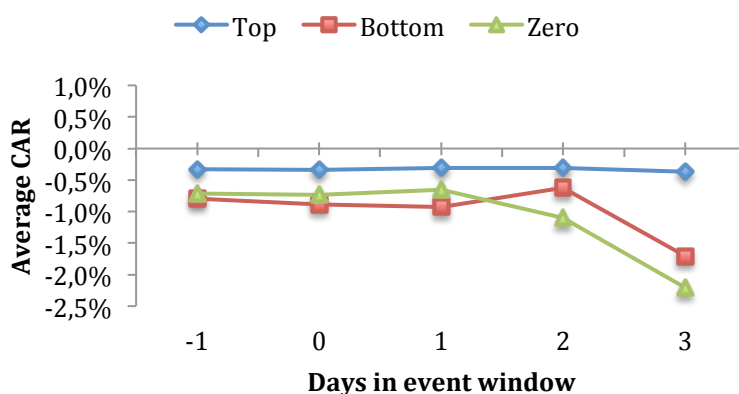
Figure 5.1. CAAR per day in event window, accumulated over all years

As can be seen in the graph, the cumulative average abnormal returns for the top companies have been stable over all days, however negative. This indicates that the release of Folksam's CSR ranking report has a negative impact on the stock returns of top-performing companies. The development over the days for the bottom segment has been less stable, but has also been negative for all days. The CAAR increased slightly on day 2, which was followed by a sharp drop on the third day. The zero-company segment shows similar results with a slightly negative trend for the first three days with a large drop on day 2. Hence, the overall impact on the bottom- and zero companies is negative, especially towards the end of the event window. For any further conclusions to be drawn, the significance of the results needs to be tested for, which is presented below.

5.1.1 Main Hypothesis Results

The results from the statistical tests for the main hypothesis are presented in Table 5.1 to 5.3 below. All tests show significant results to some extent, however the days and type of test for which the results are significant, differ. Both the parametric t-test and the non-parametric Wilcoxon signed-rank test shows that there is no abnormal reaction of the stock returns, for any of the segments, on the event day itself or the following two days. A general trend of a negative impact can be observed for all segments, indicating that the report release overall is negatively perceived among investors. This is especially observable for the bottom and zero companies, for which the parametric results are significantly negative over the whole event period.

N=186	T-test			Wilcoxon's signed-rank test
Day	T-value	Mean	Std.	p-value
-1	-2,682**	-0,324%	1,648%	0,007**
0	-,124	-0,015%	1,682%	0,594
1	,246	0,035%	1,940%	0,996
2	-,056	-0,007%	1,697%	0,706
3	-,379	-0,057%	2,036%	0,671
CAR event	-1,189	-0,368%	4,220%	0,065

*** p<0.001, ** p<0.01, * p<0.05

Table 5.1 Parametric and non-parametric test results for top companies

For the top performing companies, both the parametric and non-parametric tests suggest that for all tests except for day -1, the null hypothesis cannot be rejected as no statistically significant AR nor CAR is presented. This implies that there are no abnormal returns as an effect of the publication of Folksam's CSR ranking. From the results, a slightly negative trend is observed, both for the separate days and the whole event window (CAR).

N=184	T-test			Wilcoxon's signed-rank test
Day	T-value	Mean	Std.	p-value
-1	-3,530***	-0,797%	3,061%	0,000***
0	-,444	-0,087%	2,661%	0,069
1	-,232	-0,044%	2,601%	0,083
2	1,677	0,308%	2,493%	0,172
3	-4,486***	-1,085%	3,280%	0,000***
CAR event	-4,076***	-1,705%	5,673%	0,000***

*** p<0.001, ** p<0.01, * p<0.05

Table 5.2 Parametric and non-parametric test results for bottom companies

For the bottom performers, both the parametric and non-parametric tests for day -1, day 3, and the overall CAR, show statistically significant abnormal returns at a 0,1 % level. The significant results for these days show a negative impact on the abnormal returns. In general, there is a clear negative trend, which is also the case for CAR.

N=61	T-test			Wilcoxon's signed-rank test
Day	T-value	Mean	Std.	p-value
-1	-1,833	-0,710%	3,025%	0,207
0	,365	0,127%	2,716%	0,883
1	-,938	-0,244%	2,028%	0,223
2	-,273	-0,103%	2,954%	0,580
3	-2,830**	-1,27%	3,522%	0,015*
CAR event	-2,169*	-2,2062%	7,946%	0,105

*** p<0.001, ** p<0.01, * p<0.05

Table 5.3 Parametric and non-parametric test results for zero companies

Finally, the tests for the zero companies show statistically significant results for one of the days, namely day three, as well as the whole event period (CAR). While day 3 is significant for both tests, CAR is significant when using the parametric test only. The non-parametric test for day 3 is significant at a 5 % level, while its parametric counterpart is significant at a 1 % level. CAR is significant at a 5 % level. As for the bottom companies, a clear trend of negative impact is observed.

The total number of zero companies tested for during the six years is 61, as can be seen in Table 5.3 above. When separating these per year, a clear downward sloping trend can be observed, as presented in Figure 5.2, suggesting that the number of companies not engaging in CSR at all has decreased over time, 2013 being the only exception. However, when looking closer at the development from 2011 to 2013, it can be seen that the total number of zero companies has increased by one and that only two of the companies that had a zero rating in 2011 stayed in the zero segment in 2013. The other three zero companies in 2013 were newly listed.

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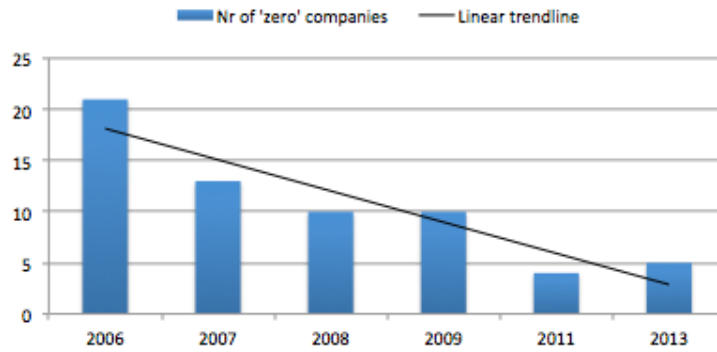
Figure 5.2. Number of zero-companies from 2006 - 2013

5.1.2 Discussion of Main Hypothesis

As stated above, there is no significant impact on the top performing companies' abnormal returns when considering the whole event period, i.e. CAR, as a result of the release of the Folksam CSR ranking report when all years are aggregated. In addition, it is observed that the overall impact is negative. Both the bottom performing- and zero companies, on the other hand, are affected by the release. Hence, there is a large difference between the segments in terms of significance, but the direction of the impact is the same. It is clear that a low and zero ranking is considered negative information from an investor's point of view, as the results presented for these segments are highly significant. However, in terms of the direction of the impact, all results are more or less negative. Another observation is the significant results for bottom- and top companies on day -1, which indicate a potential insider information leakage.

Further, the clear trend line in Figure 5.2 shows the development of the number of zero companies. As can be seen, there is a clear down sloping trend indicating that less companies are totally ignoring to work with or report on CSR, which demonstrates that CSR engagement is of increasing importance among the Swedish listed companies. This result makes it interesting to test the year of 2006 versus 2013 separately and compare the results, as there might be differences of significance, which were not reflected in the main hypothesis. Potentially, the year of 2013 could be significantly different from 2006 as a result of the increasing interest for CSR, which would not be taken into account when testing all years accumulated, as 2013 in that case only represents one sixth of the whole sample tested. In addition, to examine

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different segments of the company data from 2006 and 2013 separately enables exploration of any other possible trends, and thereafter more specific conclusions can be drawn from the main hypothesis results (see *Hypothesis 3*).

To conclude, the overall impact on all segments is negative. However, it is possible that there are differences between the segments depending on for example industries, companies and years respectively, which makes further tests necessary. Hence, the data needs to be grouped further to test if there are any significant abnormal returns that would be uncovered. The groupings used for this study are pre-, during- and post-crisis, operationally high-risk industries and large sized companies, as described and justified in the Hypotheses and Method chapters. The results from the tests of these sub-hypotheses are presented below.

5.2 Sub-hypotheses

The sub-hypotheses covered in this thesis are mainly based on data from 2013 only, except for the first sub-hypothesis where 2006 is used as a comparative year, and the second sub-hypothesis where all years are included. As supported by the main hypothesis above, showing a distinct declining trend in the number of zero companies, the engagement in CSR activities has differed between the years. Therefore, a separate testing of 2013 and 2006 is justified. To start with, the top-, bottom-, and zero companies for 2013 and 2006 respectively are tested, where the testing procedure is the same as for the main hypothesis, however only for these two years. This is followed by a test which aims to investigate whether there are any differences between the years when grouped depending on economic situation, i.e. pre-crisis, crisis, and post-crisis. Finally, two tests are performed to examine the impact on operationally high-risk companies and large companies, respectively. These two tests are based on data from the final year of 2013.

5.2.1 Sub-hypothesis 1: 2006 versus 2013

As can be seen in Table 5.4 and 5.5 below, the results for the different segments differ substantially for 2013. The top companies have no significant abnormal returns for any day nor for CAR for any of tests, and the direction of the impact is slightly negative. The bottom companies' abnormal returns are however statistically significant for all days except for day 1 for both tests, and day 0 for the parametric t-test. The impact is negative and the significance increases over the event period, with a 5 % significance level on day -1 and a 1 % significance level of day 3. The results indicate that the release of the CSR ranking report had a clear negative impact on the stock prices of bottom-performing companies, and hence the CAR for the full event period is also significantly negative at a 0,1 % level for both tests.

	Top companies 2013, n = 31				Bottom companies 2013, n = 31			
	T-test			Wilcoxon's signed-rank test	T-test			Wilcoxon's signed-rank test
Day	T-value	Mean	Std.	p-value	T-value	Mean	Std.	p-value
-1	-1,241	-0,170%	0,763%	0,189	-2,003*	-1,119%	3,109%	0,033*
0	-,392	-0,082%	1,160%	0,158	-1,219	-0,702%	3,204%	0,025*
1	-,525	-0,065%	0,689%	0,531	,349	0,163%	2,602%	0,327
2	,077	0,012%	0,856%	0,610	-2,073*	-0,881%	2,365%	0,044*
3	,075	0,018%	1,349%	0,583	-2,890**	-1,343%	2,587%	0,006**
CAR event	-,821	-0,287%	1,944%	0,481	-3,914***	-3,880%	5,520%	0,000***
	*** p<0.001, ** p<0.01, * p<0.05							

Table 5.4. Top- and bottom performing companies, 2013

For zero-companies during the same year, as presented in Table 5.5 below, no statistically significant results are observed for the parametric test, indicating that a "zero-ranking" does not have any impact on stock price. For the non-parametric test however, day 3 is significant at a 5 % significance level. The results from this significance test are however not reliable as the number of observations is only 5 in 2013, due to the few number of companies not reporting on CSR at all that year.

