Does Corporate Social Responsibility Pay Off?

-An event study of the impact of corporate entry and exit from the Dow Jones Sustainability World Index on the market value of a company

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Acknowledgements

This master thesis concludes the seventh semester at the Business Program at the School of Business, Economics and Law at Göteborg University. We wish to express our gratitude towards our supervisor Ted Lindblom who has provided valuable advice and guidance. Additionally, we wish to thank Gabriela Schaad and Anders Rimstedt for support and helpful recommendations concerning statistical procedures.

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Göteborg January 14th 2008

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Abstract

Advanced Level Thesis, Industrial and Financial Management, School of Business, Economics and Law at Göteborg University, HT 2007.

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Title: Does Corporate Social Responsibility Pay Off? – An event study of the impact of corporate entry and exit from the Dow Jones Sustainability World Index on the market value of a company.

Background and problem: Over the last 30 years, the interest in, and demand for, companies to behave socially responsible has increased significantly. Consequently, companies find themselves spending substantial time and capital on satisfying the various stakeholders' requirements for ethical behavior. Although a vast amount of research aiming to examine whether social responsibility pays off has been carried out, the results are contradicting. Ultimately, the problem is to determine whether corporate social responsibility (CSR) can create value by generating abnormal stock returns or not.

Purpose: The purpose of the study is to empirically examine and analyze the impact of CSR on the stock market. The overall aspiration is to provide evidence, indicating whether companies' CSR activities have an effect on the market value of a company, hence generating shareholder value in the short run.

Limitations: The scope of this study is to quantify the impact of a corporate entry or exit from the Dow Jones Sustainability World Index (DJSI World) within the time frame of year 2002 to 2007.

Methodology: The method applied in this study is the event study method. Basically, an event study aims to measure possible abnormal stock returns as a reaction to the release of a specific piece of new information. By calculation of abnormal stock returns, conclusions can be made concerning CSR's effect on the market value of companies.

Empirical results and conclusion: The main conclusion of this study is that a positive or negative change in a company's dedication to CSR, as measured by corporate entries or exits from the DJSI World, does not generate significant abnormal returns. However, different market reactions can be observed when decomposing the sample across a geographical or a time perspective.

Suggestions for further research: Further research encompasses investigating the potential difference in market reaction to CSR activities between companies in various industries, changing the chosen event date in this study and comparing the market reaction to corporate exits and entries between different social indexes.

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1 Introduction

The introducing chapter of this thesis provides a background of the concept of corporate social responsibility and society's increasing demand for such initiatives, aiming to highlight the subject's topicality and importance. Further, a problem discussion, resulting in the formulation of the research questions is provided. Finally, the purpose of the study is presented and the scope and delimitations are discussed.

1.1 Background description

"The social responsibility of business is to increase its profits" (Friedman, 1970). The neo-classical view concerning the responsibility of corporations provides an unambiguous picture; corporations are only responsible to their shareholders. Profit maximization as the sovereign goal of corporations has characterized the business world throughout time. However, since the birth of the concept of corporate social responsibility (CSR) in the early 1970's (Tepper and Marlin, 2003) and over the past decades, CSR has grown to a complex and versatile notion which is increasingly central to today's corporate decision making (Cochran, 2007). The CSR trend is inflating (Ortiz, 2007). A survey of European financial analysts and investment managers, carried out on behalf of CSR Europe and Euronext in 2001, highlighted a growing recognition of the importance of CSR (EurActiv, 2007).

The European Commission defines the essence of CSR as "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" (European Commission, 2007). Half of the world's 100 largest economies are not countries but companies. This makes it natural that a world change concerning sustainability will be facilitated by a CSR effort made by companies (Anderson and Cavanagh, 2000).

Institutional investors are also subject to the ethical trend with a stronger demand for social responsible investing (SRI) (GES Investment Services, 2007). The principles of the UN Global Compact, initiated in year 2000, often appear in the context of investment criteria urging companies to "embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labor standards, the environment, and anti-corruption" (UN Global compact, 2007). In 2006, UN launched The Principles for Responsible Investments, constituting a framework for how players on the financial market should proceed with active ownership as a means to lead companies towards a responsible business conduct. Today, SRI is a large and sophisticated movement entailing strategies such as screening, active ownership or community investment (Cochran, 2007). According to the Social Investment Forum (2006), $2.29 trillion in assets was socially managed in 2005, representing ten per cent of all managed assets (Social Investment Forum, 2006, referred to in Cochran, 2007). Moreover, the Carbon Disclosure Project, having its fifth iteration in 2007,

also witnesses of the presence of an environmental force affecting the financial world. On behalf of 315 institutional investors, representing over 41 trillion US dollars of assets under management, the Carbon Disclosure Project analyses how the world's largest companies are responding to the climate change (Carbon Disclosure Project Report Global FT500, 2007).

Further evidence of the enhancement of ethical awareness is the creation of numerous ethical and sustainable indices, such as the Domini 400 Social Indices, the FTSE4Good Indices, the SIX/GES Ethical Indices and the Dow Jones Sustainability Indices. The Dow Jones Sustainability World Index (DJSI World) is the leading global socially responsible index (Social Funds, 2007). It covers the top ten per cent of the biggest 2,500 companies in the Dow Jones World Index in terms of economic, environmental and social criteria. DJSI has a number of criteria according to which companies are assessed in order to determine the level of quality of a "company's strategy and management and its performance in dealing with opportunities and risks deriving from economic, environmental and social developments" (DJSI, 2007). The companies selected for the DJSI World meet criteria of high sustainability competence measured in cooperation with Investment Group SAM (Sustainable Asset Management) being the market leader in the field of sustainability investments (SAM Group, 2007). Consequently, it can be concluded that companies included in the DJSI World mirror the world's sustainable leaders.

1.2 Problem description and analysis

The previous discussion indicates that the contemporary pressure on companies to behave socially responsible is increasing. As a result, substantial time and capital on satisfying the various stakeholders' requirements for ethical behavior is spent. Naturally, companies are inclined to believe that their efforts are rewarded, ultimately improving their actual value.

Although previous research indicates that company's efforts to undertake social responsibility are appreciated by both employees (Brammer, Millington and Rayton, 2007; Klein, 2007) and consumers (Du, Bhattacharya and Sen, 2007), the response of the shareholders is somewhat more diffuse. The shareholders of a company are considered by many to be the most important stakeholder group since they provide the capital, being the owners of the company. If the investors are not satisfied with the company's performance they can sell their shares or, if they control a sufficient amount of the voting power, they can choose to actively influence the company to work towards a desired goal. To date, the research community has not yet come to a consensus concerning the appreciation of companies' CSR activities by investors. Ultimately, the shareholders of a company wish to receive the highest possible return on their investment. Therefore, they focus mainly on the level of profits generated by the company. A possible explanation for the stock market's absence of, or even negative, reaction to companies' engagement in social responsibility is the belief that an improved social

performance is created at the expense of the company's financial performance. A study by López, Garcia and Rodriguez (2007) shows that the re-allocation of assets to investments in CSR activities has a negative impact on companies' performance in the short run. Nevertheless, the above mentioned researchers argue that if the considered time frame would be extended, the costs of CSR would be incorporated in the companies' budgets, hence the negative impact on performance measures would diminish over time.

Becchetti, Ciciretti and Hasan (2007) argue that, assuming rational and fully informed investors, the stock market reacts to news regarding company's CSR activities based on its impact on the fundamental value of the stock. Since the majority of all CSR activities are cost increasing, Becchetti et al. (2007, p.5) further argue that socially responsible behavior of companies involves "a shift of focus from the maximization of shareholder's value to the satisfaction of a broader group of stakeholders". Naturally, this leads to the release of information regarding companies' improved social behavior generating a negative reaction on the stock market.

On the other hand, there is research suggesting that although investments in CSR incur increased costs for companies, they have a positive effect on the value of a firm. Bird, Hall, Momentè and Reggianni (2007) claim that certain types of CSR activities translate into an increased value for a company, hence increasing the value for its shareholders. For instance, the decision to become more energy efficient has a cost-saving effect, whereas the initiative to reduce one's emission of green house gases can prevent the government or other regulatory bodies from undertaking future actions constituting further costs. Additionally, there are CSR activities, such as donation of funds for good causes, which bring a purely reputational benefit to a company (Bird et al, 2007). The argumentation implies that the announcement of improved corporate social performance naturally would give rise to a positive reaction on the stock market.

Burke and Logsdon (1996) argue that despite the lack of consensus concerning the empirical evidence regarding the relationship between socially responsible behavior and financial performance, CSR activities do create value for a company. Instead of measuring the direct correlation between CSR and short-term profits, their study takes on a different approach as it examines the ways in which "CSR-programs can create strategic benefits for an organization" (Burke and Logsdon, 1996, p.495). The study concludes that CSR should be incorporated in the overall business strategy of a company in order to generate value creation. When such conditions prevail, CSR activities jointly serve social and economic interest and no trade-off occurs between the social welfare of the society and the company's profits (Burke and Logsdon, 1996).

Essentially, companies are competing for the investors' capital. Consequently, it becomes crucial to be able to offer one's shareholder a competitive return on their invested capital. Therefore, in order to evaluate the market's reaction to CSR, the comparison between the financial performances of socially responsible companies versus "ordinary" companies becomes interesting. Naturally, the question concerning what defines a socially responsible company appears. The increasing emergence of sustainable indices, such as the previously mentioned Domini 400 Social Index, FTSE4Good and the DJSI World, as well as environmental and ethical funds, using a number of sophisticated screening processes, witnesses of the search for the world's leading companies in terms of sustainability and social responsibility, known as "sustainable leaders". From the investors' perspective, the entry of a company to either of these indices should, rationally, be considered a sign that the company has achieved a certain level of social responsibility as a consequence of invested resources. Consequently, an exclusion of a company should be viewed as a sign of the opposite. A vast amount of research has been conducted concerning whether the so-called sustainable leaders financially outperform ordinary companies. For example, the Goldman Sachs Sustain project evaluates the performance of sustainable leaders in comparison to their competitors (Goldman Sachs Global Investment Research, 2007). However, research has provided contradictive results. Logically, the conflicting outcomes further complicate the evaluation of whether CSR creates value for the company and its shareholders or not.

What effect do CSR activities actually have on the market value of a company? Does the reassurance that a certain company is socially responsible, mirrored, as mentioned above, by its inclusion in a sustainable index, result in a positive effect on its stock price? Consequently, does the knowledge of a company losing CSR competitiveness, mirrored, similarly, by its deletion from a sustainable index, result in a negative effect on its stock price? Or is there no direct market response to such occurrences, leaving CSR activities devoid of financial value with purely a clean conscience as motivation? Ultimately, does CSR really pay off or is it a trade-off between social criteria and investment returns?

1.3 Research question

Based on the previous discussion in the background and problem analysis, the following main question emerges;

> *What is the impact of CSR-activities on the market value of a company?*

In order to provide an in-depth answer to this question, the following three sub-questions are addressed:

> – *Is there a positive relationship between CSR activities and the market value of a company?*

– Has the level of impact of CSR activities on the market value of a company changed over time?

– Does the level of impact differ between various countries?

1.4 Purpose statement

The main purpose of this study is to empirically examine and analyze the impact of CSR on the stock market. The overall aspiration is to provide evidence, indicating whether companies' CSR activities have an impact on share price, hence affecting the market value of a company, or not. This in turn will indicate whether CSR activities can generate shareholder value in the short run.

1.5 Scope and delimitations

The scope of this study is to quantify the impact of a corporate entry or exit from the DJSI World within the time frame of year 2002 to 2007. Although the DJSI World was founded in 1999, this study is limited to the defined time frame as a consequence of limited data access. Moreover, the study is limited in the sense that positive CSR activities are defined as entries in the DJSI World while negative CSR activities are defined as exits from the DJSI World. The approach of utilizing a renowned index such as the DJSI World with its assessment criteria in order to measure CSR activities, is in line with the approaches of previous' studies conducted within the area.

1.6 Research hypotheses

The following specific hypothesis are defined and tested in order to attempt to provide answers to the research questions above:

H_{01}= There is no significant abnormal return generated by corporate entry or exit from the DJSI World between 2002 and 2007

H_{01a} = There is no significant positive abnormal return for a company entering the DJSI World
H_{01b} = There is no significant negative abnormal return for a company exiting the DJSI World

H_{02} = There is no significant abnormal return generated by corporate entry or exit from the DJSI World individually in 2002 / 2003 / 2004 / 2005 / 2006 / 2007

H_{03} = There is no significant abnormal return generated by corporate entry or exit from the DJSI World within various countries between 2002 and 2007

1.7 Target audience

The results of this study could be of potential relevance for a number of different interest groups. The research community may benefit as the outcome contributes to the present contradictive results of previous research conducted within the area. Furthermore, both private and institutional investors may profit from acquainting themselves with the findings, as they can provide insight and facilitate investment decisions. However, intuitively, public companies should be the main interest group, as the study provides evidence concerning the relative importance of their social responsibility initiative, as judged by the stock market.

2 Methodology

The following chapter provides a thorough description and evaluation of the appropriateness of the chosen research approach, method applied and data collection procedures. Moreover, the reliability and validity of the study is critically assessed. Overall, the chapter aims to provide a clear and accurate picture of the methodology used to generate the study's empirics.

2.1 Initial planning stage

The relationship between companies' social responsibility initiatives and the market value of their equity is an issue that is valued as important and topical by both researchers and contemporary media. Naturally, this subject comprises interesting research potential. Initially, appropriate literature, previous research and the daily press were scanned briefly in order to acquire a general understanding of the scope and nature of the subject. Subsequently, unstructured interviews were carried out with Carl Rosén[1], head of corporate governance and communications at The Second Swedish National Pension Fund and Christina Olivecrona[2], environmental consultant, both professionals within the subject of companies' social responsibility. The purpose of the interviews was to discuss potential perspectives in order to approach the topic in a creative way[3]. Furthermore, the subject was presented and discussed with the tutor. Additionally, the planning stage of the thesis contained important elements such as defining the purpose and scope of the study as well as decisions concerning methodological issues.

2.1.1 Literature review

In the initial phase of the research process, literature studies constitute an important element. The aim of the process of evaluating the literature put at our disposal is to find previous research and theoretical frameworks that are not only accurate and interesting, but necessary for the understanding of this study. As the main source of information, various databases specialized on research within business and economics are searched. The databases most frequently used are Business Source Premier, Emerald, JSTOR and LIBRIS. National, as well as international research has been considered with no limit concerning the point in time when the research was carried out. Moreover, internet search engines, mainly Google, have been used to cover available research as comprehensively as possible. Key words and phrases used for data base and internet search were for example "Corporate Social Responsibility", "Stock market evaluation", "Sustainability" and "Company performance". Mostly, these key phrases were combined in order to find the most accurate literature. Moreover, the home page of DJSI

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[1] Telephone interview conducted with Carl Rosén, Head of Corporate Governance and Communications, The Second Swedish National Pension Fund (AP2), 20th September 2007.
[2] Interview conducted with Christina Olivecrona, Environmental Consultant, 14th September 2007.
[3] The interviews mentioned merely served as inspiration and are not a source of empirics used further in this study.

has been accessed frequently. In addition, the above-mentioned data bases have been searched in order to find appropriate literature concerning the methodology applied in this study.

2.1.2 Designing the theoretical framework

The theoretical framework serves as a basis upon which the empirical findings of the study are analyzed. Due to the purpose of the theoretical framework, it is important that its content is both appropriate and relevant for the study in general, as well as the research problem in particular. The theoretical frame of reference in this thesis consists of both a review of previous research conducted within the research field, as well as a thorough appraisal of relevant theory on the subject area. Primarily, previous research, investigating the relationship between CSR and stock market performance as well as the impact of CSR on financial performance of companies, is accounted for in the theoretical framework. Moreover, the theories described are mainly related to market efficiency and signaling theory.

2.1.3 Evaluation of research approach and methods

The most correct way to define this study is to categorize it as a deductive study, as it aims to statistically test the theory concerning the stock market's anticipation of companies' social responsibility initiatives in order to draw conclusions concerning the empirical findings generated. The methodological definition of a deductive study is a study that takes its starting point in theory and intends to test if a specific theory can explain the empirical findings (Johansson-Lindfors, 1993). A criterion that can serve as guidance when research method is chosen for a study, is the methodology's ability to generate the empirical results needed in order to correctly, comprehensively and objectively answer the proposed research question. Additionally, the method applied should be proportioned to the time limit of the study and the financial resources available, as well as be suitable for the preference and knowledge of the researchers (Johansson-Lindfors, 1993; Creswell, 2002).

In order to find an appropriate research method, the work of previous researchers investigating the relationship between CSR and stock market performance is studied. Additionally, methods used in studies addressing academically adjacent subjects are also considered. The following studies mentioned in this paragraph are a sample of research conducted taking on different methodological approaches. Jones and Murrell (2001) studied the relationship between corporations' social-and stock market performance. By utilizing event study methodology, the impact on the share price of firms included in the *Working Mother* Magazine's list of "most family-friendly companies" was measured. In a quantitative study by Bird et al. (2007), a regression analysis was carried out in order to evaluate what type of corporate social responsibility activities are valued by the market. Becchetti et al. (2007) studied the impact and importance of CSR on the capital market by using event study analysis in order to evaluate the market response to corporate exit and entry from the Domini 400 Social Index. In an attempt to analyze the difference in business performance between

sustainable corporations and other corporations, López et al. (2007) use the criteria established by the Dow Jones Sustainability Index for defining a sustainable company. The researchers further choose a number of accounting ratios to measure the performance of the selected companies. Hill, Ainscough, Shank and Manullang (2006) used Jensen's Alpha to measure and compare the performance of "the most socially responsible firms" (Hill et al, 2006, p.168) in the three geographic regions North America, Asia and Europe. These studies present a range of methods available when studying CSR related research questions. As this study aims to investigate the impact of CSR on the market value of a company, the chosen method must enable isolation and measurement of the stock market's reaction to a certain CSR event.