Zero companies 2013, n = 5

Day	T-value	Mean	Std.	p-value
	T-test			*Wilcoxon's signed-rank test*
-1	-1,167	-1,846%	3,535%	0,345
0	-,185	-0,363%	4,387%	0,893
1	-1,656	-1,290%	1,741%	0,138
2	-1,513	-4,319%	6,383%	0,225
3	-1,803	-3,918%	4,859%	0,043*
CAR event	-1,707	-11,735%	15,369%	0,138

*** p<0.001, ** p<0.01, * p<0.05

Table 5.5. Zero performing companies, 2013

The results described for 2013 differ drastically from those found for 2006, which are presented in Table 5.6 and 5.7 below. The bottom companies' abnormal returns are only significant for day 1 at 1 % level for the parametric test and at a 5 % level for its non-parametric counterpart. Moreover, the top and zero segments show no significance at all. For the bottom performing companies, it should be noted that the sample size of 29 is slightly below the required sample size (n>30) for the normal distribution assumption of the parametric test.

	Top companies 2006, n = 31				Bottom companies 2006, n = 29			
	T-test			*Wilcoxon's signed-rank test*	*T-test*			*Wilcoxon's signed-rank test*
Day	T-value	Mean	Std.	p-value	T-value	Mean	Std.	p-value
-1	-1,502	-0,379%	1,404%	0,092	1,651	0,663%	2,163%	0,144
0	1,151	0,219%	1,060%	0,232	,904	0,292%	1,742%	0,405
1	-1,341	-0,218%	0,906%	0,290	-2,611**	-0,831%	1,714%	0,030*
2	,065	0,016%	1,362%	0,814	-,663	-0,168%	1,363%	0,611
3	-1,386	-0,249%	1,000%	0,290	-,253	-0,124%	2,632%	0,538
CAR event	-1,293	-0,611%	2,632%	0,085	-,285	-0,167%	3,158%	0,611

*** p<0.001, ** p<0.01, * p<0.05

Table 5.6. Top- and bottom performing companies, 2006

Zero companies 2006, n = 20

		T-test		Wilcoxon's signed-rank test
Day	T-value	Mean	Std.	p-value
-1	1,441	0,504%	1,563%	0,232
0	1,020	0,394%	1,726%	0,067
1	-,282	-0,132%	2,101%	0,263
2	,474	0,260%	2,456%	0,823
3	1,100	0,404%	1,643%	0,411
CAR event	1,546	1,429%	4,136%	0,351
*** p<0.001, ** p<0.01, * p<0.05				

Table 5.7. Zero performing companies, 2006

The first conclusion that can be drawn from the results presented above is that the results for the bottom segment differ between the two years. This indicates that overall, the ranking has had significantly more impact in later years. This can be linked to the main hypothesis, and that performing the same tests in the future could lead to more significant results, as more (potentially) significant years are added to the previous years. Another similarity to the main test is the negative, however insignificant, impact on the top-performing companies, which has been observed for both 2006, 2013 as well as for all years in the main hypothesis.

Except from an increasing interest in CSR, another potential explanation to the difference in significance between the years may be the awareness of the ranking report among investors. Even though Folksam is a well-known company within finance and insurance in Sweden, 2006 was the first year in which the ranking report was released, and it is likely that the awareness has grown over time and that only a small portion of the investors, if any, used it for their investment decisions in the beginning. Similarly, CSR may not have been as high a priority among investors in 2006, since it has gained increased recognition in later years, thus having no impact on the stock price back then.

Also, as the financial crisis occurred in between these years, it is interesting to test for different economic situations, and investigate whether these further have biased the main hypothesis results. These results are presented next.

5.2.2 Sub-hypothesis 2: Economic Cycles

The results from the tests of CAR for the segments separated by pre-crisis, crisis and post-crisis are presented in Table 5.8 and 5.9 below. As the results show, the tests do partially confirm previous test results, but there are also differences between the time periods. For example, while the years before the crisis show no significant results for the bottom performers, the most significant results are those for bottom performers after the crisis. During the crisis, the stock returns for both bottom- and zero performers were significantly negative, while the stock returns for zero companies were significant and positively affected in the pre-crisis period.

	2006-2007				2008-2011			
	T-test			*Wilcoxon's signed rank test*	*T-test*			*Wilcoxon's signed rank test*
Ranking	No of obs.	T-value	Mean	Std.	p-value	No of obs.	T-value	Mean	Std.	p-value
Top	62	-,964	-0,438%	3,579%	0,237	93	-,658	-0,348%	5,106%	0,225
Bottom	60	,917	0,484%	4,084%	0,556	93	-3,732***	-2,392%	6,180%	0,000***
Zero	32	2,155*	1,588%	4,167%	0,085	24	-3,636***	-5,280%	7,113%	0,001**

*** p<0.001, ** p<0.01, * p<0.05

Table 5.8. Main ranking segments, pre-crisis and during crisis tested for CAR

	2013			
	T-test			Wilcoxon's signed-rank test
Ranking (no of obs)	T-value	Mean	Std.	p-value
Top (31)	-,821	-0,287%	1,944%	0,481
Bottom (31)	-3,914***	-3,880%	5,520%	0,000***
Zero (5)	-1,707	-11,735%	15,369%	0,138

*** p<0.001, ** p<0.01, * p<0.05

Table 5.9. Main company segments, post-recession tested for CAR

The statistical tests for the cumulative abnormal returns over the full event windows grouped by pre-crisis, crisis and post-crisis, and divided into the main segments of top-, bottom-, and zero companies, show that the recession might not have affected investors to rethink priorities during that time. Instead, the release of Folksam's CSR report did have an impact on the stock returns of bottom- and zero companies. The results point towards CSR not being less important during recession than other times, leading them to punish bad CSR performance even during the recession years. This could be explained by the fact that investors do value good CSR performance,

perhaps thinking that the companies engaging in CSR during recession years have more stable financials and are investing more long-term, despite the economic downturn. However, the impact on top companies during the recession is slightly negative, however not significant. A potential explanation to the insignificance could be that investors are already aware of the companies' CSR engagement and that Folksam's CSR ranking report does not add any new information leading to no reaction. A final note is that these results support the previous results from both the main and the first sub-hypothesis, showing an increasing interest of CSR today compared to previous years, despite the financial crisis.

5.2.3 Sub-hypothesis 3: Operational risk

N=31	T-test			Wilcoxon's signed-rank test
Day	T-value	Mean	Std.	p-value
-1	-1,469	-0,472%	1,788%	0,038*
0	-,288	-0,105%	2,020%	0,126
1	-1,708	-0,453%	1,478%	0,057
2	,582	0,086%	0,825%	0,248
3	-,871	-0,192%	1,225%	0,176
CAR event	-1,789	-1,135%	3,533%	0,027*
*** p<0.001, ** p<0.01, * p<0.05				

Table 5.10. Top performing high-risk companies, 2013

When looking at abnormal returns for each day in the event period as well as cumulative abnormal returns over the whole event window for the top performing companies in operationally high-risk industries, the results differ between the days. However, none of the days or CAR shows a significant result for the parametric test. For the non-parametric test on the other hand, day -1 is significant at a 5 % significance level, as is the CAR for the whole event period. Over the whole period, as well as for each day separately except for one, the impact is negative. Hence, from the results, a clear trend of negative returns is observed, which implies that a high performance in terms of environmental activities not necessarily is awarded among environmentally high-risk companies' stock returns.

N=31	T-test			Wilcoxon's signed-rank test
Day	*T-value*	*Mean*	*Std.*	*p-value*
-1	-,486	-0,326%	3,733%	0,557
0	-1,341	-0,556%	2,308%	0,337
1	-,694	-0,220%	1,764%	0,367
2	-1,966*	-1,049%	2,972%	0,164
3	-2,842**	-1,622%	3,178%	0,003**
CAR event	-2,679**	-3,549%	7,376%	0,009**
*** p<0.001, ** p<0.01, * p<0.05				

Table 5.11. Bottom performing high-risk companies, 2013

For the bottom performing companies, the results show an even more negative trend. In this case, all days show a negative impact, in which day 2, 3 and the whole event window-CAR are significant at a 5 % and 1 % level, respectively, for the parametric test. For the non-parametric test, day 3 and the whole event window are significant at a 1 % level. Hence, the null hypothesis can be rejected at a 1 % level for the whole event. These results imply that companies that are considered environmentally risky as they are operating in high-risk industries, and perform badly in terms of environmental activities, are punished through a negative effect on stock return.

When comparing the impact from the CSR ranking release on the top- and bottom performing companies respectively, a negative trend is observed for both segments. For almost all days, the abnormal returns are negative and the same is shown for the whole event period. This is particularly observable for the bottom performing companies where the null hypothesis should be rejected at a 1 % level for the whole event period, implying that CSR engagement, or in this case poor CSR engagement, in fact has an impact on the investors' perception of the firms. Companies who are operationally risky and do not put enough efforts into CSR activities are clearly punished.

5.2.4 Sub-hypothesis 4: Company Size as Defined by Market Capitalisation

N=30	T-test			Wilcoxon's signed-rank test
Day	T-value	Mean	Std.	p-value
-1	-2,341**	-0,313%	0,732%	0,016*
0	-,832	-0,083%	0,557%	0,422
1	-,161	-0,020%	0,691%	0,922
2	,097	0,013%	0,757%	0,583
3	,247	0,043%	0,969%	0,769
CAR event	-,963	-0,280%	1,595%	0,229
*** p<0.001, ** p<0.01, * p<0.05				

Table 5.12. Top performing large cap companies, 2013

The fourth sub-hypothesis shows significant results for the first day of the event period for the top-performing large cap companies. The impact on stock returns are significantly negative at a 1 % significance level when using the parametric test, while the results are significantly negative at a 5 % level for the non-parametric test. The direction of impact is varying between the days, but over the whole event period the impact is slightly negative, although non-significant.

As the test shows, only the first day of the event period, i.e. day -1, is significant and the overall direction is varying between the days. This could be regarded as contradicting to theories about large companies and the importance of their responsibility-taking as a corporate citizen. However, the results might simply be explained by an efficient market and investors' awareness, indicating that the CSR information already is incorporated in the stock price. Another potential explanation to the insignificant results could be a lack of interest for CSR and Folksam's CSR ranking report among investors. This will be further elaborated on in the *Analysis* chapter.