A useful method, frequently applied in order to measure the effect of an economic event on the market value of a company, is the event study methodology (MacKinlay, 1997). The convenience of this type of method arises from the fact that, assuming market rationality, the outcome of any event will be incorporated and reflected instantly in the security prices (Campbell, Lo and McKinlay, 1997). Although the area of application of the event study methodology is vast, the method is mainly applied to investigate the market's reaction to financially related events (MacKinlay, 1997). Kothari and Warner (2004) argue that even though long-horizon researched methods have improved, serious drawbacks still remain, resulting in short-horizon methods, such as event study analysis, being the most reliable. Due to its applicability and reliability, it is even argued that event study methodology "has become the standard method of measuring security price reaction to some announcement or event" (Binder, 1998, p.111). The proposed supremacy of the event study methodology is further supported by Bowman (1983), who notes that during the fifteen years prior to his study, the dominant research approach used for security price based research within accounting and finance, was the event study approach. As a result of the evident advantages and appropriateness of the event study methodology, demonstrated clearly by the research community's frequent usage of the method, it has been chosen as the research method in this study.

2.2 Event study methodology

The history of event study methodology dates back to the 1930's, when the first study using the approach was conducted (MacKinlay, 1997). However, the outline of event study methodology as it is formed today was introduced by Fama, Fisher, Jensen and Roll (1969) in the late 1960's (Bowman, 1983). The aim of their study was to examine "the process by which common stock prices adjust to the information (if any) that is implicit in a stock split" (Fama et al, 1969, p.1). Although a number of modifications have been developed since the introduction of the first event studies (MacKinlay, 1997), the overall approach and outline of the method have remained rather unaffected.

The main purpose of an *informational usefulness event study* is "to measure the degree to which company returns (stock prices) react to the release of a particular bit of news" (Henderson, 1990, p.282). The overall approach is to measure the abnormal return of a security as a result of a specific event. The *abnormal returns* are defined as the difference between the actual ex post returns of a security minus its normal returns (Campbell et al, 1997), measured over the event window. "The normal returns are the returns that would be expected if the event did not take place" (MacKinlay, 1997). Consequently, this methodology is used in this study in order to provide a quantification of the immediate effect that information of companies' CSR activities, modeled by either an entry or exit from the DJSI World, has on the companies' stock prices and in turn their market value. The procedure when conducting an event study consists of several steps that are described in the forthcoming sections below. The outline of this event study includes an event definition, the assessment of the estimation window and event window, as well as the modeling of normal- and abnormal returns.

2.2.1 Event definition, event window and estimation window

The first step in an event study is defining the event of interest and identifying the period over which the stock prices are monitored, this is the *event window* (Campbell et al, 1997). The choice of event date is crucial for the definition of the event window. A study by Lorraine, Collison and Power (2004), indicates that stock market response to either positive or negative news when it comes to companies' environmental performance takes place typically up to one week after the news is published. However, event studies measure immediate effects most accurately. The longer the time span, the greater the uncertainty when it comes to the cause of the stock price change. In order to isolate the impact of the event from other noise, the event window should be tight around the event. According to Campbell et al. (1997), the event window is often expanded to the length of two days, covering the day of the announcement and the day after. This approach captures the price effects of announcements occurring after the stock exchange has closed (MacKinlay, 1997).

In this study, the event of interest is defined as the entry or exit of a company from the DJSI World. Furthermore, the choice of event date is imperative for the outcome of the study. After conducting an interview with the head of public relations at Dow Jones Sustainability Index in Zürich (2007)[4], it can be confirmed that the most appropriate date to pertain to the event is the same date as the *press release* of the annual review of the DJSI World. The annual review contains the names of the companies deleted and added to the DJSI World that specific year. Consequently, the event date is determined to the date of the press release, being the first

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[4] Telephone interview with head of public relations at DJSI, Zürich, 24th November 2007.

occasion on which the market is exposed to the information concerning the corporate exits and entries in the index each year.

The press release takes place in the first week of September each year, component changes are implemented on the third Friday in September and effective on the next trading day (DJSI, 2007)[5]. As DJSI World includes stocks in different time zones, it should be considered on what day the stock market reflects the potential impact of the event. The DJSI is headquartered in Zürich, Switzerland, where the time zone is GMT+1, indicating that all European stock markets as well as the New York Exchange (time zone GMT-5), where time difference is to their advantage concerning information originating from Europe, should be subject to the potential market effect on the same date as the press release. Therefore, the event window for European and American stocks is defined to a span of two days, from the press release date to the day after (measuring abnormal returns (AR) from Day -1 to Day 0, representing AR1 , and Day 0 to Day +1, representing AR2). In the case of Japan, due to a time zone of GMT+9, the Tokyo Stock Exchange closes before the market has had a chance to react to the information on the event date. Consequently, the event window for Japan is defined as one day after the press release to two days after (measuring returns from Day 0 to Day 1 and Day +1 to Day +2). The decision of a tight event window is in line with previous studies using the event study methodology and a result of the objective to minimize the impact of other noise.

The normal returns of a stock are estimated through the *estimation window* (Campbell et al, 1997). The estimation window consists of a subset of data of the period prior to the event window. McWilliams and Siegel (1997) give an example of an estimation window of 200 days, Campbell et al. (1997) suggest an appropriate estimation window for an event study of 120 days, excluding the event period itself. In this study, the length of the estimation window lies somewhere in between, determined to five months, starting at the beginning of April and ending at the end of August each year. Thereafter there is a gap until the actual event date, which always occurs the first week in September, the exact date varying from year to year. The application of a gap is in accordance with the event study conducted by Klassen and McLaughlin (1996) where the days before the event date are excluded in order to limit any contamination of the estimation period by for example insider trading. Figure 1 depicts the time frame for the event study.

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[5] The specific dates for each year's press releases are found on in Appendix II.
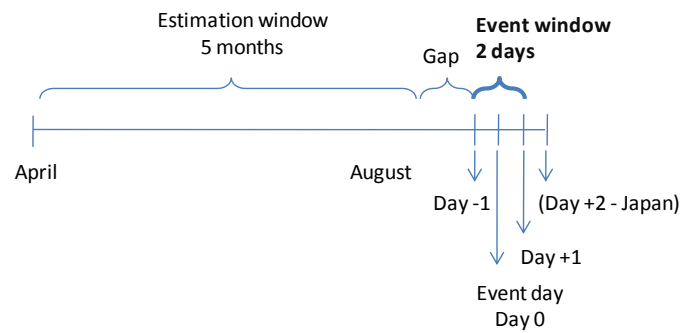
Figure 1 *Time frame for event study*

2.2.2 Normal and abnormal returns

The focus of event study analysis is to calculate the possible abnormal returns after the publication of the previously discussed relevant information. Appraising the event's impact entails the measure of abnormal returns. They are, as discussed in section *2.2 Event study methodology*, the actual ex post returns of the security over the event window minus the normal return over the event window; the normal returns being the returns that would be expected had the event not taken place (Campbell et al, 1997). There are different approaches when calculating the normal returns. The most frequently used method in practice, also chosen for this study, is the Market Model, see Equation 1. Nevertheless, over short event windows, as in this study, the choice of normal return model usually has little effect on the results (MacKinlay, 1997).

The Market Model;

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \tag{1}$$

where;

R_{it} = *rate of return of firm i on day t*

α_i *and* β_i = *intercept and slope estimators*

R_{mt} = *return of a broad market index on day i*

ε_{it} = *zero mean disturbance term*

In order to appreciate α_i and β_i, a regression of the differences in stock prices (i.e. the stock returns) from day to day as well as the differences in market returns, measured by an appropriate index, from day to day, over the estimation window is performed in SPSS. The stock returns of each company are time-synchronized with an appropriate index in Excel (see Appendix II). The data sample in this study includes stocks in a number of different currencies. In order to avoid distortions due to fluctuations in exchange rates through the years, the returns are calculated as percentages allowing the return values to be completely comparable.

Once the parameters of the normal performance model are estimated, the abnormal returns can be calculated. The difference between the return on a certain day and the normal return of the stock constitutes the abnormal return (MacKinlay, 1997). All calculations are carried out in Excel. Calculating the abnormal returns;

$$AR_{it} = R_{it} + \hat{\alpha}_i - \hat{\beta}_i \cdot R_{mt} \tag{2}$$

where;

AR_{it} = *abnormal return of firm i on day t*

R_{it} = *rate of return of firm i on day t*

α_i *and* β_i = *parameter estimates for firm i*

R_{mt} = *return of a broad market index on day i*

The abnormal returns are aggregated across stocks and used for the calculation of the cumulative abnormal returns over the whole event window.

$$CAR_{i(t,t+k)} = \sum_{t=day\,-1}^{t+k} AR_{it}$$

$$\tag{3}$$

where;

CAR = cumulative abnormal returns

t = first day in event window

k = number of days in event window

Thereafter, the average abnormal returns and the average cumulative abnormal returns are calculated and null hypotheses suggesting the significance of certain assertions are formulated. Statistical t-tests are used in order to state whether the average CAR (alternatively AR1 or AR2) equals to zero or not.

$$\overline{AR}_t = \frac{1}{N} \sum_{i=1}^{N} AR_{it}$$

$$\tag{4}$$

where;

$\overline{AR}$ = *average abnormal returns on day t*

$$\overline{CAR}_{(t,t+k)} = \sum_{t=day-1}^{t+k} AR_{it}$$

where; $\tag{5}$

$\overline{CAR}$ = *average cumulative abnormal returns*

2.2.3 Hypotheses testing

Hypotheses in the context of statistics come in pairs, where the null hypothesis is the one being tested and the other is the alternative hypothesis that is valid should the null hypothesis be rejected. The hypotheses represent mutually exclusive theories about the population parameter (Lee, Lee and Lee, 2000).

A classical approach to testing hypotheses in an event study is the statistical t-test (Henderson, 1990). T-tests are used when testing the mean value of one or two groups (Esaiasson, Gilljam, Oscarsson and Wängnerud, 2007). The equation below is used when the population from which the *n* sample items are drawn is normally distributed and the sample size (*n*) can be smaller than 30 (Lee Lee and Lee, 2000). In this study, one-sample t-tests, performed using SPSS, are carried out. The aim is to statistically test whether or not the mean of the sample is significantly different from zero, i.e. if the average abnormal returns are significant.

$$ t = \frac{\bar{X} - \mu}{s_x / \sqrt{n}} $$

where; (6)

μ = *mean*
$\bar{X}$ = *sample mean*
s_x = *sample standard deviation*
n = *sample*

A significance level of 0.05 or 0.01 is commonly applied in statistical tests, meaning that there the probability of the difference originating from a coincidence is 5 out of 100 or 1 out of 100. In this study, the hypotheses are tested using t-tests with a significance level of 0.05. Hypotheses that are not rejected at this level are assumed to provide a correct parameter of the sample analyzed. The null hypotheses tested are found in section *1.3 Research hypotheses*.

2.2.4 Critical assessment of the event study methodology

Even though event study methodology has been widely applied for measuring the effect of an event on stock prices, and is advocated by the research community throughout the past decades, it has received relevant criticism. Salinger (1992) argues that the event study methodology was originally designed for a different purpose, namely to test the semi-strong from of the efficient market hypothesis. It was not until later that it was used to measure the impact of events on stock returns (Salinger, 1992). Henderson (1990) highlights a number of difficulties associated with event study analysis, such as problems related to the choice of an appropriate event date and the calculations of normal returns. Henderson (1990, p.286) further argues that these problems "cannot be solved, only dealt with". Additionally, Becchetti et al. (2007) acknowledge the general disadvantage with event study methodology; its sensitivity to

fluctuations in market pessimism or optimism. Moreover, it is argued that the method relies on the somewhat unrealistic assumption that investors' reactions are based on well informed, fully rational decisions (Becchetti et al, 2007). A further possible weakness, particularly of CSR studies using event study method, is proposed by McWilliams, Siegel and Teoh (1999). They advocate that merely event-studies are insufficient in order to measure a possible effect of CSR on company value, as they "only provide estimates of the short-run impact on shareholders" (McWilliams et al, 1999, p.340). Moreover, the findings of an event study can be argued to be sensitive to even the slightest change in research design (McWilliams et al, 1999).

2.3 Data collection

Data necessary in order to calculate the normal and abnormal returns in this study is collected from a number of sources and is of quantitative, secondary character. The data required should match selection criteria according to the event identified (MacKinlay, 1997). In this case, the events used to embody CSR's impact on stock prices are the exit and the entry of companies from the DJSI World. The diagram below illustrates the essential data included to perform the complete analysis, encompassing both market data and event data.
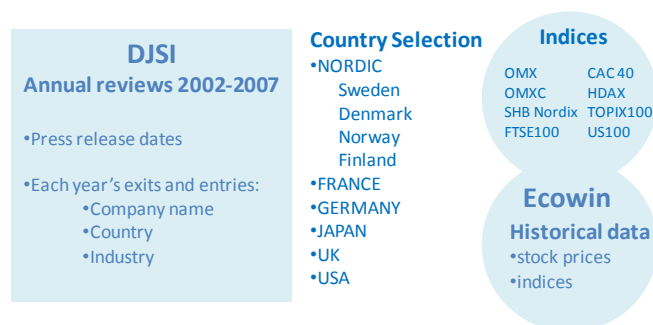
Figure 2 *Data collection overview*

Event data refers to the data associated with the inclusion and deletion of companies from the DJSI World. The annual reviews of the DJSI World include the name, country of origin and industry of each company exiting or entering the index each year. Index components and annual reviews for each year are obtained from the DJSI's web page where all information is published. The press release dates of all annual reviews, found in Appendix II, are also available on the DJSI web page.

The study is based on data for companies originating from the countries presented in the figure above, including events from the Nordic countries, defined as Sweden, Denmark, Norway and Finland, as well as events from France, Germany, Japan, UK and USA. In order to ensure reliable comparisons of reactions to exits and entries from the index when decomposed into geographical categories, the various categories need to include a sufficient number of events. Moreover, the scope includes a geographical diversity enabling a relevant analysis. Consequently, the countries included in the study have naturally emerged. The

events from the countries included dominate the total population of entries and exits from the DJSI World within the defined time frame. Accordingly, the results of this study generate conclusions that are applicable on the whole population, i.e. *any* corporate exit or entry from the DJSI World, regardless of the companies' geographical origin. Moreover, the data sample is classified according to the industry classification used by the DJSI World, based on the Industry Classification Benchmark (ICB). However, in contrast to the geographical categorization, the limited number of events per industry restrains the possibility to test and compare the effect of CSR activities on the market value of companies between various industries.

The market data necessary for conducting the study includes historical data of indices and stock price development and it is provided by the database Ecowin. In order to create an appropriate benchmark for each stock, each stock is matched with a suitable index. A single index is chosen to match all companies of a specific country, being representative of that country's market. The broadest index for each geographical market is chosen. Stock prices and indices are documented in Excel.

The aim of this study is to perform a complete analysis including all events during the period and for the chosen countries. However, there is presence of a *sample reduction* of 20 per cent due to the absence of market data in the database. A reduction smaller than 30 per cent can be considered negligible as a result of the overall substantial size of the sample (Esaiasson et al, 2007) The total number of events analyzed is 343. Since the reduction is distributed evenly throughout the studied time period, the risk for bias can be considered low.

2.3.1 Systematization of events

Aiming to broaden the scope and detail of the analysis of the results, the different hypotheses are tested according to the systematization of events depicted in Figure 3. The purpose of the systematization is to allow an investigation of CSR's impact on the share price of a company depending on whether the company enters or exits the DJSI World, depending on its country of origin and also add a time perspective to the analysis. Testing a category in isolation is possible, such as, the general impact of exits on the market, as well as performing cross category tests, such as, the impact of US exits.
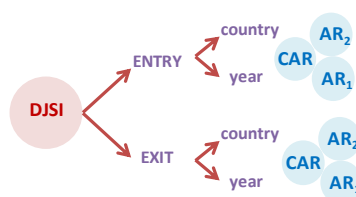
Figure 3 Event systematization

2.3.2 Measuring CSR – DJSI World

The instrument used to embody CSR's impact on stock prices is the exit or the entry of companies from the DJSI World. The decision to utilize a renowned index such as the DJSI World, and its assessment criteria, defined in cooperation with SAM Group, is in line with the approach of previous studies such as the research of Ruf, Muralidhar, Brown, Janney and Paul (2001) and Lopez et al. (2007). The motives that Ruf et al. (2001) provide for using the social measures of KLD Research & Analytics[6] as an instrument in their study are that "their social measures reflect the concerns historically held by social investors", "companies are evaluated on criteria for each social dimension independent of other firm characteristics" and "firms are rated over time allowing researchers to assess change in social performance" (Ruf et al, 2001, p.148). Consequently, these motives also apply in the case of this study.

The three dimensions according to which the companies in the DJSI World are assessed are *economic*, *environmental* and *social*. The criteria are based on widely accepted standards, best practices and audit procedures (SAM Group, 2007), as well as reflect contemporary trends and forces (DJSI, 2007). Additionally, the criteria, in relation to the three dimensions, are adjusted to be industry specific, taking into account industry specific challenges and trends[7]. However, standard management practices and performance measures are applicable to all industries.

The main source of information, playing a crucial role in the assessment of companies in the DJSI World, is the SAM Questionnaire which is distributed to all CEOs and heads of investor relations of the DJSI investable stocks universe. Further sources of information used are company documentations, such as reports concerning sustainability, environmental and social commitments as well as annual financial reports (DJSI Guidebook, 2007). Additionally, analysts review media, press releases, articles and other information written about each company through the year and contact the companies personally to fill a maximum of the information gaps.

2.4 Validity and reliability

A central consideration when conducting research is that of measurement errors. It is of high importance that the researchers carry out the study in the most appropriate way in order to facilitate its credibility and trustworthiness. Measurement errors occur when the measurement method is incomplete, which is generally caused by either weak validity or weak reliability (Lekval and Wahlbin, 2001).

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[6] KLD Research and Analytics Inc. is "an investkent research firm providing management tools to professionals integrating environmental, social and governance factors into their investment decisions" (KLD, 2007)
[7] For further details concerning the criteria and weightings of the DJSI World, see Appendix II.

The validity of a study refers to its ability to accurately and correctly appreciate the data it aims to measure (Eriksson and Wiedersheim, 2001). Although it is possible to empirically test the validity of a study, this procedure poses many difficulties. As a result, the judgment of a study's validity is frequently evaluated on a purely subjective basis (Lekval and Wahlbin, 2001). Doubtlessly, one must acknowledge that the frequent usage of the event study methodology during the past decades provides significant evidence of its strong validity. Nevertheless, the procedure encompasses a number of stages which can have an impact on the validity of the study. Firstly, it is important to isolate the event in order to make sure that the possible abnormal return is a result of the specific event. "The more days included in the event window, the lower the power of the event study methodology" (Henderson, 1990, p.286). In order to minimize potential noise from other events that can possibly affect the stock price, the length of the event-window in this study is kept short (two days). Moreover, the event dates do not coincide with any report period, such as the release of either quarterly or annual reports, which naturally have an effect on the stock prices of companies. Furthermore, as the date when the press release with the information concerning new entries and exits to the DJSI World is predetermined to become public on a Wednesday or a Thursday, the *weekend effect*[8] of the stock market is avoided (DJSI, 2007). However, it should be noted that this is not true for Japanese stocks, since, due to the difference in time zones, their event date is established to occasionally occur on a Friday or a Monday. Nonetheless, as a result of the immense number of events included in the study (343), it has not been possible to screen each individual event separately in order to eliminate those that coincide with other important occasions, such as announcements of mergers or acquisitions, or other public statements such as the notion of a change of management or earnings losses. Naturally, this weakens the validity of the study.

A crucial element in an event study is to correctly identify the point in time when the new piece of information first reaches the market, i.e. the accurate event date (Henderson, 1990). Logically, misidentification of the event date has, as discussed in previous sections, severe consequences for the validity of a study. In order to make sure that the correct event date was chosen, a telephone interview with the head of public relations at the DJSI was conducted. The interview facilitated the identification of the date when the information concerning the year's corporate exits or entries to the DJSI World first was made public, i.e. the appropriate event date. Additionally, the awareness of the impact of the choice of research design on the outcome of the study (McWilliams et al, 1999) has affected the researchers to create clear, discrete and easily defined event categories. Overall, measures have been taken in order to prevent weak validity to the extent it is possible. Hence, the validity of the study can be considered to be adequate in order to ensure credibility.

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[8] The weekend effect refers to the phenomenon that stock market returns on Mondays are on average significantly negative due to the fact that firms often wait until after the markets close on Fridays to announce bad news. For further information on the weekend effect, please find Copeland et al, 2006, p.405

Reliability measures the certainty of a method, as well as the occurrence of unsystematic and random errors (Esaiasson et al, 2007). The degree of reliability is measured by comparing the results of two studies using the same method. If the reliability is strong, the two studies will generate the same result (Esaiasson et al, 2007). In the case of this study, a consistent and correct data collection procedure, documentation and analysis are essential in order to ensure strong reliability. Market data has been collected from the well renovated and trustworthy database EcoWin, which updates its market prices on a daily basis. All prices, both individual stock prices and index prices, have been carefully and systematically documented in Excel. The indices chosen to represent the return on the market can be considered appropriate, although this choice obviously varies with the taste and knowledge of the researcher. Moreover, the statistical procedure used to determine normal returns and significance are standardized approaches often used for studies with the same purpose as this study's. Finally, event data has been collected straight from the DJSI's web page, using the same classifications system as initiated by those in charge of determining what companies are deleted or added from the index every year. Taken all in all, the researchers believe that if the study was to be repeated, using the method described in this chapter, it would generate the same results. Therefore, the reliability of the study can be considered as reasonably strong.

2.5 Analysis model

In order to be able to answer the research questions, stated in section *2.1 Research question*, the analysis model depicted below has been constructed. The analysis model serves as a base for the construction of the analysis.
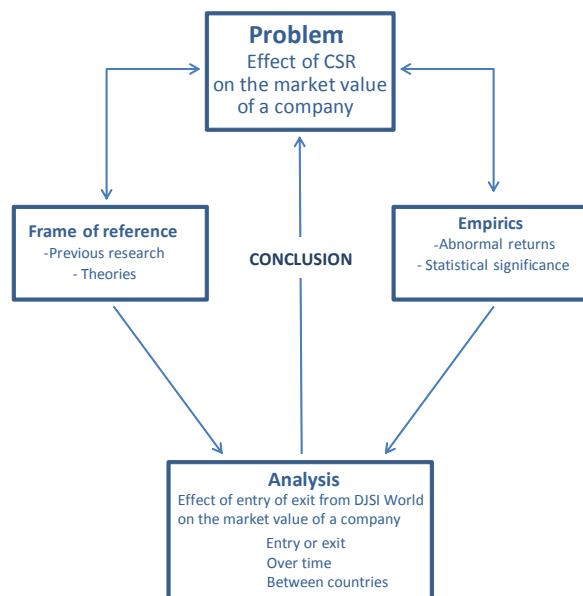
Figure 4 *Analysis model*

Essentially, the purpose of the analysis model is to facilitate the analysis of the empirical results, having previous research and relevant theories as a starting point. The empirical outcome of the study is both compared as well as contrasted to the findings of earlier research work. The analysis is multi-dimensional, as the research problem is analyzed from a number of aspects. Eventually, a conclusion concerning the research questions is derived from the discussion in the analysis. The overall aspiration of the constructed analysis model is to allow the study to contribute to the knowledge and insight of the impact of CSR on the market value of a firm.

3 Theoretical Framework

The theoretical framework presented in this chapter aims to provide theory and previous empirical findings relevant for this study. Further, the theoretical framework is the base upon which the empirics of this study are analyzed. First, a number of relevant theories concerning the stock market's behavior are presented. Subsequently, previous research concerning the relationship between CSR and financial performance is accounted for. Lastly, a thorough overview of empirical findings regarding the stock market's reaction on CSR activities is provided.

3.1 Market efficiency

According to Kendall's discovery in 1953, prices in competitive markets follow a "random walk", meaning that regular price cycles do not exist (Brealey, Myers and Allen, 2006). Even when price changes are hypothetically assumed not to be effectively uncorrelated as previously suggested, but instead to follow a predictable cycle, the stock price would instantaneously adjust to the expected future price causing the cycle to self destruct. A definition of the concept of stock market efficiency, derived from the above theory, was introduced by Fama (1965). The proposition asserts that stock prices mirror all known information. Markets are efficient and balanced as the collective beliefs of all investors concerning future company values are reflected (Fama, 1965). Further evidence of market efficiency is provided in a study of the market's reaction to stock splits conducted by Fama et al. (1969).

There are three levels of market efficiency (Fama, 1970). When stock prices only reflect the information incorporated in past prices there is *weak market efficiency*, signifying that excess returns cannot be conceived by studying past returns (Fama, 1970). There is *semi-strong market efficiency* when stock prices reflect not only historical prices, but also public information. Finally, *strong market efficiency* is when prices reflect historical, private and public information. In this case there is no possibility to consistently beat the market (Fama, 1970). However, investors can be lucky or unlucky (Brealey et al, 2006). Although the theory of market efficiency is generally supported by academics, there is empirical evidence for and against it (Copeland, Weston, Shastri, 2005). For instance, the concept of strong market efficiency can be rejected based on a study conducted by Jaffe (1974), as well as other studies, indicating that insiders do earn abnormal returns. Semi-strong efficiency is the market form most commonly assumed (Brealey et al, 2006).

If operations are conducted on an efficient stock market where new information relevant to the outlook of a firm's earnings is immediately reflected in the current stock price (Fama, 1970) it can logically be assumed that new regarding CSR activities, with a perceived impact on earnings, should immediately be reflected in a firm's stock price.

3.2 Stock market evaluation of company value

Basically, the market value of a company is the product of the total number of currently outstanding shares multiplied by the present share price. Assuming efficient stock markets, the share price of a company reflects the expected value a company's future discounted cash flows (Brealey et al, 2006).

$$PV_{stock} = PV_{expected\ future\ cash\ flows} \tag{7}$$

where;
PV = present value

The cash flows are distributed to the shareholders of the company through dividends, which also include capital gains (Copeland et al, 2005).

$$P_0 = \sum_{t=1}^{\infty} \frac{DIV_t}{(1+r)^t}$$

$$\tag{8}$$

where;
P_0 = The present value of a stock
r = The current company discount rate
DIV_t = Perpetual stream of cash dividends

Naturally, investors form expectations about these future cash flows (Damodaran, 2002). "As share prices fully and instantaneously reflect all available information", it can be argued that the market value of a company is affected when the stock market receives a new piece of information which can be considered to have an impact on the value of the expected future cash flows of the company (Copeland et al, 2005).

Assuming that investors are rational individuals preferring more wealth to less, it is found that "individual decision making under uncertainty, such as the choice to undertake an investment in a company, is accomplished by maximizing expected utility of end-of-period wealth" (Copeland et al, 2005). Simply put, investors wish to maximize their wealth in accordance to their preference of risk. As a result, changes in the market value of a company are driven by investors' beliefs that the expected value of their invested wealth is affected. Ultimately, the impact of CSR, as measured by corporate entry and exit from the DJSI World, on the market value of a company is, in theory, determined by investors' belief regarding the effect that this event will have on their invested wealth.

Nevertheless, according to Harrison and Freeman (1999), referred to in Jones and Murrell (2001), it may not be reasonable to presume individual investors to be able to correctly

estimate the true impact of social responsibility activities and social performance on the future cash flows. According to Harrison and Freeman (1999, p.59), this is "due to investors' inadequate ability to absorb, process and interpret all available information, as a result of their lack of participation in day-to-day operations and decision-making activities of the firm". Subsequently, when making investment decisions, investors assess various *signals* transmitted by the corporation in order to determine its value.

3.3 Signaling theory and information asymmetry

The concept of signaling is closely related to the market efficiency theorem and the determination of stock prices. Signaling theory originates from the presence of information asymmetry in the market. Generally, the term asymmetric information refers to the situation which occurs when "one group of participants has superior or more timely information than other groups" (Copeland et al, 2005). In particular, information asymmetry, as discussed in financial theory and corporate finance, applies to the fact that managers have better information regarding the company's "prospects, risks and values", than outsiders do, such as individual investors or other stakeholder groups (Brealey et al, 2006).

The informational advantage held by managers can be communicated to investors through various actions, i.e. signals. "A signal is an action undertaken by the more informed part that provides credible information to the less informed part" (Copeland et al, 2005). Essentially, signaling theory implies that the less informed part uses signals from the group of participants possessing superior information when making decisions under uncertainty. As a result, the market will react to various events based on the signal that they presume the information concerning these events is conveying.

Signaling theory was formulated in the yearly 1970's. One of the first empirical papers addressing the issue is that of Spence (1973). His paper aims to explain and define the concept by studying the job market. The hiring of new labor, according to the argumentation conducted by Spence (1973), is viewed as an investment under uncertainty. The underpinning logic is that "the employer is not certain of the productivity capabilities of an individual at the time he hires him" (Spence, 1973, p.356). Consequently, the employer is looking for various signals that the work force is conveying in order to evaluate their productivity. For example, Spence considered the number of years of education a signal of the level of productivity. Correspondingly, CSR activity is a signal to investors conveying information about a company.

Numerous studies have been carried out in order to assess signals of various CSR related events. Klassen and McLaughlin (1996) advocate that environmental awards can be considered to be public signals of a firm's historical as well as future performance. The

authors further argue that environmental awards can fairly and accurately signal long-term expectations of company performance. Jones and Murrell (2001, p.59) argue that "a company's public recognition for exemplary social performance can serve as a positive signal of the firm's business performance to shareholders". Not only does the public acknowledgement of superior social performance signal to employees that the firm is committed to the welfare of its employees, but it enhances its overall reputation and image (Dutton and Dukerich, 1991, referred to in Jones and Murrell, 2001) which naturally will make it more desirable to potential investors. Consequently, Jones and Murrell (2001) conclude that companies should pay attention to the signals they emit, reflecting their values, beliefs and attentions, as these signals are used by the key stakeholders when making decisions regarding the attractiveness of the company.

3.4 The relationship between CSR and financial performance

Previous research concerning the relationship between CSR and financial performance has produced contradicting results. Several studies support a negative impact of CSR on profitability, while others advocate a positive impact. For example, Moskowitz (1972) proves a positive relationship between corporate performance, as measured in stock market valuations, and corporate social awareness. Moskowitz (1972) performs a comparison of stock price development of 14 firms with "perceived" high CSR to the development of the Dow Jones Index, finding that the CSR firms outperform the Dow Jones Industrials. He reasons that socially responsible activities may increase firm value if CSR activities are demanded and valued by investors. They may also raise firm productivity by satisfying workers, increase market share, and reduce costly customer boycotts (Moskowitz, 1972). Vance (1975), on the other hand, argues the opposite, using an almost identical methodology to Moskowitz (1972). He suggests a competitive disadvantage originating from CSR (Vance, 1975). Further, on the contrary to Moskowitz (1972), Vance (1975) proves that if your sole interest when investing is to achieve the highest possible profits, you would lose by investing in the more socially responsible portfolio. Generally, the neoclassical view supports a trade-off between CSR and corporate economic interests (Burke and Logsdon, 1996).

The lack of consensus when it comes to studies focusing on the relationship between CSR and profitability could be due to the weakness posed by the methodologies used for measuring social performance, such as an external reputational index, content analysis of corporate annual reports or peer ratings (Burke and Logsdon, 1996). The disagreement concerning the likely impact of CSR creates an opportunity for researchers to test multiple hypotheses, using a variety of methodologies, including event studies (Waddock and Graves 1997).

In a study presented by Aupperle, Carroll and Hatfield (1985) it is concluded that there is insufficient evidence to prove that firms with superior social responsibility are more profitable

than other firms as their empirical results gave no significance of a relationship between CSR and profitability. Research conducted by Preston and O'Bannon (1997) concludes that there are no significant negative social-financial performance relationships. The study was based on data for 67 US corporations from year 1982 to 1992. Abbott and Monsen (1979, p.512) further conclude that there is no evidence of "a clear linkage in any direction between corporate social activities and profitability".

Furthermore, Cochran and Wood (1984) performed a study on the relationship between CSR and financial performance, where companies' asset ages were taken into consideration. Their motivation being that companies having for example built a plant before the sixties were more likely to be below certain CSR standards even though they may have invested more resources into CSR improvements compared to companies having built plants later. However, even after adjusting for asset age, no support for a link between CSR and financial performance was found (Cochran and Wood, 1984). In contrast, Davis (1973) asserts that despite short-term costs, CSR is necessary and demanded by stakeholders and that choosing not to embrace CSR will gradually have negative effects on the firm (Davis, 1973).

Waddock and Graves (1997) address whether there is a link present between corporate social performance (CSP) and financial performance and if this potential link is positive or negative. In their study, covering most of the S&P 500 firms, they conclude that there is a positive impact, which they term "a virtuous circle". The evidence produced by their study indicates that the causation runs in both ways, meaning that better CSP leads to better financial performance and vice versa. In financially strong firms CSP can origin from their slack resources enabling a greater freedom to invest in positive CSP, while on the other hand, more financially challenged firms can implement an intentional corporate social strategy aiming to for example boost the company image. In both cases there is a positive link between financial performance and CSP.

Inspired by the contradicting results concerning this topic, Wu (2006) performs meta-analyses of 121 empirical studies concerning the relationship between CSP, corporate financial performance (CFP) and firm size. He states that "the cost of having a high level of CSR is minimal and firms may actually benefit from socially responsible actions" (Wu, 2006, p.168). He also finds that "perceptually based measures" have historically provided evidence of a stronger CSP-CFP relationship than "performance based measures" (Wu, 2006).

Ruf et al. (2001) investigate the relationship between corporate social performance (CSP) and financial performance using the stakeholder theory[9] as a framework. They support the

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[9] Stakeholder theory addresses how management should take the interests of a company's shareholders under consideration. For further information on the stakeholder theory see Freeman (1984).

theory's principle stating that "the dominant stakeholder group, shareholders, financially benefit when management meets the demands of multiple stakeholders" (Ruf et al, 2001, p.143). In particular, their findings indicate that improving CSP is positively related to sales growth for the current and subsequent years (Ruf et al, 2001). It can be concluded that a company investing in CSP generates short term benefits and also potential long-term benefits (Ruf et al, 2001).

Lopez et al. (2007) focus on comparing the financial performance of socially responsible companies to others, producing somewhat deferring results. It is claimed that both companies and investors "believe that strategies that take sustainability criteria into account have the capacity to create long-term value" (Lopez et al, 2007, p.296). They empirically test if there is a significant difference between two groups of fifty five firms, one group having adopted sustainability practices and one that having not, during the time period of 1998 to 2004. The authors' criteria defining the sustainable companies are that they are included in the DJSI, similarly to the approach of this study, while the other group consists of companies not having fulfilled the sustainability requirements necessary in order to belong to the DJSI (Lopez et al, 2007). Although it is argued that adopting CSR related strategies affects the operating activity of a company, it is found that investment decisions are not linked to the sustainability policies of the DJSI, providing no difference between the two groups neither when it comes to investment decision making nor when it comes to cost of capital (Lopez et al, 2007). Further, Lopez et al. (2007) find a negative relationship between CSR and financial performance. This is confirmed in the short-term, producing conflicting results to Ruf et al. (2001), and accounted for by the necessity of "budget provisions for new assets for sustainability practices" (Lopez et al, 2007, p.296). However, the authors argue, similarly to Ruf et al. (2001) that there is a potential for long-term value generation when adopting more sustainable strategies.