N=29	T-test			Wilcoxon's signed-rank test
Day	*T-value*	*Mean*	*Std.*	*p-value*
-1	-1,384	-0,266%	1,034%	0,056
0	1,076	0,308%	1,539%	0,567
1	,874	0,111%	0,681%	0,417
2	,168	0,025%	0,808%	0,940
3	-,313	-0,056%	0,963%	0,837
CAR event	,271	0,121%	2,417%	0,673
*** p<0.001, ** p<0.01, * p<0.05				

Table 5.13. Bottom performing large cap companies, 2013

The results for the bottom performing large cap companies are similar to the top performing companies, however with no significant results at all. The overall trend appears to be positive on the event day and the following two days, while negative on the first and last day. The total effect on the stock price measured by CAR is slightly positive, however not significant.

The large companies segmented into bottom performers are not proven to have any significant abnormal returns, but the overall direction is slightly positive. These results can potentially be explained by the fact that their ranking as "bottom-performers" implies that they are doing less or reporting less on their CSR work, compared to the top-performers, rather than "doing bad". Another potential explanation is that investors are already aware of the companies' lack of CSR engagement, or that they simply do not care about it and therefore do not incorporate it in their investment decisions. Moreover, as can be seen in Appendix 9.4, most companies segmented into the bottom-group of these large companies in fact do not have "bad" rankings. The appendix shows that the actual bottom-performers, all companies included, often are found in small- or sometimes mid-cap segments. This will also be discussed further under *Analysis*. As a result, what is considered to be "bad performing" among the large cap companies may not be perceived as being bad at all among investors.

To conclude, the release of Folksam's CSR ranking report does not have any substantial impact on large cap companies, no matter their ranking score. However, worth mentioning is that the number of observations for both tests under this

hypothesis does not fulfil the requirements of the normality assumption of 30 observations for the parametric test.

5.3 Robustness Tests

To strengthen the validity of the results above, three separate robustness tests are performed. First of all, three considerable events that potentially could bias the main test's results are considered. Secondly, two separate tests are run for top-, bottom-, and zero performers in terms of human rights points and environmental engagement points, respectively, as a validity check of the main test. Finally, a correlation test is made between different measures of size to validate the choice of using market capitalization as size distinguisher.

5.3.1 Considerable Events

During the studied period, several considerable events have taken place for the Swedish listed companies, which have not been incorporated in this study. If these events would have taken place during the estimation period, they could potentially have biased the expected return, hence providing a misleading abnormal return. It is therefore considered relevant to test whether examples of such big events have had any impact, to ensure that the results from the main test are reliable. The events tested for are an announcement of a substantial raw material cost increase and weaker demand in July 2011 affecting Electrolux, a press release stating a CEO change in June 2013 for TeliaSonera, and a release of a positive Q2 2011 financial report for Volvo.

In the data gathered for Electrolux, it is observed that the announcement of a substantial raw material cost increase and weaker demand lead to a fall in stock price of almost 15 %, from 144,60 to 123,10 SEK. During the second event, i.e. the announcement of a CEO change for TeliaSonera on the 16th of June 2013, the reaction of the stock market has been positive with a stock price increase of 3,3 % from the day before. In absolute terms the price went from 43,36 to 44,78 SEK. For the final event chosen, i.e. Volvo's release of the Q2 report in 2011, the stock price increased from 102,0 to 105,7 SEK, i.e. 3,6 %. The releases of interim reports are, for all companies, made three times yearly. However, it is not deemed to be such a big an

event that it would give misleading numbers during the estimation periods. Hence, these events are not excluded, but instead this test aims to show that the release, in this case of a positive report, does not have a considerable impact.

All three companies are top-performers in the respective years, and hence the main test for the top performing companies has been run four more times with updated numbers for each test separately and then for all events together in the same test. The results are presented in Table 5.14 below.

N=186	Main test		Electrolux		TeliaSonera CEO change		Volvo Q2 report		All events	
Day	T-value	p-value	T-value	p-value	T-value	p-value	T-value	p-value	T-value	p-value
-1	-2,682**	0,007**	-2,683**	0,007**	-2,681**	0,007**	-2,682**	0,007**	-2,681**	0,007**
0	-,124	0,594	-,124	0,594	-,122	0,597	-,124	0,594	-,122	0,597
1	,246	0,996	,246	0,996	,246	0,995	,246	0,996	,246	0,995
2	-,056	0,706	-,056	0,706	-,056	0,706	-,056	0,706	-,056	0,706
3	-,379	0,671	-,379	0,671	-,378	0,671	-,379	0,671	-,378	0,671
CAR event	-1,189	0,065	-1,189	0,065	-1,189	0,065	-1,189	0,065	-1,187	0,066
*** p<0.001, ** p<0.01, * p<0.05										

Table 5.14. AR and CAR for main test with updated numbers for each event separately and all events together

As can be seen in Table 5.14, none of the events have had a significant impact on the main test. All events show the same results for both the parametric t-test and the non-parametric test, i.e. that only day -1 is significant at a 1 % significance level for both tests.

Based on the results above, it is concluded that the examples of considerable events that have taken place during the estimation window does not have any significant impact whatsoever on the estimation of abnormal returns. The probable explanation is that the impact of a single day out of 126 in total in the estimation window is too small to have any significant impact on the slope and intercept used when calculating the expected return using the market model. Hence, as the expected return when incorporating the specific events does not differ substantially from when not incorporating the specific events, the total impact on the test is trivial. In addition, if an event would have a large impact on the expected return and hence on the abnormal return, it is likely that it still would not affect the main test results considerably since

it would only comprise 5 observations (day -1 to 3 for one company) out of the total sample of 186 observations.

5.3.2 Environmental and Human points

Folksam's CSR report presents separate rankings for human rights performance and environmental performance for each company listed on the Swedish Stock Exchange. For the purpose of this study, the rankings have been added together in order to get one overall ranking for each company. However, there might be differences in how investors react to the two rankings separately, which could give different results from what has been provided previously in this study. In fact, in none of the tests the differences in points related to human rights versus environmental performance are reflected. To examine whether there is a considerable distinction between how investors react to human rights and environmental engagement separately, a sample consisting of the top- and bottom performing companies within each area are chosen. Investors are believed to have cared more about CSR in 2013 than in previous years due to the increasing interest for the subject in general, and hence it is deemed to be a good year to choose a sample from, as this should reflect the largest differences, if there are any.

In Table 5.15 and 5.16 below, the main test for 2013 is presented together with the separate results for the top- and bottom companies for human rights and environmental performance respectively. As can be seen, the results between the two areas are similar, especially for the top companies tests. For the bottom companies' tests, some differences are observed. One of these is for day 0 for bottom performing companies within the human rights segment, where the parametric test is significantly negative at a 5 % significance level. which differs from both the main- and environment tests. Another exception is for day 2, for bottom performers within the environmental area, where the impact is negatively significant at a 1 % level, while no significant results are proven for the human rights area. However, the direction of the impact is negative for both areas.

N=31	Main Test Top		Top Human		Top Environment	
Day	T-value	p-value	T-value	p-value	T-value	p-value
-1	-1,241	0,189	-,328	0,248	-,523	0,389
0	-,392	0,158	-1,185	0,240	,710	0,557
1	-,525	0,531	,619	0,875	-,007	0,922
2	,077	0,610	,663	1,000	-,974	0,875
3	,075	0,583	,027	0,938	-,608	0,784
CAR event	-,821	0,481	,146	0,845	-,483	0,769
*** p<0.001, ** p<0.01, * p<0.05						

Table 5.15. The top performing human and environmental companies, respectively

N=31	Main Test Bottom		Bottom Human		Bottom Environment	
Day	T-value	p-value	T-value	p-value	T-value	p-value
-1	-2,003*	0,033*	-1,731	0,203	-,739	0,112
0	-1,219	0,025*	-2,090*	0,096	-1,070	0,088
1	,349	0,327	-,233	0,030*	,530	0,814
2	-2,073*	0,044*	-1,405	0,367	-2,157**	0,057
3	-2,890**	0,006**	-2,054*	0,063	-2,880**	0,004**
CAR event	-3,914***	0,000***	-3,311***	0,005**	-3,643***	0,000***
*** p<0.001, ** p<0.01, * p<0.05						

Table 5.16. The bottom performing human and environmental companies, respectively

To conclude, there are some differences between the two ranking areas. However, the main test seems to capture the overall picture.

5.3.3 Correlation Test of Size Measures

For the purpose of the sub-hypothesis testing large companies, companies listed on large cap with a market value above 1 billion EUR have been chosen, implying that market value is the chosen measure of size. However, since there are different opinions on how to measure the size of a company most accurately, it is deemed important to examine other size measures as well and test the correlation between these. If only market cap, or any of the other measures, is used in isolation, the results of the sub-hypothesis could be biased and misleading. The test of how well the different possible measures of size are correlated includes the following four variables for each of the 240 companies in 2013; total sales, total assets, number of employees, and finally market capitalisation, which was used as size differentiator in the sub-hypothesis test. Among previous studies on the subject, several different size measures can be found, and the measures found to fit the specific tests and the

methodology in this study best were chosen for this robustness test. However, as the test shows, presented in Table 5.17 below, all variables correlate significantly with each other, which enables conclusion that the measure chosen would not have mattered much regardless of choice.

N=240 (all variables)	Total Assets	Total Sales	Market Cap	Employees
Total Assets	1	,824**	,831**	,607**
Total Sales	,824**	1	,784**	,849**
Market Cap	,831**	,784**	1	,600**
Employees	,607**	,849**	,600**	1

Table 5.17. Correlation matrix between Total assets, Sales, Market Cap and Employees

6. Analysis

In this chapter, the empirical findings of the event study presented in the previous section are analysed, starting with the main hypothesis followed by an analysis of the sub-hypotheses.

6.1 Analysis of Main Hypothesis

Overall, the results from the main hypothesis indicate no significant relationship between the release of the CSR report and financial performance of the Swedish firms listed in the top of the ranking over the whole period from 2006-2013. The same tests for the bottom- and zero companies do however prove a significant impact on financial performance as a result of the publication of Folksam's CSR report.

Top performers did generally not have any positively statistically significant abnormal returns as a result of the report release event. This can potentially have several different explanations. The first is that investors actually do not care much about CSR, and that they prioritise financial aspects more, which is supported by the neoclassical theory claiming that the only responsibility of the management of a company is to maximize the corporation's long-term value. As discussed in the theory chapter, engaging in CSR entails several monetary costs, both one-time and continuous ones, which might be regarded as negative among investors if the financial results are affected. In addition, companies engaging in CSR are more exposed to scrutinisation and are therefore more likely to be hit by bad publicity if a mistake, even a small one, is made. However, this explanation appears unlikely since it is proved that CSR has gained an increased importance in the society and among investors in general, which was also proven in the McKinsey survey made by Bonini et al. (2009). This is particularly applicable on the Swedish market since Sweden is regarded as a pioneer within the CSR field. Moreover, it is believed that the interest for CSR has increased since the first release in 2006 and that this also could be a potential explanation to why no significant abnormal returns are found for the whole period.