Finally, Cochran (2007, p.449) discusses the "evolution of CSR" and the fact that the concept of CSR has grown "from a narrow and often marginalized notion to a complex and multifaceted concept, increasingly central to much of today's corporate decision making". He also suggests a parallel between the absence of significant outcomes produced in studies concerning CSR and profitability and the fact that other empirical studies assessing, for example, the relationship between marketing or R&D and enhanced profitability, similarly find it difficult to decompose their actual relationship. Thereby, a lack of empirical proof of such relationships can occur, despite an obvious connection (Cochran, 2007).

3.4.1 CSR and accounting based measures of performance

Substantial research has been devoted to investigating the impact of CSR on financial performance as measured by accounting based ratios. A questionnaire-based survey study

carried out by the Japan Productivity Center for Socio Economic Development (JPC-SED, 2006) aims to evaluate the relationship between CSR and financial performance in Japanese corporations. The 295 respondents participating in the study were asked to answer a number of questions regarding the social responsibility actions undertaken by their company. The purpose of the study was to empirically test whether CSR is significantly related to various accounting based performance measures such as the return on assets (ROA), sales growth and the equity capital ratio. A partially positive relationship is found, as the empirics imply a significantly positive relationship between CSR and the equity capital ratio, but no relationship between neither CSR and ROA nor CSR and sales growth.

A study carried out by McGuire, Sundgren and Schneeweis (1988) provides further knowledge regarding the potential impact of CSR on various accounting based performance measures. The researchers use the *Fortune* magazine's annual survey of corporate reputations to assess companies' degree of social responsibility, subsequently calculating various accounting-based measures. The main findings of the study indicate that three of the performance measures, ROA, total assets and operating income growth have a significant correlation with CSR. McGuire et al. (1988) conclude from their findings that; 1) the positive relationship between CSR and ROA implies that CSR has an impact on financial performance through its effects on other stakeholders, 2) the negative relationship found between CSR and operating income growth may be due to the fact that many of the companies receiving a high rating for social behavior in the survey are mature firms with stable earnings.

3.4.2 The CSR continuum

Johnson (2003) views the relationship between CSR and financial performance as a continuum. Depending on where along the continuum a company finds itself, its CSR activities either pay-off or not. Consequently, Johnson (2003) argue that the key question concerning CSR is not whether or not it pays off to be "good", but rather, *when* it pays off to be good?

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
Illegal/irresponsible	Compliant	Fragmented	Strategic	Social advocacy
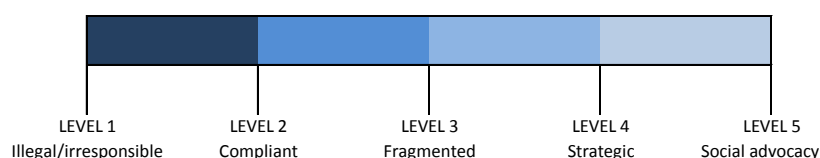
Figure 5 The Corporate Social Responsibility continuum (Johnson, 2003)

Johnson (2003) concludes that firms ignoring minimal CSR related regulations, such as the companies at level 1 on the CSR continuum, experience a decrease in value. The decrease in market value is a result of the immense time and resources spent on legal procedures, as well as bad publicity and a worsened reputation (Johnson, 2003). The level 2 companies avoid engaging in costly legal procedures, although, it is unlikely that their mere compliance with

laws and regulations will generate an advantage over their competitors (Johnson, 2003). Level 3 companies direct fragmented CSR actions towards key stakeholder groups. However, this is not enough in order to generate a significant pay-off on financial performance (Johnson, 2003). The strongest positive link between CSR and financial performance appears at level 4 (Johnson, 2003). This is, according to Johnson (2003), due to the fact that level 4 companies have incorporated CSR into their overall strategy as well as focuses on a number of strategically important actions. In contrast, level 5 companies can experience a negative relationship between CSR and financial performance. The reason for this is the perceived underlying social perspective of these companies. They consider themselves "agents for social change" and regard social responsibility as equally important as profits.

3.5 The effect of CSR on stock market performance

As a result of the previous sections' discussion concerning CSR and profitability, it is of interest to assess the stock market's reaction, if any, to either improved or worsened social behavior of companies. In line with most research conducted within the CSR area, the findings concerning a possible relationship between CSR and stock market performance provide contradicting results.

Alexander and Buchholz (1978), conclude that there is no significant relationship between social responsibility and stock market performance. In order to arrive at this conclusion, a survey was carried out among both businessmen and students in which the participants were asked to rank 40 corporations according to their perceived degree of social responsibility. Subsequently, the risk-adjusted returns for the companies were calculated during a period for the five-year "sample period" 1970-1974 and a three-year "sub period" 1971-1973 (Alexander and Buchholz (1978). The study provided evidence to support the hypothesis that there exists no correlation between superior social performance and improved stock market performance. Additionally, the results of Alexander and Buchholz (1978) are in line with the views of Harrison and Freeman (1999), referred to in Jones and Murrell (2001). Harrison and Freeman (1999) argue that it is unreasonable to assume that investors "understand the extent to which an event will influence returns" (Harrison and Freeman, 1999, referred to in Jones and Murrell, 2001, p.71). Hence, it is not likely that researchers will find relationships between CSR activities and stock market returns. For example, the authors proceed; "If researchers, as experts in the field, do not fully understand how an event such as the announcement of a business inclusion on a list of socially responsible companies can increase profits, how can one expect the market to know?" (Harrison and Freeman, 1999, referred to in Jones and Murrell, 2001, p.71).

A contemporary event study carried out by Becchetti et al. (2007), aims to measure the reaction in the capital market generated by company deletion or addition to the Domini 400

Social Index. The researchers recognize this event as a valid measure of CSR activity, and assess the stock market's reaction to 327 exits and entries between 1990 and 2004. The hypothesis tested in this study is that the market has become increasingly sensitive to CSR information. This proposition rests on the notion that individual investors' interest in CSR, as well as their ability to distinguish the relationship between CSR and firm performance, has improved. The increased amount of capital flowing into ethical funds has additionally contributed to the strengthening effect of the market's ethical sensitivity during recent years (Becchetti et al, 2007). The main findings of their study are that the impact of socially responsible related events, specifically deletions and additions from the Domini 400 Social Index "has risen over time and that the abnormal returns that occur in case of an exit from the index is significantly negative" (Becchetti et al, 2007). However, the authors conclude that the punishment for being deleted from the index originates from the reaction of ethical funds. The negative impact on the stock price of a company violating social criteria occurs as the ethical funds withdraw their holdings, rather than due to an expected "negative shock on shareholders' value" (Becchetti et al, 2007, p.17).

An event study by Jones and Murrell (2001) examines the stock market's reaction to the news that a company for the first time has made the *Working Mother* magazine's list of "Most family friendly" companies between 1989 and 1984. According to the researchers, this event is considered a signal to investors that the company values and emphasizes social responsibility. The study finds a significantly positive relationship between this event and a company's stock market returns and concludes that the market interprets the event of a company having made the list of most family friendly firms as a signal of an increase in future cash flows, hence an increase in the market value of the firm. Additionally, the studied sample of firms is divided into two groups based on the stock exchange on which they are listed; NASDAQ or NYSE (Jones and Murrell, 2001). The aim is to test if the abnormal returns following the announcement of an addition of a company to the list of family friendly companies differ depending on what stock exchange the company is listed on. The NASDAQ is characterized as a highly liquid market with "low intensive" information process, while NYSE has low liquidity and a "high intensive" information process (Jones and Murrell, 2001). The study concludes that the reaction to social responsibility is stronger in the highly liquid market with the "low intensive" information processing.

In a global study, including stock markets in the USA, Europe and Asia, Hill, Ainscough and Manullang (2007) examine CSR by comparing socially responsible investments to broader stock markets. The authors create portfolios based on the largest socially responsible mutual funds in the world and conclude that only the European fund outperformed the paralleled stock market in the short run, while both the European and the US portfolios outperformed their paralleled stock markets in the long run. No significance in abnormal returns is found

concerning the Asian market (Hill et al, 2007). A possible explanation for this, according to Hill et al. (2007), is cultural difference. The authors propose that since Asians are prone to accept inequality among individuals and view themselves as "independent autonomous agents", it is less probable that investors will judge managers' motives or actions (Hill et al, 2007).

In an attempt to evaluate "what *type* of corporate social responsibility activities are valued by the market", Bird et al. (2007, p.190) investigate the relationship between various types of CSR activities and their effect on equity performance. The study is carried out on the American market and assesses the period between 1991 and 2003 for US companies included in the S&P500 index. Moreover, the research period is divided into two sets, in order to examine whether the market's reaction to CSR changes over time. Furthermore, the impact on the stock market, i.e. the potential excess returns, was measured over a one, two and three year period of time. The empirics of the study provide a number of relevant findings.

Firstly, the study finds a significantly positive relationship between "diversity activities" (i.e, employing minorities and providing benefits that address work/family concerns) and market returns, measured over a period of 12 months. Moreover, the empirics from the study indicate that the stock market punishes companies that violate environmental regulations and norms. When extending the measurement period of excess returns to two or three years, Bird et al. (2007) find an increased number of significant relationships between CSR activity and stock market performance, confirming their beliefs regarding the market's slow reaction to these types of events. As expected, the findings imply that "companies failing to consider diversity issues and/or fail to perform with respect to environmental concerns are punished by the market, whereas those that follow good employment practices are rewarded in the market" (Bird et al, 2007, p.198). However, it appears that the market punishes companies for being proactive in their environmental work, i.e. the impact on the market value of a company that devotes more resources to environmental practices than necessary in order to achieve minimal requirements and laws is negative (Bird et al, 2007). The researchers conclude that the market has a tendency to change its attitude towards CSR activities over time, and that the most rewarded environmental strategy is to meet minimum requirements and not expend resources on environmental actions that go beyond this (Bird et al, 2007). In addition, the study concludes that there are "spill-over effects" from those CSR activities where resources have been devoted. It appears that companies that are dedicating resources to a broad spectrum of CSR activities enjoy an improvement of reputation (Bird et al, 2007).

3.6 Overview of previous empirical findings

The table below gives a summary of the above chapter, providing the main findings of studies that have previously investigated the relationship between CSR and financial performance as well as the effect of CSR on the stock market.

Studies of the relationship between CSR and financial performance	Relationship	Main findings
Abbott, Monsen (1979)	0	No conclusive evidence that there is a clear linkage in any direction between CSR and profitability.
Aupperle, Carroll, Hatfield (1985)	0	Insufficient evidence.
Cochran (2007)	n/a	CSR may have an impact on financial performance despite the lack of empirical proof.
Cochran, Wood (1984)	0	No link despite taking asset age into consideration.
Davis (1973)	+	Despite short term costs, negative effects on firm if CSR is not embraced.
Johnson (2003)	+/-	CSR activities pays off when they are of a strategic character, otherwise not.
JPC-SED (2006)	+/0	In Japanese corporations - positive relationship between CSR and equity capital ratio. No relationship CSR-ROA or CSR-sales growth.
Lopez, Garcia and Rodriguez (2007)	-	Nevertheless, potential for long - term value generation by adopting more sustainable strategies.
McGuire, Sundgren, Scheeweis (1988)	+/-	Positive relationship CSR-ROA and CSR-total assets; negative CSR-operating income growth.
O'Bannon, Preston (1997)	0	No significant negative CSR-financial performance relationships.
Ruf, Muralidhar, Brown, Janney and Paul (2001)	+	Improving CSR is positively realted to sales growth for the current and subsequent years.
Waddock, Graves (1997)	+	"Virtuous circle" CSP leads to better financial performance and vice versa.
Wu (2006)	+	Perceptually based measures provide stronger evidence than performance based.

Studies of the effect of CSR on the stock market	Relationship	Main findings
Alexander and Buchholtz (1978)	0	Investors are unable to corectly assess CSR activities' impact on the earnings of a company.
Asia, Hill, Ainscough and Manullang (2007)	+	European and US sustainable stock portfolios outperform their competitors.
Becchetti, Circiretti and Hasan (2007)	+	The impact of socially responsible events have risen over time. The abnormal returns following a deletion from the Domini 400 Social Index is significantly negative.
Bird, Hall, Momentè and Reggiani (2007)	+/-	Some types of CSR activities are appreciated by the stock market, while others are not.
Jones and Murrell (2001)	+	Making *Working Mother's list* of most family-friendly companies signals an increase in future cash flows.
Moskowitz (1972)	+	CSR could be demanded/valued by investors; increase market share etc.
Vance (1975)	-	CSR is a competitive disadvantage.

Table 1 Overview of previous empirical research

4 Empirical results

The empirical findings of this study are presented in the following chapter. The results are shown in pie charts and histograms in order to provide a comprehensive overview and facilitate the analysis. Firstly, the distribution of the studied sample is accounted for. Thereafter, the results of each tested hypothesis are presented and discussed briefly.

4.1 Characteristics of the data sample

The sample in this study consists of 343 corporate entries or exits from the DJSI World. The events are spread across various years and countries. A comprehensive list of all events, including the name of each company and its geographical and industrial belonging, can be found in Appendix I. Figure 6, below, shows the distribution of the events across different countries.

COUNTRY
Distribution of Data Sample
(percentage)

Country	Number of events
France	28
Germany	15
Japan	67
UK	71
USA	134
Nordic	28
Total	**343**
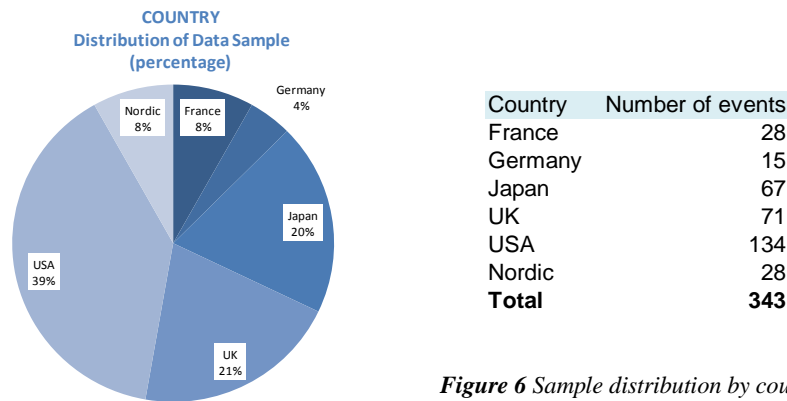
Figure 6 Sample distribution by country

The pie chart above shows that the majority of events, 39 per cent, concern American companies, followed by British companies that accounted for 21 per cent of the total amount of events. Consequently, conclusions regarding companies from the USA can be made with the highest certainty as the category contains almost a third of all events. Furthermore, the figure below depicts the sample distribution by year.

YEARS
Distribution of Data Sample
(number of events)

Year	Number of events
2002	80
2003	52
2004	40
2005	69
2006	51
2007	51
Total	**343**
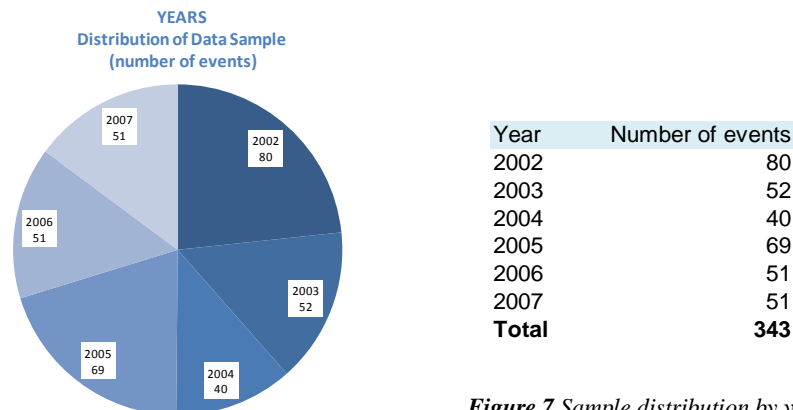
Figure 7 Sample distribution by year

The number of events each year can be considered to be approximately the same for the years 2003 to 2007, with a mean of 53 events per year. In contrast, the number of events in 2002 was considerably higher, 80 companies were either deleted or added to the index. The composition of the sample is further characterized by an even distribution of events between deletion and addition to the DJSI World. Out of the total 343 number of events in the sample, entries to the index accounted for 46.4 per cent and exits from the index made up 53.6 per cent.

4.2 Summary of statistical procedures

The empirical findings in this chapter are generated by hypothesis testing, based on the average abnormal returns. As previously explained in section *2.2.2 Normal and abnormal returns*, the abnormal returns are calculated by subtracting the predicted normal returns, estimated using the Market Model, for a certain stock on a certain day in the event window, from its actual returns on that day. The cumulative abnormal returns (CAR) over the event window consist of the abnormal returns of a stock between Day -1 and Day +1. CAR can be decomposed in AR1 and AR2, where AR1 represents the abnormal returns of a certain stock between Day -1 and the event date, Day 0, while AR2 represents the abnormal returns of a certain stock between the event date and Day +1. In Appendix I the calculations for AR1, AR2 and CAR are presented for all individual events. Further, the defined hypotheses in this study are tested using statistical t-tests. The aim of a t-test is to statistically test whether or not the mean of the sample is significantly different from zero, i.e. in this case, whether the abnormal returns are significant. Should the value be significantly different from zero, the null hypothesis can be rejected. The p-value represents the significance level and is set to a maximum of 0.05, meaning that a value below 0.05 generates significantly abnormal returns for the group tested. In the following section, *4.3 Empirical findings*, the main results concerning the significance of CAR, AR1 and AR2 across the defined categories of years and countries as well as exits versus entries are presented in tables and histograms.