A second explanation for the lack of positive impact on the top performing companies could be that investors *do* think that CSR can add value, financially as well, but that they are already aware of top performing companies' CSR engagement and that the reports therefore do not provide any new information. This explanation is more in line with Freeman's (1984) view of satisfying a number of stakeholders who can influence the firm's performance and outcomes, and is aligned with the conclusions drawn by Alexander & Buchholz (1978) and Guidry & Patten (2010), among others. If the investors are already aware of the companies' CSR engagement, all information is already incorporated in the stock price and no adjustment of the stock price is made, which is in accordance with the semi-strong efficient market theory. For the publicly listed Swedish companies, the information is in fact already available to the investors and it is therefore likely that the information is already incorporated before the release. However, as previously suggested, it is possible that a ranking in fact adds new information to investors when the CSR performance of one company is put in relative comparison to another company's performance.

A final explanation to the insignificant results for top-performing companies could be that, when assessing the value of a company, and hence its stock price, investors perceive CSR engagement as such a long-term value adding activity that it cannot be included in a valuation forecast horizon, and thus does not make a difference for the final value. As was shown in the study made by Bonini et al. (2009), only 40 per cent of the respondents were substantially positive that environmental (social) programs contribute to short-term shareholder value, and that 85 per cent were substantially positive that environmental (social) programs will contribute to the long-term value for shareholders. Therefore, when not even one half of the investment professionals regard CSR to be value adding in the short-term, it is understandable that the CSR ranking report does not have a major impact on the stock prices of the Swedish listed firms.

Moreover, the question of whether investors actually are aware of the report should be considered. As described in the theory section on *Characteristics of the Swedish Stock Market,* 41 per cent of stockholders of the Swedish listed companies are foreign investors, and as the report is released by a Swedish company, and in addition, in Swedish, it is unlikely that these investors have any knowledge or full understanding

of the report. However, no clear numbers are available on the characteristics of these investors, i.e. if they are private investors or investors who trade via an agent. Most likely, the shares are owned by funds. If the latter is the case, this issue is irrelevant, as they should consider all activities concerning the companies in question. Therefore, awareness should not be an issue. The same reasoning applies for Swedish investors and as for the assumption above that the general interest for CSR has increased among investors, it is also believed that the awareness of Folksam's CSR ranking report has increased over time.

An observation related to the analysis above is that the awareness of and interest for CSR, and the ranking report in particular, has grown over time, which could be a natural explanation for the generally non-significant results for the top companies. If the beginning of the period was insignificant with investors not using the report as an input for investment decision-makings, no significant abnormal returns are presented for the whole period, thus providing misleading results for the whole period under which the report has been released.

When it comes to the significant results for bottom and zero companies, they can generally be explained by the argument that investors punish bad behaviour more than reward good behaviour related to CSR. Similar results were found by Johnson (2003), who states that being bad has a negative impact, while being good only pays off to a limited extent, further supporting the results for the top-performing companies. A potential explanation to why only companies with bad rankings are affected, and companies with good rankings are not, is that investors expect companies to engage in CSR. Hence, no abnormal returns occur for top-performing companies, as their work comes as no surprise in relation to investors' expectations. Bad performance, on the other hand, comes as a surprise for investors who expects better CSR performance, and hence they punish companies for this.

The strongly negative reaction of stock returns for bottom- and zero companies indicate that the market was not fully efficient, and that the new information was absorbed by investors and that it added value to their investment decisions. A low ranking within CSR could have signalled both bad priorities from management as well as lack of financial resources. The latter is, particularly in combination with the

fact that Swedish investors have shown an increased demand for CSR engagement, in accordance with the slack resource theory suggesting that CSR potentially follows slack resources. This implies that the absence of CSR engagement must be a consequence of the companies' lacking financial resources, which would send a negative signal to investors.

Another thing to consider is what the definition of "bottom companies" actually implies, i.e. those that receive the lowest points for both environmental and human CSR combined. Worth pointing at is that some companies may only be "short-time visitors" in the bottom-segment, which may be explained by several factors. One could be that they are new to working with CSR, and hence have not had the time to improve their work. Another could be that they are less good at reporting their CSR efforts, in comparison to other companies.

Zero companies on the other hand, are "bad" in the sense that they not at all engage in CSR. The number of these companies does however follow a clear decreasing trend over the years studied, which suggests that working with CSR is more important to companies, investors and other stakeholders today than in the beginning of the studied period. Potentially this could be another sign of investors valuing CSR engagement.

Consequently, it can be concluded that an increasing number of companies work with CSR issues, despite the insignificant impact on the stock price, but that they still consider CSR work to be worthwhile. In addition, as investors apparently react to bad rankings, they seem to consider CSR in their investment decisions. An interesting question is therefore why no positive abnormal returns follow the ranking release. It could potentially be the difficulty in measuring the value of the CSR activities that leads to non-inclusion in the valuation. The long-term and rather diffuse added value could, as discussed in the theoretical section, stem from an improved brand image and company reputation, as supported by the study made in 1997 by Preston & O'Bannon as well as by Bird et al., in 2007. It could also stem from the value added through increased employee motivation and improved retention and recruitment, as well as increased revenues from higher sales or capturing a larger market share. These sources of value creation are also in line with both Burke & Logsdon's results from 1996, where they link the mentioned benefits to improved customer loyalty and hence

financial performance, as well as with Greening & Turban's (2000) conclusions about employees having a higher self-image and feeling better overall when they work for a green company.

Potentially, the value added and reasoning behind working with CSR could also be an effect of cost savings from engaging in CSR and hence avoiding potential lawsuits or similar issues that increase costs for the company. Finally, and perhaps more importantly in a long-term perspective than the reasons just mentioned, engaging in CSR can improve stakeholder relations and hence ensure the company's "license to operate". As discussed in the theoretical section, ensuring goodwill and support from governments can be crucial, especially when companies grow and start to operate as multi-nationals, with divisions as well as supply chains in other countries or regions. Good relations to stakeholders can be an important competitive advantage both when for example entering new markets or trading with new regions. It should also be mentioned that it is possible, and believable, that regulations will be stricter in the future, as the world's resources are getting scarcer. As recent as in the fall of 2014, the European Union introduced an EU regulation on mandatory CSR reporting among large companies, and the regulations on companies around the world are likely to be stricter over time. Therefore, working with CSR can be seen as a long-term investment for companies, especially if they are first-movers within that subject. When viewing CSR from this perspective, the engagement could be incorporated into a valuation forecast by seeing it as a strategic entry barrier for new potential entrants. This way, CSR could be incorporated into a valuation either by including it in Porter's model, or in a SWOT analysis as strength. It would also be a competitive edge when looking at PESTEL factors since a high CSR engagement both considers political, environmental and social aspects. Either way, this would affect the forecast of sales, or similar advantages, or reduce costs and expenses as discussed above.

Further, companies that are highly engaged in CSR should have a lower cost of equity in comparison to companies showing low CSR engagement, which increases the value of the company when for example using the discounted cash flow model for valuation. The disclosures of CSR related actions would spread a positive image of the company, which in turn would attract more investors leading to a wider investment base and lower perceived risk in comparison to companies not engaging in

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CSR. The CSR disclosures send positive signals to investors, on which they may react if they find the information to be value adding, which is in line with the signalling theory. An announcement related to CSR engagement may also signal that a company has recovered from a financial downturn and hence have more resources available for CSR investments and therefore can prioritise these types of activities to a larger extent. CSR engagement could also, as discussed, send a positive signal to potential employees to show good working conditions, as suggested by Greening & Turban (2000), which hence attracts and motivates employees also leading to a better long-term financial performance.

Despite all these arguments, CSR does not always seem to be included in valuations. The most straightforward explanation for this, in spite of all possible value adding advantages, is that in the end there is no guarantee for investors that CSR does add value, and if it does, how much. Therefore, it might be reasonable to assume that investors may wait to include CSR into a valuation until they know in what way and how much value is added. This is confirmed by the survey by McKinsey, in which it was concluded that a significant proportion of investors asked did not fully consider the value of CSR in their valuations, as the value was too long-term, too indirect or too difficult to measure accurately. Some studies even show the opposite. An example is the study made by Hassel et al. (2011), which shows that high environmental performance is costly and that this type of investments therefore negatively affects the expected earnings and market value. They also suggest that investors potentially ignore longer-term environmental information when making investment decisions. Investors do therefore not reward companies with a highly rated environmental performance, which is confirmed by the results of this study.

The fact that a company increasing its engagement in CSR activities may signal an improved financial situation can also be linked to the causality discussion mentioned earlier. It should be discussed whether it is the CSR engagement that affects the financial performance of a firm, or if it is other way around. According to the slack resources theory, firms with slack resources may have greater opportunities to invest in CSR and when investors receive new information on CSR investments or CSR engagement, they may see this as a signal of a better financial situation and an indication of better future outlooks, thus leading to a higher stock price. As can be

seen in Appendix 9.4, many of the top-performing companies are also the largest companies, which indicates that there is a connection in the other direction too.

The only sure thing is that CSR can add value, but potentially also reduce value, and that it all depends on several factors that might be too intangible to test by using an event study methodology. The study made by Waddock & Graves (1997) suggests that it is dependent on slack resources, and that a firm with more of these have greater opportunities to invest in CSR, as well as a possibly more approving crowd of shareholders. The latter is in line with Barnett's (2007) theory about stakeholder influence capacity (SIC). He discusses the importance of knowing and understanding the involved stakeholders, and through that predict when CSR actually can be value adding. CSR could thus add financial value, but depending on the stakeholder influence capacity of the firm, and hence he suggests that SIC should be perceived as a firm-level intangible resource. This reasoning is also related to using CSR as an intangible strategic advantage in accordance with the resource-based view.

Mackey et al. (2007) claim that the value added by engaging in CSR activities is dependent on the investors' demand for CSR. This conclusion is similar to Barnett's (2007) idea of CSR being value adding only when it suits the will of stakeholders, i.e. that investing in CSR is about timing and knowing your crowd, and knowing how well you can influence your stakeholders. This is potentially also a reason for the results in this study being partially inconclusive, since the stakeholders related to all companies included in this study are many and sometimes diverse. Moreover, as Schaltegger and Synnestvedt (2002) discuss, knowing your stakeholders also implies knowing at what level CSR investments add value. In their article they suggest that economic success can follow environmental engagement, but only to a certain level, where instead the costs are too high and the crowd does no longer approve. At this point, the CSR efforts add no more value. This is another potential reason for the top companies results being non-significant, and rather negative, as it would imply that investors believe that these companies' CSR engagement is over the top, and that the costs related to CSR have come to a level where they exceed the benefits gained from the engagement, hence destroying value.