4.3 Empirical findings

In the subsequent parts, the empirical findings of the study are presented and the possibility to reject the tested null hypotheses is discussed. The results are presented along with the research problem and hypothesis that they aim to answer. The empirical findings presented in the sections below are analyzed in chapter *5 Analysis*.

4.3.1 Empirical results – hypothesis one

In order to quantify the potential impact of CSR activities on the market value of a company and thereby answer the main research question of this study, the following diagrams are created with short explanations of the values generated by the statistical t-tests.
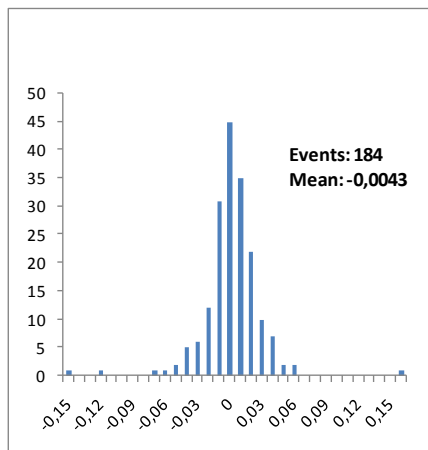
All events, CAR, entries	
Mean:	-0,0043
Standard deviation mean:	0,0886
Two-tailed p-value:	0,659
95 % Confidence interval:	
Lower	-0,0235
Upper	0,0149

Figure 8 CAR for entries of total sample

It can be observed in Figure 8 that the statistical t-test of the average abnormal returns across the whole event window (CAR) for all *entries* in the DJSI World between 2002 and 2007, produces a p-value of 0.659. This value is above the significance level of 0.05, therefore hypothesis H_{01a} cannot be rejected.

H_{01a} = There is no significant positive abnormal return for a company entering the DJSI World

It can be concluded that there is no average significant market reaction to a company entering the DJSI World.
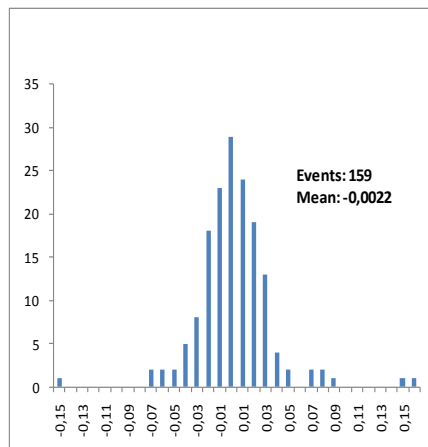
All events, CAR, exits	
Mean:	-0,0022
Standard deviation mean:	0,07354
Two-tailed p-value:	0,711
95 % Confidence interval:	
Lower	-0,0137
Upper	0,0094

Figure 9 CAR for exits of total sample

It can be observed in Figure 9 that the statistical t-test of the average abnormal returns across the whole event window (CAR) for all *exits* from the DJSI World between 2002 and 2007, produce a p-value of 0.711. This value is above the significance level of 0.05, therefore hypothesis H_{01b} cannot be rejected.

H_{01b} = There is no significant negative abnormal return for a company exiting the DJSI World

It can be concluded that there is no average market reaction to a company exiting the DJSI World.

When decomposing the CAR for exits into AR1 and AR2 and the CAR for entries into AR1 and AR2, no significance was found. Finally, the main hypothesis, H_{01}, cannot be rejected.

H_{01}= There is no significant abnormal return generated by corporate entry or exit from the DJSI World between 2002 and 2007

It can be concluded that there is no average significant market reaction to a company entering or exiting the DJSI World.

Hence, these empirics imply that CSR activities have no general impact on the market value of a company.

4.3.2 Empirical results – hypothesis two

The results presented in this section concern the research problem aiming to assess whether the level of impact of CSR activities on the market value of a company has changed between 2002 and 2007. In order to evaluate a probable change in the stock market's reaction, the total sample is divided into sub-categories consisting of the events occurring in the same year, i.e. 2002, 2003 etc. The results for each year are shown in Table 2. All significant results, having a p-value below 0.05, are marked in red.

Compilation of empirical results distributed by year, 2002 -2007							
Year	Number of events	Mean (CAR)	Two-tailed p-value (CAR)	Mean AR1	Two-tailed p-value (AR1)	Mean AR2	Two-tailed p-value (AR2)
2002 entry	47	-0,0071	0,061	-0,0004	0,886	-0,0067	0,015
2002 exit	33	-0,0067	0,297	-0,0027	0,511	-0,004	0,416
2003 entry	29	-0,0118	0,025	-0,009	0,082	-0,0028	0,186
2003 exit	23	-0,0078	0,131	-0,008	0,095	0,0003	0,924
2004 entry	23	0,0532	0,306	0,0531	0,306	0	0,989
2004 exit	17	-0,0356	0,327	0,0022	0,539	-0,0378	0,297
2005 entry	35	0,002	0,6	-0,0012	0,561	0,0032	0,222
2005 exit	34	0,023	0,235	0,009	0,179	0,014	0,294
2006 entry	26	-0,0526	0,311	-0,0287	0,306	-0,0239	0,317
2006 exit	25	0,0036	0,228	0,0049	0,109	-0,0012	0,696
2007 entry	24	-0,0017	0,703	0,0008	0,763	-0,0025	0,34
2007 exit	27	-0,0079	0,014	-0,004	0,063	-0,0039	0,046

Table 2 Compilation of empirical results by year

It can be concluded that hypothesis H_{02};

H_{02} = There is no significant abnormal return generated by corporate entry or exit from the DJSI World individually in 2002 / 2003 / 2004 / 2005 / 2006 / 2007

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cannot be rejected for neither *exits* nor *entries* in the years *2004, 2005* and *2006, exits* in *2002* and *2003* as well as *entries* in *2007*.

However, the hypothesis *can be rejected* for *entries 2002* as the p-value of 0.015 is below the significance level. Figure 10 illustrates AR2 for entries in 2002 where the mean is negative, suggesting a negative reaction to a company's entry in the DJSI World in 2002.
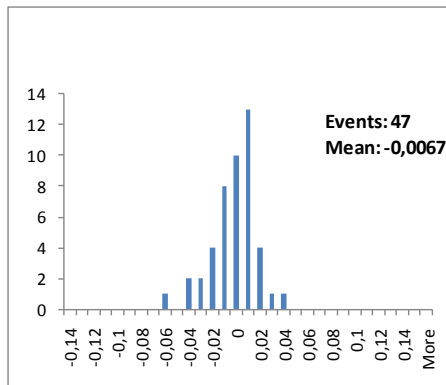
2002, entries, AR2	
Mean:	-0,0067
Standard deviation mean:	0,01826
Two-tailed p-value:	0,015
95 % confidence interval:	
Lower	-0,0121
Upper	-0,0014

Figure 10 AR2 for 2002 entries

It can be concluded that since an entry in the DJSI World in 2002 generates negative abnormal returns, there is a negative impact on the market value of a company.

Furthermore, the hypothesis *can be rejected* for *entries 2003* as the p-value of 0.025 is below the significance level. The negative mean of -0.0118, depicted in Figure 11 below, suggests a negative reaction to an entry in the DJSI World in 2003. Consequently, it can be concluded that entering the DJSI World in 2003 had a negative impact on the market value of a company.
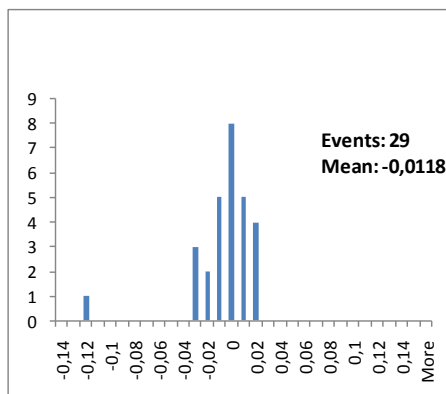
2003, entries, CAR	
Mean:	-0,0118
Standard deviation mean:	0,02682
Two-tailed p-value:	0,025
95 % confidence interval:	
Lower	-0,022
Upper	-0,0016

Figure 11 CAR for 2003 entries

Lastly, the hypothesis *can be rejected* for *exits 2007* as the p-value of 0.046 is below the significance level. The abnormal returns following an exit from the DJSI World in 2007 were on average negative, suggesting a negative impact on the market value of a company.

2007, exits, AR2	
Mean:	-0,0039
Standard deviation mean:	0,00961
Two-tailed p-value:	0,046
95 % confidence interval:	
Lower	-0,0077
Upper	-0,0001
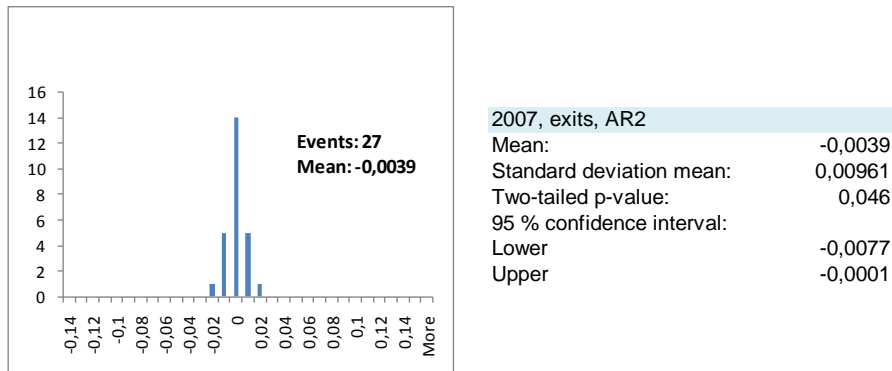
Figure 12 AR2 for 2007 exits

Finally, it can be concluded that the market has reacted negatively when a company is added to the DJSI World in 2002 and 2003, indicating that positive CSR activities has a negative impact on the market value of a company. Moreover, it can be concluded that the market has reacted negatively when a company has been deleted from the DJSI World in 2007, suggesting that negative CSR activities have had a negative impact on the market value of a company. Consequently, this implies that the impact of CSR activity has changed over time since the average abnormal returns, as well as their significance, differ between years.

4.3.3 Empirical results – hypothesis three

Table 3 below illustrates the results concerning the effect of exits and entries, between 2002 and 2007, across the different countries analyzed in this study. The figures marked in red show significance of the abnormal returns, i.e. the p-value is below the significance level of 0.05. The CAR values are further decomposed into AR1 and AR2.

Compilation of empirical results distributed by country

Country	Number of events	Mean (CAR)	Two-tailed p-value (CAR)	Mean AR1	Two-tailed p-value (AR1)	Mean AR2	Two-tailed p-value (AR2)
France entry	21	0,0008	0,859	0,001	0,74	-0,0003	0,946
France exit	7	0,0363	0,014	0,02	0,022	0,0163	0,116
Germany entry	7	-0,0023	0,669	-0,0005	0,898	-0,0018	0,505
Germany exit	8	-0,0211	0,059	-0,0183	0,072	-0,0028	0,722
Japan entry	36	0,004	0,254	-0,001	0,694	0,005	0,063
Japan exit	30	-0,0084	0,017	-0,0066	0,032	-0,0018	0,399
Nordic entry	13	0,0002	0,973	0,0026	0,564	-0,0024	0,487
Nordic exit	15	0,0032	0,957	0,0115	0,359	-0,0082	0,873
UK entry	40	-0,0103	0,009	-0,0049	0,027	-0,0054	0,049
UK exit	31	-0,0436	0,316	-0,0217	0,356	-0,0219	0,276
USA entry	60	0,0139	0,485	0,0179	0,366	-0,004	0,005
USA exit	74	-0,0031	0,449	0,0008	0,743	-0,0039	0,135

Table 3 Compilation of empirical results by country

French exits produce significantly positive abnormal returns, however the sample only includes 7 events, making the result less certain. The certainty of the results for German entries and exits should similarly be accepted with some reservation. Moreover, it can be concluded that hypothesis H_{03};

H_{03} = There is no significant abnormal return generated by corporate entry or exit from the DJSI World within various countries between 2002 and 2007

cannot be rejected for French entries, Japanese entries, Nordic entries and exits, UK exits and US exits.

However, the hypothesis *can be rejected* for *Japanese exits* as the p-value of 0.017 generated is below the significance level. When decomposing CAR for Japanese exits, AR1 shows significance. Figure 13 illustrates the Japanese exits and shows a negative mean, suggesting an overall negative abnormal return as a result of a company exiting the DJSI World.

Japan, CAR, exits	
Mean:	-0,0084
Standard deviation mean:	0,01812
Two-tailed p-value:	0,017
95 % Confidence interval:	
Lower	-0,0152
Upper	-0,0016
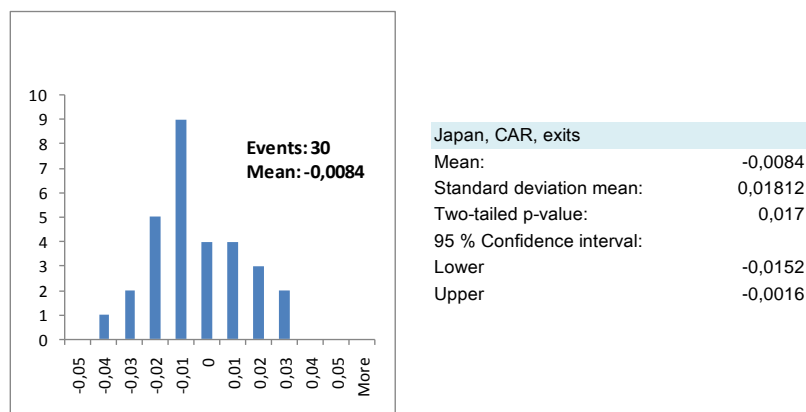
Figure 13 *CAR for Japanese exits*

It can be concluded that the Japanese market reacts negatively when a company is deleted from the DJSI World, suggesting that negative news concerning CSR has a negative impact on the market value of a company.

Furthermore, the hypothesis *can be rejected* for *UK entries* as well as for *US entries* as the p-values, of 0.049 and 0.005 respectively, generated are below the significance level. In the case of UK, complete significance is found for entries (CAR, AR1 and AR2), for US entries, the significance is limited to AR2. The means conceived are both negative, suggesting an average negative abnormal return as a result of a company entering the DJSI World.

Events: 40
Mean: -0,0054

Events: 60
Mean: -0,004
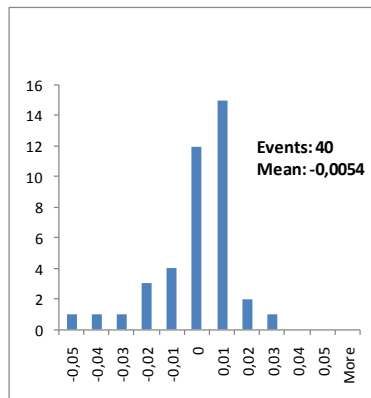
UK, AR2, entries	
Mean:	-0,0054
Standard deviation mean:	0,01699
Two-tailed p-value:	0,049
95 % Confidence interval:	
Lower	-0,0109
Upper	0,0000

USA, AR2, entries	
Mean:	-0,004
Standard deviation mean:	0,01062
Two-tailed p-value:	0,005
95 % Confidence interval:	
Lower	-0,0068
Upper	-0,0013

Figure 15 AR2 for UK entries

Figure 14 AR2 for US entries

Consequently, the findings imply that news of positive CSR activities create a negative reaction on the UK and US markets, causing a negative impact on the market value of a company.

5 Analysis

The analysis chapter includes a profound analysis of the empirical results of this study, based on the theories and findings of previous studies presented in chapter 3 Theoretical framework. The discussion in the analysis serves as a base upon which it will be concluded whether or not CSR, measured by the impact on market value of an entry or exit from the DJSI World, pays off.

5.1 Analysis structure

Based on the analysis model presented in chapter *2 Methodology*, the empirical results of this study are analyzed in the following sections. The focus of the analysis is on hypothesis one, aiming to provide a clear answer to the main research question. Logically, the analysis further treats hypotheses two and three. As can be observed in the analysis model, the theoretical framework and the empirics, developed from the initial problem discussion, are combined in the analysis. In the figure below the structure of the analysis is depicted, including reflections concerning the three hypotheses and finally resulting in a conclusion presented in chapter *6 Conclusions*.
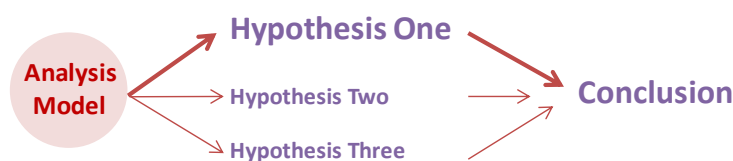
Figure 16 *Analysis structure*

5.2 Hypothesis one

As concluded in section *4.3.1 Empirical results – hypothesis one*, no overall significant market reaction, indicated by the lack of significant abnormal returns for both event days separately as well as over the whole event window, was found following a corporate entry or exit from the DJSI World. Consequently, the hypothesis that there is no significant abnormal return generated by corporate entry or exit from the DJSI World between 2002 and 2007 *cannot be rejected*. The empirical findings of this study, proposing that CSR activities have no significant impact on the market value of a company, are similar to the results of previous research conducted by Alexander and Buchholtz (1978), but contradictive to a number of other studies (Hill et al, 2007; Becchetti et al, 2007; Bird et al, 2007; Jones and Murrell, 2001; Moskowitz, 1972).

The fact that the outcome of this study seems to conflict with a number of previously conducted findings comes as no surprise. Waddock and Graves (1997), for example, conclude that there exists a great disagreement regarding the impact of CSR. Many researchers have

reflected upon this and the fact that previous studies provide contradictive results (Cochran, 2007; Wu, 2006). Moreover, a probable explanation for the results produced in this study, in correspondence to the majority of the studies addressed in the theoretical framework, is the fact that there is a difference in method applied, sample size studied as well as the chosen theoretical definition of CSR. This argumentation is in line with the main criticism against this event study methodology, arguing that the findings of an event study are sensitive to even the slightest change in research design, advocated by McWilliams et al (1999).

Considering that there is market efficiency and that the share price of a company reflects the expected value of its future discounted cash flows (Brealey et al, 2006), as discussed in chapter *3 Theoretical Framework*, the absence of an impact on the stock market, resulting from a negative or positive change in CSR activities, as measured by an exit or entry in the DJSI World, indicates that CSR is not considered to have an effect on companies' future cash flows, hence their market value. As discussed in the first paragraph of this section, the study by Alexander and Buchholtz (1978) supports the findings of this study, as the researchers found no significant relationship between superior social performance and improved stock market performance. Consequently, their results equally imply that improved CSR does not create value as measured by increasing stock prices. Naturally, the question, addressing why CSR activities do not generate an effect on the stock market, arises. According to Harrison and Freeman (1999), it is difficult for investors to determine the actual impact that CSR has on the earnings of a company, resulting in an absence of a significant relationship between CSR and stock market performance. Potentially, CSR could be positive for a company without investors actually recognizing this. Also, the "award" of being added to an index or the "punishment" of being deleted might not be perceived by investors as parallel with news of positive or negative CSR activities. Consequently, derived from this argumentation, it can be concluded that the absence of a significant impact of an entry or an exit from the DJSI World on the market value of a company, could be a result of investors' incapability to perceive this event's, if any, effect on the future earnings of the company.

In contrast, the study by Becchetti et al. (2007), applying a similar approach to that undertaken in this study, finds negative abnormal returns following a corporate exit from the Domini 400 Social Index. The researchers conclude, however, that the negative impact on the stock price of a company violating social criteria occurs as ethical funds, having a position in companies included in the Domini 400 Social Index, withdraw their holdings, rather than due to an expected "negative shock on shareholders' value" (Becchetti et al, 2007, p.17). The argumentation could be applied to the absence of a market reaction to an exit from the DJSI World. For instance, it could be argued that the approach of ethical funds having a position on the DJSI World differs from the approach of such funds with holdings in the Domini 400 Social Index, resulting in the difference of the market reaction. Further, there is a possibility

that the ethical funds having a position on the DJSI World will not withdraw their holdings in the excluded companies until the actual implementation day, i.e. when the firms are actually deleted from the index. Consequently, this would generate a stock market reaction on the implementation day rather than on the press release date, which in the case of this study was chosen to be the event date and therefore the point in time when abnormal returns were measured.

The outcome of this study can further be associated with the previous research presented concerning the relationship between CSR and financial performance. The central results of this study, concluding that the first hypothesis cannot be rejected, suggest that there is no link between CSR and financial performance as perceived by investors, since they do not react to news concerning CSR, such as an exit or entry in the DJSI World. Assuming the opposite, that there is a link between financial performance and CSR, investors would incorporate information concerning CSR into their decisions, in turn, resulting in a market reaction. Correspondingly to this study, Aupperle et al. (1985) conclude that there is insufficient evidence to prove that socially responsible firms are more profitable than others. Furthermore, Cochran and Wood (1984) find no link between CSR and financial performance while Preston and O'Bannon (1997) find no significance to support a negative link between CSR and financial performance. It can be argued that the results of this study imply that there is no relationship between CSR and financial performance as perceived by investors.

The lack of significant abnormal returns following a corporate entry of exit from the DJSI World can be assessed by applying the theory of the CSR continuum, invented by Johnson (2003). Assuming that the market impact of CSR activities depends on whether or not there is a significant relationship between CSR and financial performance, the outcome of this study can be explained by the fact that an entry or exit to an index might not be a strategic decision undertaken by a company, which, according to Johnson (2003), is a prerequisite for a positive relationship between CSR and financial performance. Rather, the addition or deletion of a company from the DJSI World is a consequence of events previously occurred. It is, however, highly probable that these previous events leading to for example a deletion from the index, such as a major increase in carbon dioxide emissions or pollution of a company, generate a significant impact on the stock market. Consequently, one would not expect to find any significant abnormal returns following a change of the companies included in the DJSI World. Instead, the abnormal returns possibly occur in association with the events leading to the addition or deletion from the index.

Although corporate entry or exit from the DJSI World in itself may not be an event that has a direct impact on the earnings of a company, it may send signals to investors conveying information regarding the future performance of the company in question. Consequently, events that do not have a direct impact on cash flows can still generate a reaction on the

market. The theory of signaling is supported by the findings of Klassen and McLaughlin (1996), who conclude that environmental awards generate a significant reaction in the market. Signaling is further confirmed by Jones and Murrell (2001), who argue that the market does react to the notion that a company has made the *Working Mothers* magazine's list of "most family-friendly" companies. Nevertheless, the findings presented in section *4.3.1 Empirical results – hypothesis one* indicate that whatever signals the event of a company either being deleted or added to the DJSI World should transmit to investors, they should obviously not be interpreted as something that would impact the future cash flows of the company.

5.3 Hypothesis two

As concluded in section *4.3.2 Empirical results – hypothesis two*, no significant abnormal returns were found following either a corporate entry or exit from the DJSI World in years 2004, 2005 and 2006. Furthermore, no significant abnormal returns were found following an exit in years 2002 and 2003, or an entry in 2007. Consequently, the hypothesis that there are no significant abnormal returns generated by corporate entry or exit from the DJSI World *cannot be rejected* for the above mentioned events. Nevertheless, an entry in the DJSI World in 2002 and 2003, as well as an exit from the index in 2007 generated significant abnormal returns. Hence, the impact of the market value of a company was significant, implying that CSR, measured by corporate entries and exits from the DJSI World, had an impact on the market value of a company.

The empirical findings from hypothesis two should be analyzed in order to assess whether or not the level of impact of CSR activities on the market value of a company has changed over time. It becomes obvious when assessing the data in Table 2, simplified in Figure 17 below that the market's attitude to CSR activities has changed between 2002 and 2007. Firstly, there is no significant impact of CSR activity, as measured by an entry or exit from the DJSI World, in some years, while there is an effect in others, implying that the impact of CSR activities is assessed differently on the market at different points in time during the studied period. Secondly, it appears that the characteristics of the market's reaction towards entries and exits have changed between 2002 and 2007. In years 2002 and 2003, an entry in the DJSI World received a negative reaction on the market, while in year 2006, an entry generated no significant reaction on the market. Equally, the reasoning can be applied to exits from the DJSI World. In 2003, an exit from the index generated no significant abnormal returns, whereas in year 2007, an exit received a significantly negative response.

2002	2003	2004	2005	2006	2007
Entry: Negative Exit: No reaction	Entry: Negative Exit: No reaction	No reaction	No reaction	No reaction	Entry: No reaction Exit: Negative
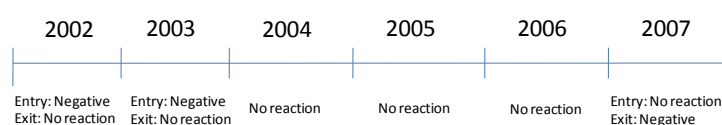
Figure 17 The change in market reaction to entry or exit from DJSI World 2002-2007

The findings of this study, indicating that the impact of CSR activities, measured by corporate entry or exit from the DJSI World, changes over time during the studied period between 2002 and 2007, correspond to the findings of Becchetti et al. (2007) and Bird et al. (2007). Becchetti et al. (2007) find, as discussed in chapter *3 Theoretical framework*, that the impact of socially responsible related events, specifically deletions and additions from the Domini 400 Social Index has *risen* over time during the period between 1990 and 2004. The researchers argue that this is a consequence of investors' increased interest in CSR. Additionally, the increased amount of capital flowing into ethical funds has contributed to the strengthening effect of the market's ethical sensitivity during recent years (Becchetti et al, 2007). Although the results of this study indicate that the impact has *changed* during 2002 and 2007, it is not possible to support the findings of Becchetti et al. (2007), as this change does *not* indicate that the impact has *risen* over time between 2002 and 2007. Rather, it can be argued that the findings of this study imply that even though investors are increasingly interested in CSR, as measured by the increased amount of capital flowing into ethical funds (Becchetti et al, 2007), their ability to correctly distinguish and evaluate the relationship between CSR and firm performance is still inconsistent. Furthermore, Cochran (2007) discusses the "evolution" of the notion of CSR, explaining its development into a complex concept. This constitutes a difficulty for investors as they aim to assess the impact of CSR on company value, possibly providing an explanation for the confusion concerning attitude towards corporate entries and exits from the DJSI World through the studied period of time.

Additionally, the empirics of this study are in line with the findings of Bird et al. (2007). Their study finds that the stock market changed its reaction to various CSR related activities between 1991 and 2003. For instance, the market punished companies for violating environmental regulations, but, at the same time, reacted significantly negative to those companies that are proactive and devote more resources to environmental actions than necessary in order to meet minimal regulative requirements (Bird et al, 2007). Correspondingly, this study indicates that the market is not consistent in its evaluation of CSR activities, as measured by its unpredictability when reacting to an entry or an exit from the DJSI World between 2002 and 2007. The inconsistency of the empirical findings during the studied period of time can be related to the characteristics of the overall condition of the stock market during this period. The event study method is sensitive to fluctuations in market pessimism or optimism. The period of time between 2002 and 2007 comprises fluctuations in the overall mood of the stock market, which is incorporated in the calculations of both normal and abnormal returns. Hence, this can provide a further perspective to the change of impact of CSR on the stock market between 2002 and 2007. This argument is advocated by Becchetti et al. (2007).

The nature of the significant abnormal returns, following an entry or exit from the DJSI World, found when decomposing the data sample according to years, can be analyzed based on the previous research presented in section *3.4 The relationship between CSR and financial performance*. The average negative abnormal returns following a corporate entry in DJSI World in 2002 and 2003 indicate that investors view this event as a signal of something that would have a negative impact on the future cash flows of a company, hence affecting their wealth. These findings can be analyzed from the neoclassic perspective, stating that the only "responsibility of business is to increase its profits" (Friedman, 1970). The neoclassical view regards CSR as a deviation from profit maximization, as satisfying other stakeholders, apart from the shareholders, is considered central, resulting in a trade-off between CSR and profits. Consequently, an entry in the index implies that the company in question has deviated from profit maximization and devoted excessive resources and time to CSR, since it meets the criteria necessary in order to be included in the index. A study by López et al. (2007) shows that the re-allocation of assets to investments in CSR activities has a negative impact on companies' performance in the short run. Consequently, the negative reaction to a corporate entry in DJSI World in 2002 and 2003 can be clarified when assuming that investors anticipate this fact.

The negative abnormal returns following an exit from the DJSI World in 2007 imply that investors perceive this event as having a negative impact on the future cash flows of a company. Accordingly, these findings indicate that the stock market disapproves of a lack of company dedication to CSR, as a result of the deletion from the DJSI World. Logically, it can be reasoned that investors' reactions are a result of their belief that there exists a positive relationship between CSR and financial performance. Confirming this relationship, Ruf et al. (2001), conclude that management meeting the demands of multiple stakeholders, interpreted as an improvement in CSR, experiences significantly higher sales growth for the current and subsequent years. Assuming that investors view a deletion from the DJSI World in 2007 as an indication of a worsening in CSR, they would perceive this as having a negative effect on the value of the company, hence the event generates negative abnormal returns. These findings are in line with the results of Jones and Murrell (2001), who find a positive relationship between the signaling of positive social responsibility and stock market reaction.

5.4 Hypothesis three

As concluded in section *4.3.1 Empirical results – hypothesis one*, there is no significant abnormal return generated by corporate entry or exit from the DJSI World between 2002 and 2007. However, this result is merely valid for the total sample. When decomposing the sample of events into categories corresponding to the companies' countries of origin, significant abnormal returns are found for corporate exits or entries in the DJSI World in some categories. This indicates that CSR activities, as measured by news of corporate exits

and entries in the DJSI World, produce a market reaction in some countries while not in others. The hypothesis that there is no significant abnormal return generated by corporate entry or exit from the DJSI World within various countries between 2002 and 2007 *cannot be rejected* for the *Nordic countries* as well as for *French entries, Japanese entries, UK exits* and *US exits*. However, the hypothesis *can be rejected* for *Japanese exits, UK entries* and *US entries*. Unfortunately, the samples of French exits, generating significantly positive abnormal returns, and German exits and entries, not generating any significant abnormal returns, are too small to provide reliability. Therefore, the findings concerning these categories will not be further analyzed.

The empirical results signal that there is no market reaction to Nordic corporate entries or exits from the DJSI World between 2002 and 2007. Considering that the market reflects investors' beliefs concerning the expected future cash flows of companies, these empirical findings can further be translated to an indication that investors in the Nordic countries believe that CSR and financial performance are not related. However, it is possible that the Nordic market simply does not value the specific event of a company entering or exiting the DJSI World in which case these events are a poor measurement for reactions to CSR in the Nordic countries.

Furthermore, Japanese companies exiting the DJSI World between 2002 and 2007 generate significant negative abnormal returns, while Japanese companies entering the DJSI World do not produce any market reaction. These empirical findings suggest that investors on the Japanese market react negatively to negative news concerning CSR, but do not react at all to the positive ones. The former reaction is supported by the study of Becchetti et al. (2007), where it is concluded that the abnormal returns following a deletion from the Domini 400 Social Index is significantly negative. The latter is supported by the previously discussed study of the Japan Productivity Center for Socio Economic Development, which concludes that there is no relationship between neither CSR and ROA nor CSR and sales growth in Japanese companies. If there is no link present between CSR and these key value drivers, it is logical that investors do not react in any way to news concerning CSR. Hill et al. (2007) measure the stock market performance of CSR companies compared to others in various parts of the world. They conclude that investors in Asia do not seem to react to the same extent as Europeans and Americans when it comes to companies' CSR activities. According to Hill et al. (2007) this result can be explained by cultural differences, claiming that Asians are less likely to judge managers' motives and actions compared to Europeans and Americans. This indicates that when Asian investors are exposed to either negative or positive news concerning CSR, they are less likely to react. This argumentation can be applied to the absence of a reaction on the stock market when Japanese firms enter the DJSI World. Nevertheless, the fact that the exits from the DJSI World do induce a negative reaction, a

response supportive of a company fulfilling certain CSR standards, can be seen as a sign that the attitude towards CSR in Japan may be changing. Finally, the fact that the Japanese market's reactions are contradictive in the sense that exits generate a reaction while entries do not, can be associated to the research supporting the contradictive nature of the stock market's assessment of CSR activities, as discussed in the previous section *5.3 Hypothesis two*.

Moreover, UK entries and US entries in the DJSI World between 2002 and 2007 generate significant negative abnormal returns. The empirical study of Hill et al. (2007) is based on the reactions of the American market finding that companies following good social practices are rewarded while companies failing to perform according to certain environmental standards are punished. However, they also conclude that companies that are proactive in their environmental work are punished. This can be paralleled to the reaction of the US market to entries, assuming that US investors may consider that the level of CSR activities demanded for an inclusion in the DJSI World are excessive. Jones and Murrell (2001) conclude that the reaction to social responsibility is stronger in a highly liquid market with "low intensive" information processing. If their findings are applied to the empirical results of this study, it can be argued that the reason why there is a significant reaction to entries in the DJSI World on the UK and US markets is that these markets are characterized by a higher liquidity and "low intensive" information processing. Further, the study of Vance (1975) claiming that CSR is a competitive disadvantage also supports the reactions of the UK and US markets to entries. Finally, the markets of the UK and US do not seem to react to an exit from the DJSI World. It can be assumed that exiting the DJSI does not signal to investors on the UK and US markets that the profitability of the company will be affected.

6 Concluding discussion

The following chapter includes a final discussion concerning the main conclusions, based on the empirics and analysis, regarding the research questions of this study. Additionally, suggestions for further research are presented.

6.1 Conclusions

In order to conclude whether CSR pays off or not, an event study of the impact of corporate entry and exit from the DJSI World on the market value of a company has been conducted. The main findings of the study are as follows:

- CSR activities, measured by the average abnormal returns following a corporate entry or exit from the DJSI World, have on average had no significant impact on the market value of a company. This implies that CSR activities do not generate shareholder value in the short-run. Nevertheless, it can consequently be concluded that CSR activities do not generate a negative impact on the market value of a company. The absence of a market reaction can be associated to investors' belief that CSR activities do not affect the future cash flows of a company. However, this is concluded under the prerequisite that positive and negative CSR activities can be paralleled with corporate entries and exits from the DJSI World. Finally, this study cannot conclude whether CSR pays off or not, when measured using a different approach.

- The level of impact of CSR activities on the market value of a company has nonetheless changed over the time period between 2002 and 2007, providing significant abnormal returns following corporate entries or exits from the DJSI World in some years, while not in others. The complexity of the concept of CSR has grown creating difficulties for investors to assess its relative impact on the value of companies.

- The level of impact of CSR activities on the market value of a company also differs between various countries, in the sense that certain geographical markets react to corporate entries or exits from the DJSI World, while others do not.

6.2 Suggestions for further research

Due to the relatively contradicting empirical results generated by research carried out on the relationship between CSR and stock market performance, it is justifiable to suggest that further research is conducted within the field. Consequently, the following subjects are presented as propositions for future research attempts.

- A natural research question emerging from this study it to attempt to determine the impact of CSR activities on the market value of a company when decomposing the data sample into industries. It is evident that companies within certain industries have a greater impact on society from a CSR perspective than others, creating a potential difference in market reaction when it comes to news regarding their CSR activities. Any patterns or tendencies concerning the effect of positive or negative CSR activities can be analyzed.

- It would be of interest to carry out a study similar to this one, with the one adjustment being the choice of event date. This study defined the event date as the date when the market first is exposed to the news of the annual review for the DJSI World, i.e. the press release date. Instead, the date where the component changes are actually implemented and made effective could be chosen as the event date.