A final observation is the significant result on the day before the release, i.e. day -1, for both top- and bottom performing companies. This could indicate that insider information is leaked beforehand to investors.

To sum up, the results from the main hypothesis do not give any significant results for the top ranked companies, but rather shows a negative direction of the impact, while bottom- and zero ranked companies are punished. Good performance is not significantly rewarded; nevertheless companies spend considerable amounts of money on CSR. Therefore, several sub-hypotheses are needed to explore if certain groups within the population are rewarded by top rankings. These are elaborated on and analysed next.

6.2 Analysis of Sub-hypotheses

An observation from the sub-hypotheses results is that CSR seems to be regarded as more important today in comparison to the beginning of the period. When the concept of CSR was new in the end of the 20th century, it was often assumed that investors were unwilling to pay a premium for socially-responsible corporate behaviour, however this was proven to be changed already in 1996 by Pava & Krausz. Since then, the interest for and importance of CSR seems to have increased even more among investors, which is supported by both Folksam and Dow Jones who have identified a growing CSR interest among investors for their investment strategies. Only by looking at the results from sub-hypothesis 1 and 2, a clear trend between the years of 2006 to 2013 can be observed. For 2006, only one observation is statistically significant, indicating that no abnormal returns related to the release of the Folksam report occurred. For bottom companies in 2013, the results show the opposite from the bottom companies in 2006; several significantly negative results are presented. For top companies, no significance is observed for any of the two years.

The results for the top companies in 2013 can be explained by Schaltegger & Synnestvedt's (2002) theory that CSR is value adding only to a certain extent. As a result, top companies might be perceived to spend too much on CSR, sending a signal to investors that the costs for the CSR engagement at that point might be higher than the benefits gained, hence explaining the negative reaction. The negative results

related to the bottom companies in 2013 can be linked to the signalling theory, which indicates that the release of information on CSR engagement acts as a signal to investors with new and value-adding information and has immediate impact on stock prices in accordance with the semi-strong efficient market theory. The direction of the impact, i.e. positive or negative, will depend on the signal that is provided from the released information to the investors. If they consider the bottom rankings to be negative information, and they were not aware of this before the ranking report release, the market should react negatively. In the case of the bottom performing companies of 2013, it is seen that the investors react significantly negatively over the whole event period, while no significant impact is seen for the top-performing companies. A potential interpretation is that investors are aware of the potential benefits of CSR engagement and find the ranking report to be disappointing in terms of the bottom-performers.

The zero-companies on the other hand do not show any significant results for 2013. It should however be remembered that for this test the sample size was only five, as there has been a clear decreasing trend for the number of companies who do not engage in CSR at all.

When exploring further, by separating the years into segments of pre-crisis, crisis and post-crisis, similar results are found. These indicate that in 2013 (post-crisis) investors seem to have reacted more to the release of the report than in 2006-2007 (pre-crisis). During the crisis, negative significant results were found for both bottom- and zero companies. Based on these results it can be concluded that even during recession investors do value CSR and hence punish bad performance. Additionally, not performing well in terms of CSR potentially sends a signal to investors suggesting that the absence might be a consequence of lacking financial resources. Especially if the demand for CSR engagement is high at all times, which this sub-hypothesis' results indicate, there is no other reason for companies to not engage in CSR than lacking resources.

Looking closer at the results from testing the crisis-period and post-crisis, the most clearly negative results are observed for the bottom companies. As for this segment, most of the companies are listed on small cap, and were often newly introduced to the

market at the time of the report release. Two straightforward arguments could explain the results for this segment. The first being that these, many times small and newly listed companies, do not have enough resources or time to expand their CSR activities, and hence are stuck in the bottom rankings. However, as CSR is perceived as more and more important by share- and stakeholders, they still do engage in CSR to a certain extent, explaining why they are not zero-companies. The second explanation for why the results for top companies' cumulative abnormal return over the whole event window are not significant, is that investors already know that the top companies are engaged in CSR issues. Hence, the report comes as no surprise in relation to investors' expectations. This leads to the question of how to test whether CSR engagement actually leads to financial value creation or not, and in that case, how.

The third sub-hypothesis has investigated the inherent operational risk within certain industries and for specific companies, for example those that are more exposed to environmental hazard problems, and whether investors reward these companies particularly for engaging and performing better within CSR issues. The companies defined as operationally high-risk companies, which have received a good ranking, do not seem to be rewarded for being "good", as there are no statistically significant abnormal returns related to the report release. Furthermore, the direction of the reaction, although not significant, is mainly negative. The most reasonable explanations for this would be, as for some of the results from the main hypothesis, that investors are already aware of good CSR efforts and hence good rankings and that the report therefore is no surprise, as well as the investors' perceived equilibrium in which CSR costs become higher than benefits is exceeded.

Another potential explanation for the negative, though insignificant, direction for top-performing operationally high-risk companies is that CSR engagement may hurt the company image if the motives behind are perceived to be insincere, as suggested by Yoon et al. (2006). This might be the case for the top-performing companies acting in environmentally dirty and bad industries, since being environmentally friendly is not the reasoning behind making business in a dirty industry. Hence, the CSR engagement among these companies may be perceived to contradict the companies' business ideas, which indicates that they only do it in order to improve their image.

This behaviour may make investors and other stakeholders suspicious. However, Folksam's ranking report is supposed to reflect actions that have a real environmental impact in comparison to more superficial actions, such as window-dressing. Actions that have a real impact should also be in the interest of the companies, since they face a lower risk of harming themselves through CSR activities by being genuine and open with their motives in the market as well as pursuing genuine CSR objectives, which was also concluded by Bhattacharya et al., (2011). In addition, this risk of bad publicity is mitigated by satisfying the specific needs of the customers and aligning the company goals with the stakeholder goals, which also can be linked to the stakeholder influence capacity argued for by Barnett (2007).

The results presented above are partly in agreement with the results presented by Klassen & McLaughlin (1996) who also use the event study approach to look at abnormal stock returns. They find differences between industries where the impact on stock return for firms acting in environmentally dirty industries is shown to be less than the impact on other firms. This again may be linked to how the CSR engagement is perceived by investors and stakeholders, i.e. that companies engage in CSR only to improve their own image, and not because of a genuine care for the environment.

For those companies within the "environmentally risky industries" that perform worse, the cumulative abnormal return for the event window is clearly significantly negative, signalling that investors punish companies who according to several stakeholders should take on more corporate social responsibility, but clearly do not. This is in accordance with the results presented by Klassen & McLaughlin (1996) finding that environmental crises were significantly related to negative returns. If investors do value CSR engagement, it makes sense that for those companies that are more scrutinized as they operate in risky industries, a bottom ranking is perceived worse than for companies operating in industries where CSR engagement is more diffuse and less relevant in relation to the business area operated within. Thus, it can be concluded that investors seem to value CSR more when it is considered a strategic driver than when it is more of philanthropic act, which in the eyes of investors probably is perceived as a cost more than something value adding, and as mentioned above as window-dressing rather than anything else. These results are similar to those of Herremans et al. (1993), showing that among companies that are more exposed to

social conflicts, there is a positive relationship between CSR activities and financial performance.

The fourth and final sub-hypothesis has examined whether good or bad rankings affect large sized companies specifically, as these companies, according to for example Herremans et al. (1993), are more visible and vulnerable to negative publicity related to CSR. The results for the top companies were significant for day -1 only, while no significance was observed among the bottom companies. The similarities between the highest and lowest ranked companies within the large company group, can be explained by the fact that the bottom-performing companies in the large cap segment actually are not performing bad at all. As can be seen in Appendix 9.4, most companies segmented into the bottom-group of these large companies do not have "bad" rankings. The appendix shows that the actual bottom-performers, all companies included, are often found in small- or sometimes mid-cap segments. As a result, what is considered to be "bad performing" within the group of large cap companies may not be perceived as being bad at all by investors. Hence, the impact is not as distinct and the investors do not punish them since they are still performing at an acceptable level.

What can also be seen in Appendix 9.4 is that there is a clear trend of large cap companies being top-performing companies, indicating that these companies generally are better in terms of CSR engagement. This is understandable as these companies, as suggested by Herremans (1993) are more publically exposed and hence have more to lose by performing bad. In addition, they are often multi-national, multi-divisional companies who are exposed to differing business norms and standards, regulatory frameworks as well as stakeholder demand for CSR, and hence are more dependent on good relations with stakeholders. These companies are more likely to perform at a high level in terms of CSR in order to fulfil the minimum requirements on CSR and environmental issues in all countries they operate in. Moreover, this again opens up for the discussion about causality. These companies do generally have more money to spend on CSR, especially if they have slack resources, as discussed earlier. Therefore it would not be surprising if an investigation showed that top-performers are top-performers as a result of a good financial situation, rather than the other way around. Previous research has investigated both directions of the variables,

but no common view has been established, and probably the causality could go in both directions.

A potential explanation for the large cap companies' insignificant results is related to investors' awareness of the companies' CSR engagement. If they already, at the time of the release of Folksam's CSR report, are aware of the companies performing at a certain level, this information is already incorporated in the stock price and hence no impact is observed. This is in accordance with the efficient market theory. If the same test was performed on companies of similar size in another country characterised by a lower transparency than the Swedish market, the results might have been different since it is believed that these investors might have access to less information and that a CSR ranking report hence would add new information and value to their investment decisions.

The insignificant, but negative, impact on stock returns for top-performing large cap companies' could also be explained by the cost and benefit equilibrium theory suggested above for the other tests. Again, investors may not reward companies that put too much effort into CSR since it destroys, rather than creates, value at that point.

A final note is that the sample includes 29 observations only, which is not a complete sample for the parametric test's normal distribution assumption and hence may not be fully representative. However, since only two observations are lacking, the sample could be considered to indicate the direction of the impact on these companies.

For the final sub-hypothesis, the market capitalisation was used as a size distinguisher. However, as was shown in the robustness test, the companies' market cap, total sales, total assets and employees, correlate highly, and hence the choice of size measure is considered to be valid. In addition, if any of the other tests would have been chosen, a limit for what is considered to be a large company would have been needed, which could be considered to be too ambiguous and subjective and hence not reliable.

7. Conclusion

This chapter summarises the results and the analysis that this study has presented as well as discusses the impact of the findings and how these can be used for future research.

There is a clear trend towards increased engagement in CSR activities among companies and their stakeholders, and in Sweden, there is a long tradition of active CSR engagement. However, the impact on firm value from these activities has been debated and there are schools and studies supporting both positive and negative relationships between CSR and firm value as well as studies indicating no relationship. Further, the question of causality has been raised, asking whether it is the CSR engagement that affects the financial performance or the financial performance that affects the CSR engagement. The general perception is that there is no clear answer, and connections can be found in both directions, however there is little evidence supporting that CSR and financial performance are directly related.

The objective of this thesis was to fill the gap in existing research by empirically investigate whether CSR engagement has a direct impact on the financial value of a firm. This was done by using a specific business case, namely a CSR ranking report published by Folksam during six years from 2006-2013, to investigate the releases' impact on the companies listed on the Swedish Stock Exchange. Top-ranked, bottom-ranked and "zero"-ranked companies for each of the six years were studied. The purpose was to examine whether the stock returns of the companies were affected as a result of the release of the CSR ranking reporting and if there was a difference between the three ranking groups. In addition, the study made use of four sub-hypotheses to determine whether there was any difference in the potential impact between the beginning and end of the period, between the years pre-crisis, during-crisis, and post-crisis, as well as to investigate whether the impact on highly ranked companies that are operating in industries that are considered to be operationally risky and high ranked large sized companies is different from the impact on operationally risky and large companies that have received a low ranking.

The empirical investigation of the effect on the market value of the Swedish listed companies was conducted through an event study, where the publications of the Folksam Index of Corporate Social Responsibility were defined as the events. For the estimation of normal returns, the market model was used with 126 trading days prior to the event in the estimation window. The cumulative abnormal returns were calculated over one event window, from the day prior to the event, day -1, to day 3, where day 0 corresponds to the event day.

The results from the event study showed that CSR engagement has no direct positive impact on the financial value of the firm. A poor CSR engagement on the other hand has proven to have a negative impact on the financial value of the firm. The companies with high CSR rankings were neither rewarded nor punished, while the companies with bottom rankings were punished. In short, this is explained by bottom companies not fulfilling investors' expectations. For the top-performing segment, no significant results were found, but the overall impact appeared to be somewhat negative. Two potential explanations to these findings were identified. The first being that investors already are aware of the highly-ranked companies' CSR engagement and hence that no impact on stock price was shown due to an efficient market. This is applicable on the Swedish market with its transparency and requirements for companies to report all information that may influence the prices of the stocks, but it could limit the applicability of this study to other countries. The second explanation is that investors only value CSR investments up to a certain point where they perceive the costs of CSR to equal the benefits. Once this equilibrium point is exceeded, the investors no longer reward the efforts put into CSR, but rather punish the companies for not acting in the best interest of shareholders.

When grouping the companies into more specific segments, as defined in the sub-hypotheses, some further significant results were found. Firstly, the results clearly confirm previous theory and research that has suggested that the interest in CSR has increased over time and is continuously increasing. When comparing the same groups of companies in 2006 to those in 2013, it was concluded that the results for 2013 were more substantially more significant than the results for 2006, particularly for the bottom performing firms.

Secondly, it was found that during the financial crisis, there was still a demand for CSR among investors and it was discussed whether the absence of CSR engagement might have functioned as a signal of an unstable financial situation and lack of resources. During the three-year period when the market was in recession, the impact on the bottom- and zero companies was negatively significant, indicating that the release of Folksam's CSR report did have a direct impact on stock returns as investors punished bad performance. For all periods, there was no significant reaction for the top performing companies' stock returns, but the general direction of the impact was negative.

Thirdly, the nature of the industries has shown to be of considerable importance. When only selecting the companies operating in environmentally high-risk industries as a sample, it became clear that those companies within this segment that received worse rankings were punished as significantly negative returns followed the release of the rankings. This result was aligned with the overall perception when considering all tests; it was shown that negative performance was more punished than good performance was rewarded.

Finally, when considering the size of companies, the main conclusion following the results was that investors seem to be fully aware of the companies' good performance, and since almost all top-ranked companies were large cap companies, it follows naturally that the ranking release comes as no surprise. As discussed above, an alternative explanation is that the companies' CSR efforts are considered to be too costly and destroy more value than they create.

This study gives both companies and investors as well as other stakeholders, who benefit from companies' CSR work, a better insight into CSR efforts and provides an overview of the potential long-term benefits that CSR engagement may incur. The key finding is that companies that do not engage in CSR at all clearly are punished by investors. Hence, this thesis may function as a motivator for companies for continuous development of their work on CSR, at least to a certain point, since it has identified an increased importance of CSR among investors and society in general that is likely to grow over time, and also has discussed when CSR investments are optimal and most profitable. It has also emphasized several positive CSR aspects and

how these efforts may add value to a business, despite the fact that they are not always directly reflected in the stock price. Further, it has touched the issue of CSR hurting the image and the competitiveness of a firm, and how to mitigate the risks of bad publicity and negative effects as a result of CSR.

The results and topics covered may also be valuable to investors since they have received insights into how CSR can be incorporated in a valuation. However, the main issue with CSR, as indicated throughout the thesis, is that it is difficult to measure, and even though investors know how to incorporate the CSR aspects of a firm, they still find it difficult to measure the impact and determine the exact number in which costs will be saved or avoided, or sales or market share will increase, as a result of socially responsible activities. Hence, the results will be valuable for both these parties, as well as for other stakeholders who benefit from companies' CSR work.

7.1 Limitations

As with most studies, some limitations naturally follow the choices made during the process. When limiting the research to the Swedish market, the first limitation that followed was the potential ranking reports that could be used as a case. Folksam is, as explained above, considered a reliable source of releasing such reports, and as discussed in the method chapter, the potential problems with this report specifically are outweighed by the advantages. When comparing to the alternatives, that is if looking at other markets than the Swedish one specifically, it can be concluded that the two most common problems among other rankings are subjectivity and the criteria on which the company evaluations are based. While the issue of subjectivity is a concern for Folksam's report too, the criteria are not. As opposed to several of the other rankings and indexes, Folksam bases their evaluations on the UN Global Compact criteria, which are the most valid worldwide definitions and criteria for how to be a good corporate citizen as of today. The issue of subjectivity is also regarded as something that follows naturally when investigating CSR in general, since the definition of CSR itself is subjective and still "under construction".

Another limitation related to the above discussion is that CSR is a relatively new area of research compared to many other areas, and therefore the number of observations even when including all possible data related to the existing reports, is limited. The largest test in this thesis comprised a number of 186 observations, which is by far enough to achieve significant results, but can still not be considered a huge amount of data, by most standards. This also limited the sub-hypotheses, as the total population from where samples were found was small. Also, as companies not engaging at all in CSR has decreased to a total number of five in 2013, the existing sample for testing how investors perceive companies that do not engage in CSR is too small to be significant according to common rules of thumbs about sample sizes.

Another issue that follows looking at relative returns, which an event study requires, is that for those stocks that only are worth small amounts of money in absolute terms, even the smallest increase or decrease in stock price has a large impact. This is however something that follows the event study methodology, and hence the same goes for all event studies, and the perceived advantages of the methodology overweight this disadvantage.

An additional concern related to the results is the CSR measure chosen for the purpose of this study. In general, CSR is difficult to measure and to avoid shortcomings of CSR measures used in previous studies, a ranking made by a third party has been used. Due to the lack of information about the exact number of investors making use of Folksam's ranking report, it cannot be taken for granted that it is an appropriate measure of whether CSR engagement affects the stock price of a firm. However, Folksam's CSR report, which is publically available, is considered to be the best available option for measuring CSR on the Swedish market. Any other alternative would incur a larger amount of subjectivity and would require limitations of the study that would be even more subjective than Folksam's report itself. In addition, Folksam is one of Sweden's largest investment- and insurance companies, and therefore it is believed that the report is known among investors and that the release of this report thus is valid as an event for this event study.

The final limitation identified in this study is the number of days included in the estimation window and the whole event window. The number of days used in

previous studies varies, and hence no direct choice can be made based on these. Instead, a subjective assessment of what is considered to be reasonable has been used, which may bias the results. However, based on the data available and all events that occur close to the event and estimation period, the period chosen is regarded to be the most appropriate and it is unlikely that any other number of days in any of the windows would have given a more accurate result.

7.2 Suggestions for Future Research

Several of the conclusions drawn in the analysis point towards the limitations that follow the event study methodology. A more in-depth case specific study would complement this study well, by further investigating those thoughts that have surfaced during the process of this study. For example, taking a closer look at the specific stakeholders of companies investing heavily in CSR would answer several questions, such as if different stakeholders' demand for CSR affects the financial value related to increased CSR engagement.

Moreover, as Schaltegger and Synnestvedt (2002) discuss, knowing your stakeholders also implies knowing at what level CSR investments continue to add value. In their article they suggest that economic success does follow environmental engagement, but only to a certain level, where instead the costs become too high and the crowd no longer approves. At this point, the CSR efforts add no more value. This thesis methodology limits the possibilities to explore this further, and it is reasonable to assume that a more in-depth case study also could explore this issue better.

For the publicly listed Swedish companies, the information included in Folksam's report for each company separately is in fact already available to the investors and it is therefore possible that the information is incorporated before the release and that the ranking does not affect the stock prices due to the efficient market. Hence, it could instead be interesting to look at stock indexes that only include companies that are good corporate citizens, and see how these perform in relation to normal stock indexes covering other companies' stocks.

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Wright, P., Ferris, S.P., Hiller, J.S. & Kroll, M. 1995. Competitiveness through Management of Diversity: Effects on Stock Price Valuation. *Academy of Management Journal,* 38 (1): 272-287