- Lastly, a topic for further research could be to assess if there is a difference in market reaction depending on from which ethical index a company is either deleted or added. For instance, the study could investigate and compare market reaction to entry and exit from the Domini 400 Social Index, the FTSE4Good Index, the SIX/GES Ethical Index and the Dow Jones Sustainability Index. Additionally, the study could investigate whether the market takes a company's industrial belonging into account when assessing its CSR activities.

References

Academic articles:

Abbott, W. F., and Monsen, R. J, (1979). "On the measurement of Corporate Social Responsibility: Self-Reported Disclosures as a Method of Measuring Corporate Social Involvement", *Academy of Management Journal*, Vol. 22, Issue 3. (Sep), pp. 501-515.

Alexander, G. J., and Buchholz, R. A, (1978). "Corporate Social Responsibility and Stock Market Performance", *The Academy of Management Journal*, Vol. 21, No. 3. (Sep), pp. 479-486.

Aupperle, K. E., Carroll, A. B., Hatfield, J. D, (1985). "An Empirical Examination of the Relationship between Corporate Social Responsibility and Profitability", *The Academy of Management Journal*, Vol. 28, No. 2. (Jun), pp. 446-463.

Binder, J.J, (1998). "The Event Study Methodology Since 1969", *Review of Quantitative Finance and Accounting*, 11 (1998) pp. 111-137.

Bird, H., Hall, A.D., Momentè, F., and Reggiani, F, (2007). "What Corporate Social responsibility Activities are Valued by the Market?", *Journal of Business Ethics*, 76, pp. 189-206.

Bowman, R.B, (1983). "Understanding and conducting event studies", *Journal of Business Finance & Accounting*, Winter 83, Vol. 10, Issue 4, pp. 561-584.

Brammer, S., Millington, A.,and Rayton, B., (2007). "The contribution of corporate social responsibility to organizational commitment", *The International Journal of Human Resource Management*, 18:10, 1701 – 1719.

Burke, L., and Logsdon, J.M, (1996). "How Corporate Social Responsibility Pays Off", *Long Range Planning*, Vol.29, No. 4, pp. 495-502.

Cochran, P. L, (2007). "The evolution of corporate social responsibility", *Business Horizons*, Vol. 50, Issue 6 (Nov/Dec), p449-454.

Cochran P.L., and Wood R. A., (1984). "Corporate Social Responsibility and Financial Performance", *The Academy of Management Journal*, Vol. 27, No. 1. (Mar), pp. 42-56.

Davis, K, (1973). "The Case for and against Business Assumption of Social Responsibilities", *The Academy of Management Journal*, Vol. 16, No. 2. (Jun), pp. 312-322.

Du, S., Bhattacharya, C.B., Sen, S, (2007). "Reaping relational rewards from corporate social responsibility: The role of competitive positioning", *International Journal of Research in Marketing*, Vol. 24, Issue 3(Sep), p224-241.

Dutton, J.E., and Dukerich, J.M, (1991). "Keeping an eye on the mirror: Image and identity in organizational adaption", *Academy of Management Journal*, 34, pp. 517-554.

Fama, E. F, (1965). "The Behavior of Stock-Market Prices", *The Journal of Business*, Vol. 38, No. 1. (Jan), pp. 34-105.

Fama, E. F, (1970). "Efficient Capital Markets: A Review of Theory and Empirical Work", *The Journal of Finance*, Vol. 25, No. 2, pp. 383-417.

Fama, E.F., Fischer, L., Jensen, M.C., and Roll, R, (1969). "The adjustment to Stock Prices to New Information", *International Economic Review*, Vol. 10, No.1.(Feb), pp. 1-21.

Harrison, J.S., and Freeman, R.E, (1999). "Stakeholders, social responsibility, and performance: Empirical evidence and theoretical perspectives", *Academy of Management Journal*, 42(5), pp. 479-485.

Henderson, Jr. G.V, (1990). "Problems and Solutions in Conducting Event Studies", *The Journal of Risk and Insurance*, Vol. 57, No. 2. (Jun), pp. 282-306.

Hill, P.R., Ainscough, T., Shank, T., and Manullang, D, (2007). "Corporate Social Responsibility and Socially Responsible Investing: A Global Perspective", *Journal of Business Ethics* (2007) 70:165–174.

Jones, R., and Murrell, A.J, (2001). "Signaling Positive Corporate Social Performance: An Event Study of Family-Friendly Firms", *Business & Society*, Vol. 40, Issue 1 (Mar), pp.59-79.

Johnson, H, (2003). "Does it pay to be good? Social responsibility and financial performance", *Business Horizons*, Vol. 46, Issue 6 (Nov), pp. 34-41.

Klassen, R.D., and McLaughlin, C.P, (1996). "The Impact of Environmental Management on Firm Performance", *Management Science*, Vol. 42, No. 8. pp. 1199-1214.

Klein, D, (2007). "Engaging employees through social responsibility", *Leader to Leader*, Vol. 2007, Issue 46. (Oct), pp. 56-58

Lorraine, N. H. J., Collison, D. J., and Power, D.M, (2004). "An analysis of the stock market impact of environmental performance information", *Accounting Forum*, Volume 28, Issue 1, (Mar), pp. 7-26.

Lopez M. V., Garcia. A., and Rodriguez L, (2007). "Sustainable Development and Corporate Performance: A Study Based on the Dow Jones Sustainability Index", *Journal of Business Ethics*, Vol. 75, Issue 3. (Nov), pp. 285-300.

McGuire, J.B., Sundgren, A., and Schneeweis, T, (1988). "Corporate Social Responsibility and Firm Financial Performance", *The Academy of Management Journal*, Vol.31, No.4. (Dec), pp. 854-872.

MacKinlay, A. C, (1997). "Event Studies in Economics and Finance", *Journal of Economic Literature*, Vol. 35, No. 1. pp. 13-39.

McWilliams, A., and Siegel, D, (1997). "Event Studies in Management Research: Theoretical and Empirical Issues", *The Academy of Management Journal*, Vol. 40, No. 3. (Jun), pp. 626-657.

McWilliams, A., Siegel, D., and Teoh, S. H, (1999). "Responsibility Studies Issues in the Use of the Event Study Methodology: A Critical Analysis of Corporate Social", *Organizational Research Methods*, 1999; 2; 340.

Moskowitz, M, (1972). "Choosing socially responsible stocks", *Business and Society Review*, Spring 1972 Issue 1, pp. 71-75.

Preston, L. E., and O'Bannon, D. P, (1997). "The Corporate Social-Financial Performance Relationship: A Typology and Analysis", *Business and Society*, Vol. 36, No. 4. Pp. 419-429.

Ruf, B. M., Muralidhar, K., Brown, R.M., Janney, J. J., and Paul, (2001). *"*An Empirical Investigation of the Relationship Between Change in Corporate Social Performance and Financial Performance: A Stakeholder Theory Perspective", *Journal of Business Ethics*, 32, pp. 143–156.

Salinger, M, (1992). "Value Event Studies", *The Review of Economics and Statistics*, Vol. 74, No. 4. (Nov), pp.671-677.

Spence, M, (1973). "Job Market Signaling", *The Quarterly Journal of Economics*, Vol. 87, No.3. (Aug), pp. 355-374.

Ullmann, A. A, (1985). "Data in Search of a Theory: A Critical Examination of the Relationships among Social Performance, Social Disclosure, and Economic Performance of U. S. Firms", *The Academy of Management Review*, Vol. 10, No. 3. (Jul), pp. 540-557.

Vance, S. G, (1975). "Are Socially Responsible Corporations Good Investment Risks?", *Management Review,* Vol. 64, Issue 8. (Aug), pp. 18-25.

Waddock, S., and Graves, S, (1997). "The corporate social performance-financial performance link", *Strategy Management Journal,* 18 (4), pp. 303-319.

Wu, M. L, (2006). "Corporate social performance, corporate financial performance, and firm size: A meta-analysis", *Journal of American Academy of Business*, 8(1), pp. 163−171.

Internet sources:
Anderson, S., and Cavanagh, J, (2000). "Top 200 – The Rise of Corporate Global Power", Institute for Policy Studies", Dec 4th 2000, Accessed: 2007-11-12, Available: http://www.ips-dc.org/reports/top200text.htm

Becchetti, L., Ciciretti, R., and Hasan, I, (2007). "Corporate Social Responsibility and Shareholder's Value: An Event Study Analysis", *Federal Reserve Bank of Atlanta; Working paper series*, Working paper 2007-6, April 2007, Accessed: 2007-11-15, Available: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=928557

Carbon Disclosure Project Report 2007 Global FT500, (2007). Accessed: 2007-11-15, Available: http://www.cdproject.net/cdp5reports.asp

DJSI Guidebook, (2007). Accessed: 2007-12-01, Available: http://www.sustainability-indexes.com/djsi_pdf/publications/Guidebooks/DJSI_World_Guidebook_90.pdf

DJSI World, (2007). Access dates 2007-12-28, Available: http://www.sustainability-indexes.com/

European Commission, (2007). Accessed: 2007-12-20, Available : http://europa.eu/institutions/inst/comm/index_en.htm

EurActiv, (2001). Survey highlights growing importance of CSR in Europe, Published: Wednesday 21 November 200, Accessed: 2007-11-26, Available: http://www.euractiv.com/en/socialeurope/survey-highlights-growing-importance-csr-europe/article-115312 (Accessed: 2007-12-20)

Friedman, M, (1970). "The Social responsibility of Business is to increase its profits", *The New York Times Magazine*, September 13th 1970, Accessed: 2007-10-10, Available: http://www.colorado.edu/studentgroups/libertarians/issues/friedman-soc-resp-business.html

GES Investment Services (2007). Accessed: 2007-11-10 Available: http://www.ges-invest.com/pages/?ID=1

Goldman Sachs Global Investment Research, (2007). GS Sustain List, June 22nd 2007. Accessed: 2007-12-10, Available: www.unglobalcompact.org/docs/summit2007/gs_esg_embargoed_until030707pdf.pdf

JPC-SED, (2006). "Corporate Social and Financial Performance: An Empirical Study on a Japanese Company", The Japan Productivity Center for Socio Economic Development (JPC-SED), September 15th, Accessed: 2007-12-27, Available: http://www.ctw-congress.de/ifsam/download/track_1/pap00581.pdf

KLD Research and Analytics Inc, (2007). About KLD. Accessed: 2008-01-11, Available: http://www.kld.com/about/index.html

Kothari, S. P., and Warner, J. B, (2004). "The Econometrics of Event Studies", Massachusetts Institute of Technology (MIT) - Sloan School of Management and University of Rochester - Simon School October 20, 2004, Accessed: 2007-12-10, Available: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=608601#PaperDownload

Ortiz, E, (2007). "Social responsibility becoming business trend", *Chicago Flame,* published 11th December 2007. Accessed: 2007-11-17 Available: http://media.www.chicagoflame.com/media/storage/paper519/news/2007/11/12/Features/Social.Responsibility.Becoming.Business.Trend-3093442.shtml (Access date 2007-12-20)

SAM Group (2007). Accessed: 2007-12-10, Available: http://www.sam-group.com/htmle/main.cfm

Social Funds, (2007), Accessed: 2007-12-01 http://www.socialfunds.com/news/release.cgi?sfArticleId=4591

Social Investment Forum, (2006). 2005 report on socially responsible investing trends in the United States: 10-year review. Accessed: 2007-12-20. Available: //www.socialinvest.org/areas/research/trends/SRI_Trends_Report_2005.pdf

Tepper, M, (2003). "A brief history of social reporting", *Business Respect*, Issue 51, (Mar). Accessed: 2007-11-12. Available: www.mallenbaker.net/csr

UN Global Compact (2007). Accessed: 2007-11-10, Available: http://www.unglobalcompact.org/

Published books:
Brealey, R.A., Meyers, S.C., and Allen, F, (2006). *Corporate Finance*, 8th edt, New York: McGraw-Hill/Irwin.

Campbell, J.Y., Lo, A.W., and MacKinlay, A. C, (1997). *The Econometrics of Financial Markets*, Princeton, N.J.: Princeton University Press.

Copeland, T.E., Weston, J.F., and Shastri, K, (2005). *Financial Theory and Corporate Policy*, 4th edt International edition, Boston: Pearson Addison-Wesley.

Creswell, J.W, (2002). *Research Design – Qualitative, Quantitative and Mixed Methods Approach-es*, Thousand Oaks: Sage Publications, Inc.

Damodaran, A, (2002). *Investment Valuation – Tools and Techniques for Determining the Value of Any Asset*, 2nd edt, New York: John Wiley & Sons, Inc.

Eriksson, L.T., and Wiedersheim-Paul, F, (2001). *Att utreda, forska och rapportera*, Malmö, Liber Ekonomi.

Esaiasson, P., Giljam, M., Oscarsson, H., and Wängnerud, L, (2007). *Metodpraktikan – Konsten att studera samhälle, individ och marknad*, Stockholm: Nordstedts Juridik AB.

Freeman, R.E, (1984). *Strategic Management: A stakeholder approach*, Boston: Pitman.

Johansson-Lindfors, M, (1993). *Att utveckla kunskap – Om metodologiska och andra vägval vid samhällsvetenskaplig kunskapsbildning*, Lund: Studentlitteratur.

Lee, C.F., Lee, J.C, and Lee, A.C, (2000). *Statistics for business and financial economics*, Singapore: World Scientific corp.

Lekval, P., and Wahlbin, C, (2001). *Information för maknadsföringsbeslut*, 4th edt, Göteborg: IHM Publishing.

Appendix I – List of events

Company	Year	Status	Country	Industry	AR1	AR2	CAR
Abbott Laboratories	2005	Add	USA	Health Care	0,0065239	-0,0041728	0,0023511
Accor S.A.	2002	Add	France	Consumer, Cyclical	0,0020361	-0,0171850	-0,0151489
Adobe Systems Inc.	2003	Add	USA	Technology	-0,0176227	-0,0130870	-0,0307097
Adobe Systems Inc.	2006	Del	USA	Technology	0,0120235	-0,0313497	-0,0193261
Advent Software Inc.	2002	Del	USA	Technology	-0,0528366	-0,0264538	-0,0792905
Aegis Group PLC	2005	Del	UK	Media	-0,0138641	0,0092686	-0,0045956
Aeon Co. Ltd	2004	Add	Japan	Retail	0,0246615	0,0035130	0,0281745
Aetna Inc.	2003	Add	USA	Healthcare	-0,0031332	-0,0151218	-0,0182550
Aetna Inc.	2007	Del	USA	Health Care	0,0088242	-0,0078475	0,0009768
Air France-KLM	2005	Add	France	Travel & Leisure	0,0020665	0,0196378	0,0217043
Air Products & Chemicals Inc.	2003	Add	USA	Chemicals	-0,0014997	-0,0106740	-0,0121738
Air Products & Chemicals Inc.	2007	Del	USA	Chemicals	0,0046486	-0,0173422	-0,0126936
Aixtron AG	2003	Del	Germany	Industrial Goods	-0,0113281	-0,0032732	-0,0146013
Alcoa Inc.	2005	Del	USA	Basic Resource	0,0141391	0,0237570	0,0378961
Alcoa Inc.	2006	Add	USA	Basic Materials	0,0106445	0,0119208	0,0225653
Alexander & Baldwin Inc.	2002	Del	USA	Industrial	0,0020405	-0,0307244	-0,0286839
Alliance Unichem PLC	2005	Del	UK	Retail	0,0043051	0,0018590	0,0061641
AMEC PLC	2004	Add	UK	Construction	-0,0118373	0,0051016	-0,0067357
Amgen Inc.	2002	Add	USA	Healthcare	0,0060603	-0,0043793	0,0016810
Amgen Inc.	2006	Add	USA	Health Care	-0,0036036	0,0020201	-0,0015835
Amgen Inc.	2004	Del	USA	Healthcare	-0,0025966	-0,0049041	-0,0075008
Anglo American PLC	2003	Add	UK	Basic Resources	-0,0093598	-0,0006055	-0,0099653
Applied Materials Inc.	2005	Del	USA	Technology	-0,0215703	-0,0029037	-0,0244741
Asahi Glass Co. Ltd.	2002	Del	Japan	Industrial	-0,0153616	-0,0011083	-0,0164699
Asahi Glass Co. Ltd.	2004	Add	Japan	Construction	0,0044489	-0,0046148	-0,0001658
Atlas Copco AB	2004	Del	Sweden	Industrial Goods & Services	-0,0119006	0,0144316	0,0025311
Atlas Copco AB Series A	2007	Add	Sweden	Industrial Goods & Services	-0,0018914	-0,0039269	-0,0058183
Atos Origin	2003	Del	France	Technology	0,0452552	0,0036737	0,0489289
AXA S.A.	2007	Add	France	Insurance	0,0050342	0,0143095	0,0193179
BAE Systems PLC	2003	Add	UK	Industrial Goods	-0,0234903	-0,0047198	-0,0282100
Balfour Beatty PLC	2003	Add	UK	Construction	-0,0170087	-0,0193859	-0,0363946
Balfour Beatty PLC	2004	Del	UK	Construction	-0,0053809	0,0129435	0,0075626
Balfour Beatty PLC	2006	Add	UK	Industrials	-0,7125189	-0,6091783	-1,3216971
Bank of America Corp.	2002	Add	USA	Financial	-0,0124776	0,0080633	-0,0044143
Bank of America Corp.	2003	Del	USA	Banks	-0,0233818	0,0046567	-0,0187250
Bear Stearns Cos.	2006	Del	USA	Financials	0,0007453	0,0026860	0,0034314
Bear Stearns Cos.	2005	Add	USA	Financial Services	-0,0071679	-0,0027304	-0,0098983
Beckman Coulter Inc.	2002	Del	USA	Healthcare	0,0268181	-0,0064963	0,0203218
Beckman Coulter Inc.	2003	Add	USA	Healthcare	0,0014846	-0,0098070	-0,0083223
Beckman Coulter Inc.	2004	Del	USA	Healthcare	-0,0088175	-0,0088666	-0,0176840
Becton Dickinson & Co.	2006	Add	USA	Health Care	-0,0086750	-0,0025819	-0,0112569
Becton, Dickinson & Co.	2002	Del	USA	Healthcare	0,0174243	-0,0004205	0,0170038
Benesse Corp.	2005	Add	Japan	Retail	0,0006858	-0,0088159	-0,0081301
Berkeley Group Holdings PLC	2005	Del	UK	Personal & Household Goods	-0,0054183	0,0024193	-0,0029990
Berkeley Group PLC	2002	Del	UK	Consumer, Cyclical	-0,0318341	-0,0101406	-0,0419747
Berkeley Group PLC	2004	Add	UK	Cyclical Goods & Services	-0,0027840	-0,0043645	-0,0071485
BHP Billiton PLC	2002	Add	UK	Basic Materials	-0,0270292	-0,0031422	-0,0301714
BNP Paribas S.A.	2002	Add	France	Financial	-0,0347904	-0,0135690	-0,0483593
Boeing Co.	2002	Add	USA	Industrial	0,0269031	-0,0110287	0,0158743
Boeing Co.	2003	Del	USA	Industrial Goods	-0,0157465	-0,0124376	-0,0281841
British Airways PLC	2005	Del	UK	Travel & Leisure	0,0321931	0,0037919	0,0359850
British American Tobacco PLC	2002	Add	UK	Consumer, Non-Cyclical	-0,0177446	0,0054567	-0,0122879
CA Inc.	2007	Del	USA	Technology	-0,0011515	-0,0007650	-0,0019165
Cable & Wireless PLC	2003	Del	UK	Telecommunications	-0,0112111	0,0015530	-0,0096581
Canon Inc.	2007	Del	Japan	Technology	-0,0111385	-0,0088717	-0,0200102
Carrefour S.A.	2002	Add	France	Consumer, Cyclical	0,0258215	0,0072059	0,0330274
Castellum AB	2007	Add	Sweden	Financial Services	-0,0015759	-0,0160851	-0,0176610
Cattles PLC	2006	Add	UK	Financials	-0,0068721	0,0102840	0,0034119
Centex Corp.	2002	Del	USA	Consumer, Cyclical	0,0253439	0,0218704	0,0472143
Centrica PLC	2003	Add	UK	Utilities	-0,0001317	0,0198530	0,0197213
Cisco Systems Inc.	2006	Add	USA	Technology	-0,0082631	-0,0018433	-0,0101064
Colgate-Palmolive Co.	2006	Del	USA	Consumer Goods	0,0125458	-0,0088823	0,0036635
Colgate-Palmolive Co.	2005	Add	USA	Personal & Household Goods	0,0081019	-0,0094847	-0,0013829
Continental AG	2002	Del	Germany	Consumer, Cyclical	-0,0247977	-0,0437163	-0,0685140
Continental Airlines Inc. Cl B	2002	Del	USA	Consumer, Cyclical	0,0350986	-0,0641137	-0,0290152
Credit Lyonnais S.A.	2002	Add	France	Financial	0,0048624	-0,0072202	-0,0023579
Cummins Inc.	2005	Add	USA	Industrial Goods & Services	0,0153905	-0,0079957	0,0073949
Daikin Industries Ltd.	2002	Add	Japan	Industrial	-0,0181540	0,0101361	-0,0080179
Daito Trust Construction Co.	2002	Del	Japan	Industrial	-0,0057612	0,0245940	0,0188329