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9. Appendix

Appendix 9.1 Industry Classification Systems

Standard & Poor's Industry Classification System

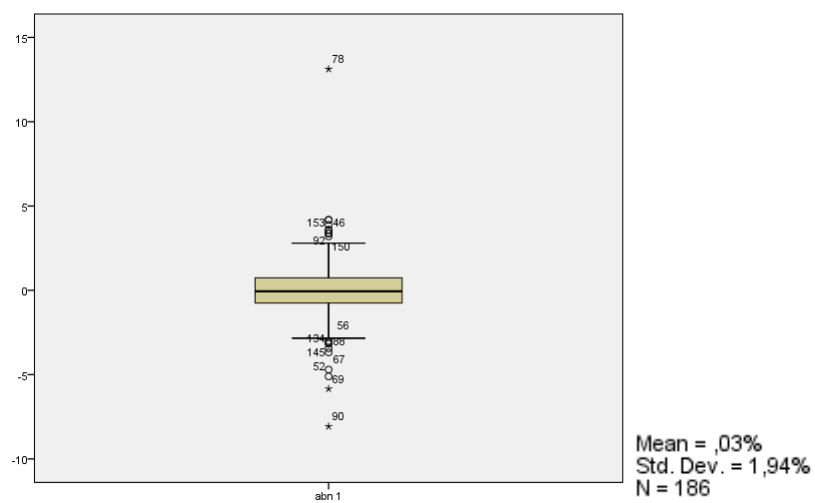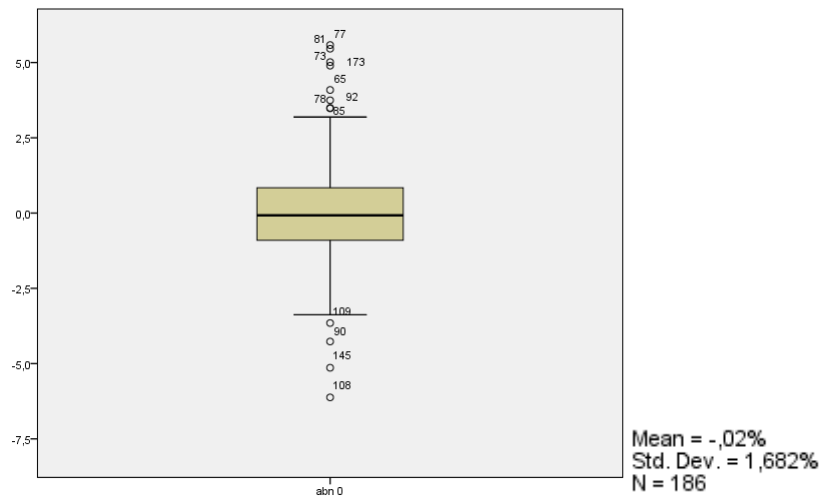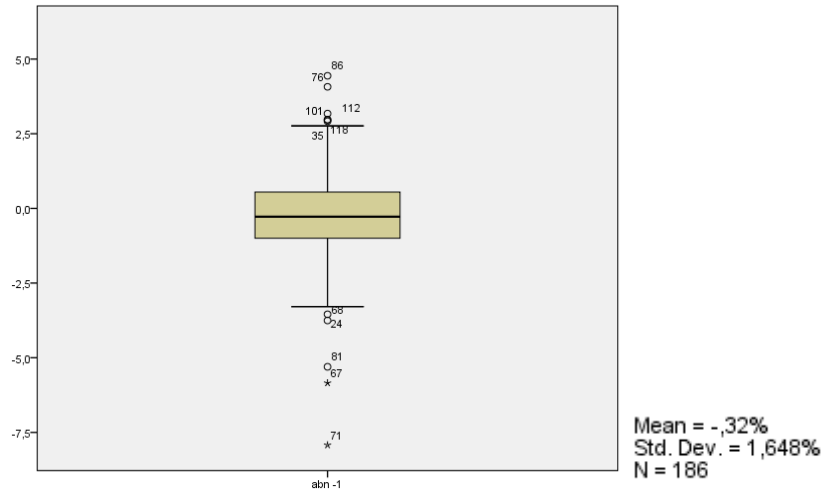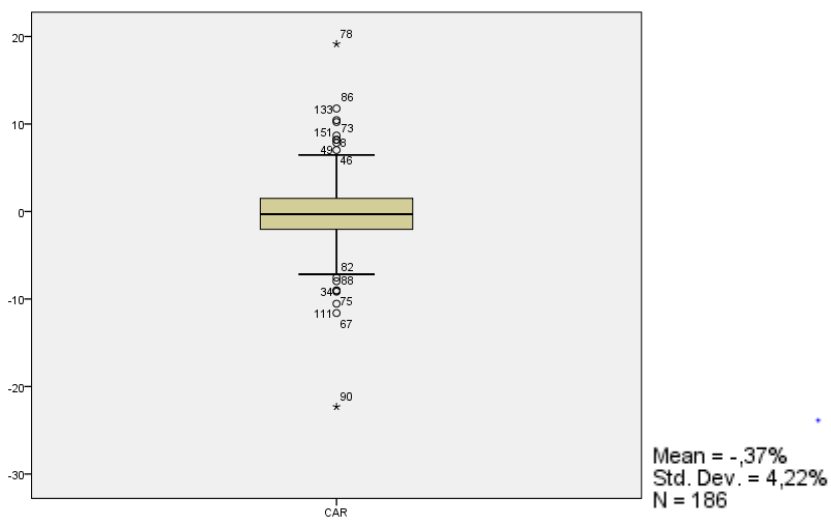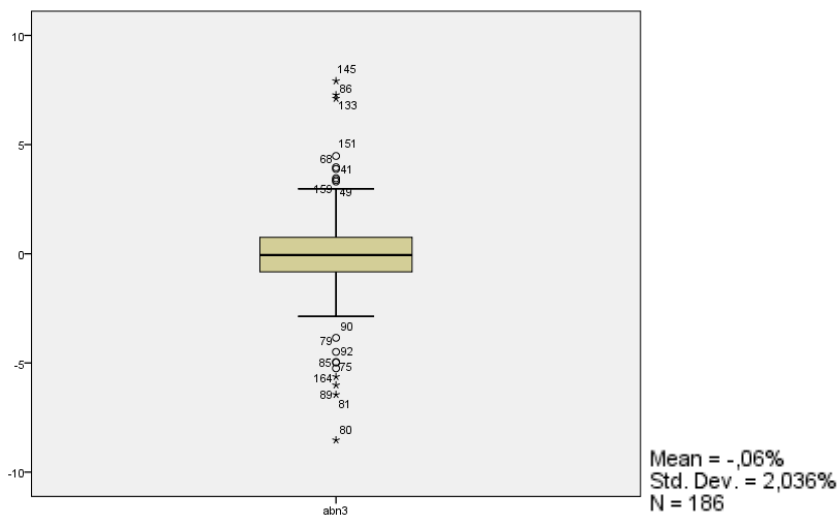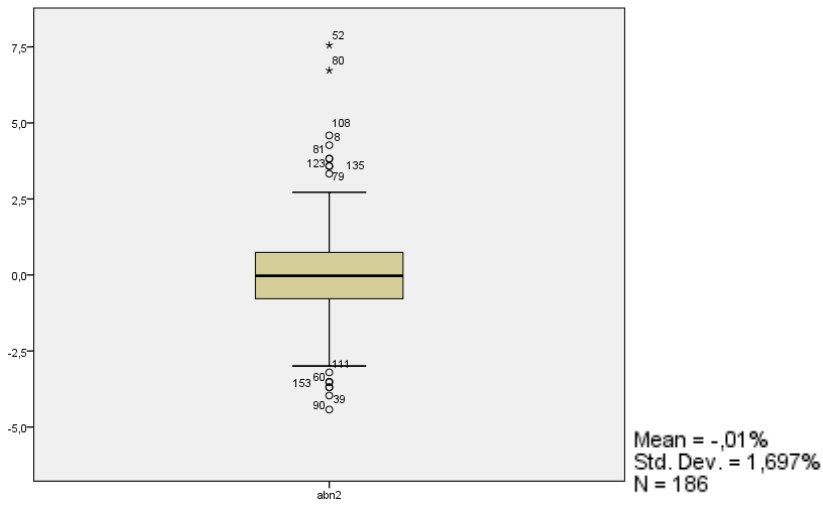| Sector	Industry group
Energy	Energy
Materials	Materials
Industrials	Capital Goods
	Commercial & Professional Services
	Transportation
Consumer Discretionary	Automobiles & Components
	Consumer Durables & Apparel
	Consumer Services
	Media
	Retailing
Consumer Staples	Food & Staples Retailing
	Food, Beverages & Tobacco
	Household & Personal Products
Health Care	Health Care Equipment & Services
	Pharmaceuticals & Biotechnology & Life Sciences
Financials	Banks
	Diversified Financials
	Insurance
	Real Estate
Information Technology	Software & Services
	Technology Hardware & Equipment
	Semiconductors & Semiconductor Equipment
Telecommunication Services	Telecommunication Services
Utilities	Utilities

Affärsvärlden's Industry Classification System

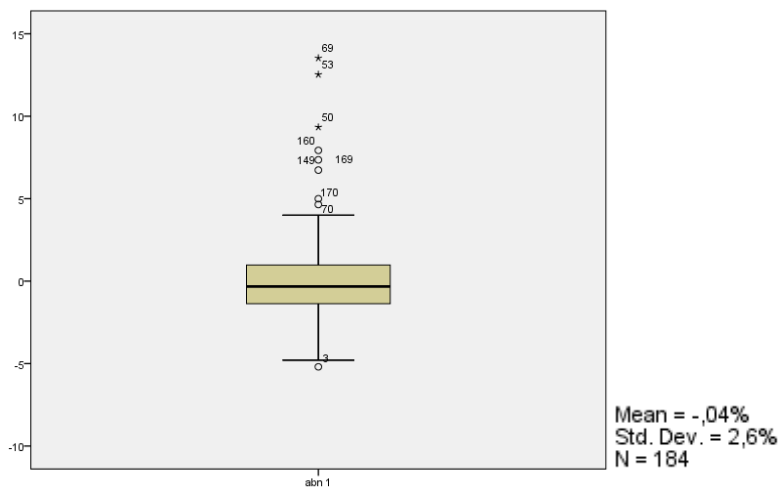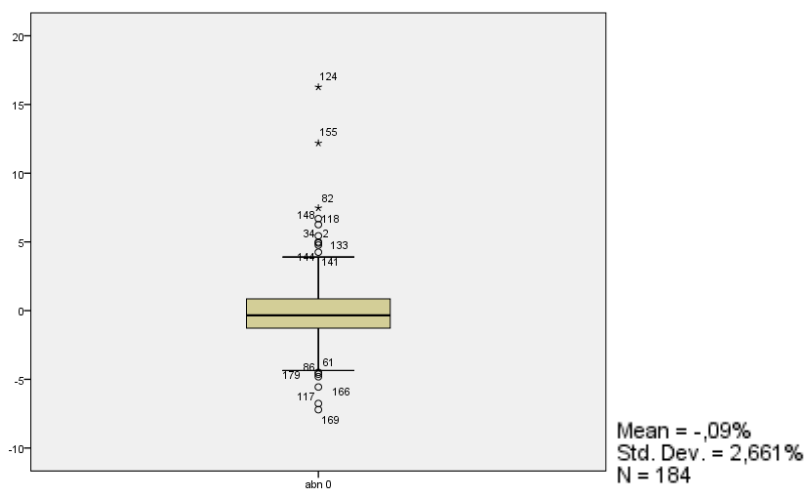| Sector (Swedish name)	Industry group (Swedish name)
Materials (Råvaror)	Chemistry (Kemi)
	Oil & Gas (Olja & Gas)
	Mining & Metals (Gruv & Metaller)
	Forestry (Skog)
Industrials (Industri)	Transportation (Transport)
	Vehicles & Machinery (Fordon & Maskiner)
	Construction & Engineering (Bygg & Anläggningsrelaterat)
	Industrial Conglomerats (Industriella Konglomerat)
	Wholesales (Grossister)
	Printing & Office Supplies (Tryckerier & Kontorsvaror)
	Technical Consultants (Tekniska Konsulter)
	Other Industries (Övrig industri)
Consumer Goods (Konsumentvaror)	All Sub-Sectors (Samtliga underbranscher)
Healthcare (Hälsovård)	All Sub-Sectors (Samtliga underbranscher)
Telecommunication (Telekommunikation)	All Sub-Sectors (Samtliga underbranscher)
Media & Entertainment (Media & Underhållning)	Sub-Sectors Missing (Indelning för underbransch saknas)
Services (Tjänster)	Sub-Sectors Missing (Indelning för underbransch saknas)
IT Companies (IT-företag)	All Sub-Sectors (Samtliga underbranscher)
Finance (Finans)	Real Estate (Fastigheter)
	Banks & Insurance (Bank och försäkring)
	Investment- & Management Companies (Investment- och förvaltningsbolag)
	Other Financial Services (Övriga finansiella tjänster)

Appendix 9.2 Data Adjustments

Company	Reason for exclusion
Artimplant	Delisted 29/7-2013
Höganäs	Delisted 21/10-2013
Tribona	Listed 1/5-2013
Svithoid	Delisted 13/10-2008
Diös	Listed 22/5-2006

Appendix 9.3 Outliers for the Main Hypothesis

Mean = -,01%
Std. Dev. = 1,697%
N = 186

Mean = -,06%
Std. Dev. = 2,036%
N = 186

Mean = -,37%
Std. Dev. = 4,22%
N = 186

136

Mean = ,31%
Std. Dev. = 2,493%
N = 184

Mean = -1,08%
Std. Dev. = 3,28%
N = 184

Mean = -1,7%
Std. Dev. = 5,673%
N = 184
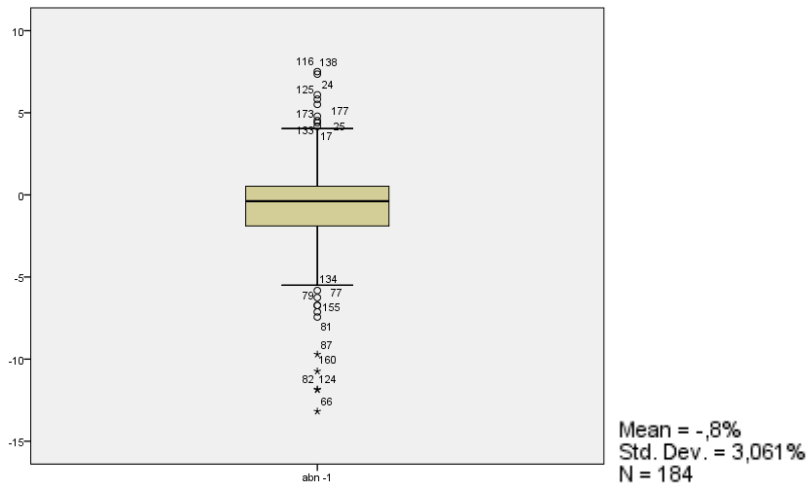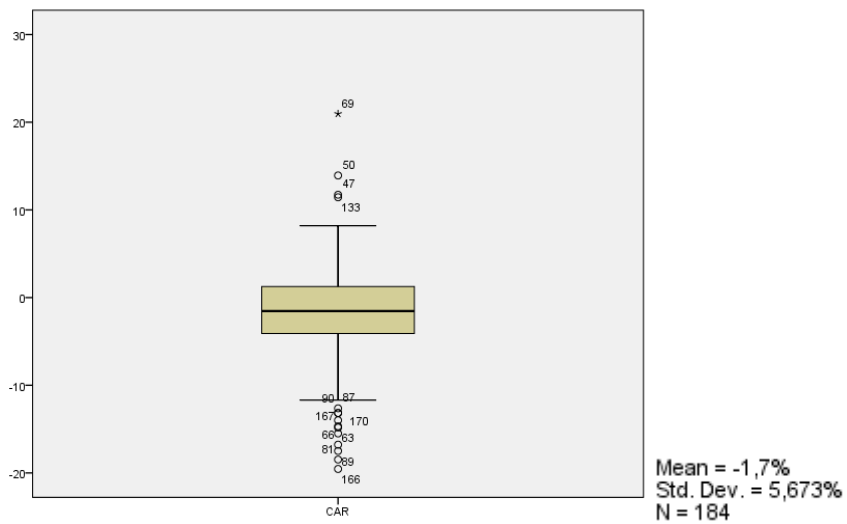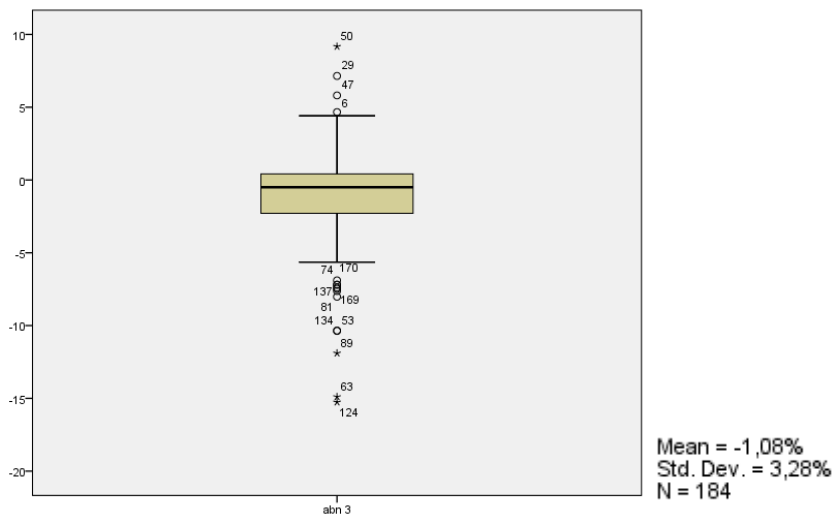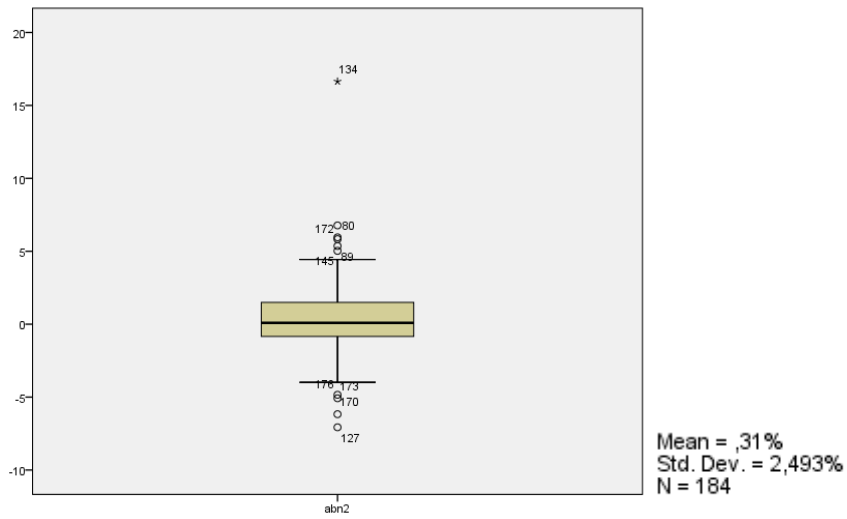
Appendix 9.4 Size versus Ranking

Total TOP ranking 2013	Company	Environmental points	Human points	Total	Size (market cap segment)
1	Ericsson	5,92	4,90	10,82	Large
2	Volvo	6,03	4,62	10,65	Large
3	SKF	5,52	4,66	10,18	Large
4	Boliden	5,43	4,20	9,63	Large
5	Stora Ënso	5,66	3,89	9,55	Large
6	Skanska	5,34	4,20	9,54	Large
7	Astra Zeneca	4,85	4,62	9,47	Large
8	Swedbank	4,80	4,59	9,39	Large
9	Electrolux	4,89	4,45	9,34	Large
10	SCA	4,92	4,20	9,12	Large
11	ABB	4,40	4,55	8,95	Large
12	Holmen	5,17	3,78	8,95	Large
13	H&M	4,03	4,87	8,90	Large
14	Handelsbanken	4,08	4,62	8,70	Large
15	BillerudKorsnäs	5,24	3,40	8,64	Large
16	Nordea	4,12	4,48	8,60	Large
17	SEB	3,87	4,66	8,53	Large
18	Tieto Oyj	3,8	4,59	8,39	Large
19	Sandvik	4,31	4,03	8,34	Large
20	TeliaSonera	4,26	4,03	8,29	Large
21	KappAhl	4,45	3,82	8,27	Mid
22	Atlas Copco	4,19	4,03	8,22	Large
23	Axfood	3,89	4,31	8,20	Large
24	SAS Group	4,80	3,22	8,02	Mid
25	Alfa Laval	4,31	3,64	7,95	Large
26	DGC One	5,24	2,63	7,87	Small
27	Scania	4,75	3,08	7,83	Large
28	Assa Abloy	4,08	3,68	7,76	Large
29	Nolato	4,17	3,40	7,57	Mid
30	Lundin Mining	3,96	3,4	7,36	Large

Total BOTTOM ranking 2013	Company	Environmental points	Human points	Total	Size (market cap segment)
1	CTT systems	0,47	zero	0,00	Small
2	BlackPearl Resources	0,19	0,14	0,33	Mid
3	Cavotec	0,58	0,14	0,72	Small
4	MultiQ	0,09	0,70	0,79	Small
5	Blackearth Farming	0,49	0,32	0,81	Mid
6	G&L Beijer	0,40	0,49	0,89	Mid
7	Betsson	0,40	0,56	0,96	Mid
8	Bure Equity	0,19	0,88	1,07	Mid
9	Novestra	0,19	0,88	1,07	Small
10	Shelton Petroleum	0,58	0,63	1,21	Small
11	Trigon Agri	0,58	0,70	1,28	Small
12	Etrion	0,70	0,60	1,30	Small
13	Anoto Group	0,30	1,02	1,32	Small
14	Oasmia Pharmaceuticals	0,30	1,02	1,32	Small
15	Tethys Oil	0,82	0,63	1,45	Mid
16	Avanza	0,30	1,23	1,53	Mid
17	MQ Holding	0,40	1,16	1,56	Small
18	Artimplant	0,44	1,16	1,60	Small
19	BTS Group	0,35	1,26	1,61	Small
20	Sensys traffic	0,58	1,05	1,63	Small
21	ACAP Invest	0,77	0,88	1,65	Small
22	Pricer	0,40	1,33	1,73	Small
23	Karolinska Development	0,58	1,16	1,74	Small
24	Concordia Maritime	1,12	0,63	1,75	Small
25	Svedbergs	0,68	1,09	1,77	Small
26	Fingerprint Cards	0,77	1,02	1,79	Small
27	Image Systems	1,35	0,46	1,81	Small
28	Cella Vision	0,68	1,16	1,84	Small
29	Midway holding	1,07	0,77	1,84	Small
30	Trade Doubler	0,89	1,02	1,91	Small