Company	Year	Status	Country	Industry	AR1	AR2	CAR
Danisco A/S	2002	Add	Denmark	Consumer, Non-Cyclical	0,0201830	-0,0035398	0,0166432
Deutsche Boerse AG	2005	Add	Germany	Financial Services	0,0093886	0,0119966	0,0213852
Dollar Tree Stores Inc.	2002	Del	USA	Consumer, Cyclical	0,0202518	-0,0579999	-0,0377481
Dow Chemical Co.	2006	Add	USA	Basic Materials	-0,0084333	-0,0060307	-0,0144640
Dow Chemical Co.	2005	Del	USA	Chemicals	0,0866104	0,0556116	0,1422220
Dow Jones & Co. Inc.	2007	Del	USA	Media	-0,0030053	-0,0024292	-0,0054345
Duke Energy Corp.	2003	Del	USA	Utilities	-0,0109077	-0,0082165	-0,0191242
Eastman Kodak Co.	2006	Del	USA	Consumer Goods	0,0204541	-0,0046193	0,0158348
Electrolux AB B	2004	Del	Sweden	Cyclical Goods & Services	0,0036760	-0,5947941	-0,5911181
Electrolux AB Series B	2007	Add	Sweden	Personal & Household Goods	-0,0075795	-0,0116736	-0,0192531
Electronic Data Systems Corp.	2007	Add	USA	Technology	0,0026505	-0,0086458	-0,0059954
Electronic Data Systems Corp.	2006	Del	USA	Technology	-0,0033276	-0,0002768	-0,0036044
ENSCO International Inc.	2002	Add	USA	Energy	-0,0333334	0,0012140	-0,0321194
ENSCO International Inc.	2005	Del	USA	Oil & Gas	-0,0214567	-0,0441036	-0,0655604
Entergy Corp.	2002	Add	USA	Utilities	-0,0140166	-0,0046534	-0,0186700
Essilor International S.A.	2007	Add	France	Health Care	0,0068512	-0,0002733	0,0065779
Euronext N.V.	2005	Add	France	Financial Services	0,0059752	0,0313455	0,0373207
Fairchild Semiconductor Internatio	2002	Add	USA	Technology	-0,0089620	0,0096478	0,0006859
Fairchild Semiconductor Internatio	2007	Del	USA	Technology	0,0015561	0,0095025	0,0110586
Fannie Mae	2002	Del	USA	Financial	0,0103542	0,0045446	0,0148987
Fannie Mae	2003	Add	USA	Financial Services	-0,0048349	0,0059746	0,0011398
Fannie Mae	2005	Del	USA	Financial Services	0,0333116	0,0270550	0,0603666
FedEx Corp.	2002	Del	USA	Industrial	0,0193243	-0,0254607	-0,0061364
Firstgroup PLC	2003	Add	UK	Non-cyclical Goods	-0,0106961	0,0057806	-0,0049155
Firstgroup PLC	2005	Del	UK	Travel & Leisure	0,0134497	0,0074633	0,0209130
Firstgroup PLC	2006	Add	UK	Consumer Services	0,0036562	0,0052956	0,0089518
FMC Technologies Inc.	2007	Add	USA	Oil & Gas	0,0044731	0,0105574	0,0150305
Ford Motor Co.	2002	Add	USA	Consumer, Cyclical	-0,0036645	-0,0202611	-0,0239256
Ford Motor Co.	2006	Del	USA	Consumer Goods	0,0248705	0,0060125	0,0308830
Fortum Oyj	2003	Add	Finland	Utilities	-0,0012076	-0,0144397	-0,0156473
Fraport AG	2007	Add	Germany	Industrial Goods & Services	-0,0059466	-0,0075992	-0,0135458
Friends Provident PLC	2004	Add	UK	Insurance	0,0063125	-0,0045860	0,0017264
Fuji Electric Holdings Co. Ltd.	2005	Add	Japan	Industrial Goods & Services	-0,0018986	0,0121683	0,0102697
Gannett Co. Inc.	2003	Add	USA	Media	-0,0050499	-0,0026381	-0,0076881
Gannett Co. Inc.	2004	Del	USA	Media	-0,0014044	0,0047892	0,0033847
Gap Inc.	2002	Del	USA	Consumer, Cyclical	0,0175101	0,0581184	0,0756285
Gap Inc.	2003	Add	USA	Retail	-0,1370386	0,0077750	-0,1292636
Gap Inc.	2007	Del	USA	Retail	-0,0439610	-0,0066420	-0,0506031
General Electric Co.	2004	Add	USA	Industrial Goods & Services	-0,0063643	-0,0079610	-0,0143253
Genzyme Corp.	2004	Add	USA	Healthcare	-0,0088995	-0,0193286	-0,0282281
Goldman Sachs Group Inc.	2006	Del	USA	Financials	0,0125977	-0,0048846	0,0077131
Goldman Sachs Group Inc.	2005	Add	USA	Financial Services	-0,0008191	0,0062666	0,0054475
H&R Block Inc.	2006	Del	USA	Consumer Services	0,0079106	-0,0135519	-0,0056413
H&R Block Inc.	2005	Add	USA	Retail	-0,0305189	-0,0336800	-0,0641989
H.J. Heinz Co.	2002	Del	USA	Consumer, Non-Cyclical	0,0034891	0,0198488	0,0233378
H.J. Heinz Co.	2003	Add	USA	Food & Beverage	0,0068777	0,0039434	0,0108211
H.J. Heinz Co.	2005	Del	USA	Food & Beverage	0,0273744	-0,0025315	0,0248430
Hachijuni Bank Ltd.	2005	Del	Japan	Banks	-0,0068874	-0,0000823	-0,0069696
Halliburton Co.	2002	Del	USA	Energy	-0,0317501	0,0102503	-0,0214997
Harrah's Entertainment Inc.	2007	Del	USA	Travel & Leisure	0,0004062	-0,0022638	-0,0018576
HBOS PLC	2004	Add	UK	Banks	0,0064890	0,0031569	0,0096460
Heidelberger Druckmaschinen AG	2003	Del	Germany	Industrial Goods	-0,0608184	0,0372051	-0,0236133
Henkel KGaA Pfd.	2007	Add	Germany	Personal & Household Goods	-0,0013916	-0,0019707	-0,0033623
Henkel KGaA Pfd.	2005	Del	Germany	Personal & Household Goods	-0,0015524	-0,0004489	-0,0020012
Hennes & Mauritz AB Series B	2007	Del	Sweden	Retail	-0,0038295	-0,0023754	-0,0062049
Herman Miller Inc.	2003	Del	USA	Cyclical Goods	-0,0173212	0,0183176	0,0009964
Herman Miller Inc.	2004	Add	USA	Cyclical Goods & Services	0,0023568	0,0100414	0,0123981
Hewlett-Packard Co.	2002	Del	USA	Technology	0,0190080	0,0002727	0,0192807
Hewlett-Packard Co.	2003	Add	USA	Technology	0,0045116	-0,0183919	-0,0138803
Hitachi Chemical Co. Ltd.	2007	Del	Japan	Chemicals	-0,0202158	-0,0114921	-0,0317079
Hitachi Chemical Co. Ltd.	2005	Add	Japan	Chemicals	0,0127212	0,0269834	0,0397047
Hitachi Ltd.	2006	Del	Japan	Industrials	-0,0099571	-0,0001138	-0,0100709
Home Depot Inc.	2005	Del	USA	Retail	-0,0117556	-0,0348519	-0,0466074
Honeywell International Inc.	2002	Del	USA	Industrial	0,0127534	0,0046297	0,0173832
Huhtamaki Oyj	2003	Add	Finland	Industrial Goods	0,0172692	-0,0024087	0,0148606
Huhtamaki Oyj	2005	Del	Finland	Industrial Goods & Services	0,0259052	-0,0016506	0,0242546
Humana Inc.	2007	Add	USA	Health Care	0,0014931	0,0009318	0,0024249
Hypo Real Estate Holding AG	2007	Del	Germany	Financial Services	-0,0034133	-0,0020974	-0,0055107
Hypo Real Estate Holding AG	2005	Add	Germany	Financial Services	-0,0152438	-0,0062487	-0,0214925

Company	Year	Status	Country	Industry	AR1	AR2	CAR
InterContinental Hotels Group PLC	2005	Del	UK	Travel & Leisure	-0,0053130	0,0263531	0,0210401
Investec PLC	2006	Add	UK	Financials	0,0086255	-0,0168505	-0,0082250
Investors Financial Services Corp.	2006	Del	USA	Financials	0,0139036	-0,0010668	0,0128368
Investors Financial Services Corp.	2005	Add	USA	Financial Services	-0,0029763	0,0071015	0,0041252
Itochu Corp.	2003	Add	Japan	Industrial Goods	-0,0160724	-0,0087946	-0,0248670
Itochu Corp.	2005	Del	Japan	Industrial Goods & Services	-0,0162401	0,0044028	-0,0118373
Itochu Corp.	2006	Add	Japan	Industrials	-0,0117773	0,0055927	-0,0061846
Jarvis PLC	2002	Add	UK	Industrial	-0,0137596	-0,0087578	-0,0225174
Jarvis PLC	2004	Del	UK	Industrial Goods & Services	0,0040752	0,0065195	0,0105948
JCDecaux S.A.	2007	Add	France	Media	0,0057763	0,0050096	0,0107860
Johnson & Johnson	2007	Del	USA	Health Care	-0,0022547	0,0092219	0,0069671
Johnson Controls Inc.	2005	Add	USA	Automobiles & Parts	0,0093047	0,0029657	0,0122704
Johnson Matthey PLC	2002	Del	UK	Basic Materials	0,0084967	-0,0156106	-0,0071139
Kansai Electric Power Co. Inc.	2003	Del	Japan	Utilities	-0,0006107	-0,0080188	-0,0086295
Kesko Oyj B	2005	Add	Finland	Retail	-0,0296036	-0,0179541	-0,0475576
Kimberly-Clark Corp.	2002	Add	USA	Consumer, Non-Cyclical	0,0050148	0,0164749	0,0214896
Kimberly-Clark Corp.	2003	Del	USA	Non-cyclical Goods	-0,0074980	-0,0057941	-0,0132921
Kimberly-Clark Corp.	2005	Add	USA	Personal & Household Goods	-0,0144069	-0,0096766	-0,0240835
Kingfisher PLC	2002	Add	UK	Consumer, Cyclical	0,0288869	0,0077746	0,0366615
Kirin Holdings Co. Ltd.	2007	Del	Japan	Food & Beverage	-0,0090600	0,0070422	-0,0020178
Klepierre S.A.	2004	Add	France	Financial Services	0,0200917	-0,0057308	0,0143609
Komatsu Ltd.	2002	Add	Japan	Industrial	-0,0168120	0,0031902	-0,0136217
Komatsu Ltd.	2005	Del	Japan	Industrial Goods & Services	-0,0189801	-0,0029717	-0,0219518
Komatsu Ltd.	2006	Add	Japan	Industrials	0,0141008	0,0039911	0,0180919
Kraft Foods Inc. Cl A	2006	Add	USA	Consumer Goods	-0,0077835	0,0011308	-0,0066527
Kubota Corp.	2005	Del	Japan	Industrial Goods & Services	-0,0003273	-0,0195457	-0,0198730
Kyocera Corp.	2005	Del	Japan	Industrial Goods & Services	0,0048746	0,0103728	0,0152474
Lafarge S.A.	2006	Del	France	Industrials	0,0145218	0,0053280	0,0198498
Land Securities PLC	2002	Add	UK	Financial	0,0014415	-0,0034953	-0,0020538
Lear Corp.	2002	Del	USA	Consumer, Cyclical	0,0219597	-0,0032688	0,0186909
Legal & General Group PLC	2003	Add	UK	Insurance	-0,0253739	-0,0076077	-0,0329817
London Stock Exchange Group PL	2007	Del	UK	Financial Services	-0,0144291	-0,0076685	-0,0220976
London Stock Exchange PLC	2005	Add	UK	Financial Services	-0,0119215	0,0140389	0,0021174
Lonmin PLC	2005	Add	UK	Basic Resources	-0,0115445	-0,0073637	-0,0189081
L'Oreal S.A.	2002	Del	France	Consumer, Non-Cyclical	0,0114489	0,0650138	0,0764627
L'Oreal S.A.	2005	Del	France	Personal & Household Goods	0,0016609	0,0028248	0,0044857
L'Oreal S.A.	2004	Add	France	Goods & Services	-0,0135132	0,0122185	-0,0012947
Man Group PLC	2007	Add	UK	Financial Services	-0,0126205	0,0093935	-0,0032271
Man Group PLC	2006	Del	UK	Financials	0,0302867	-0,0253903	0,0048964
Man Group PLC	2005	Add	UK	Financial Services	0,0051679	0,0016064	0,0067744
Marks & Spencer PLC	2002	Add	UK	Consumer, Cyclical	0,0193085	-0,0210602	-0,0017517
Marubeni Corp.	2003	Del	Japan	Industrial Goods	-0,0305618	-0,0144519	-0,0450137
Matsushita Electric Industrial Co. L	2005	Add	Japan	Personal & Household Goods	-0,0051145	-0,0041859	-0,0093004
Matsushita Electric Works Ltd.	2002	Add	Japan	Technology	-0,0174062	0,0065154	-0,0108909
Mattel Inc.	2005	Del	USA	Personal & Household Goods	0,0486741	0,0381927	0,0868668
McDonald's Corp.	2005	Add	USA	Travel & Leisure	0,0285425	-0,0081077	0,0204348
MeadWestvaco Corp.	2002	Del	USA	Basic Materials	0,0072986	-0,0230284	-0,0157298
MeadWestvaco Corp.	2004	Add	USA	Basic Resources	-0,0030697	-0,0090117	-0,0120814
Merrill Lynch & Co. Inc.	2003	Add	USA	Financial Services	-0,0019654	-0,0082220	-0,0101875
Metso Corp.	2005	Del	Finland	Industrial Goods & Services	0,0008427	-0,0091224	-0,0082797
Mitchells & Butlers PLC	2005	Del	UK	Travel & Leisure	0,0064605	0,0012630	0,0077235
Mitsubishi Corp.	2002	Add	Japan	Industrial	-0,0066205	0,0103821	0,0037615
Mitsubishi Materials Corp.	2003	Del	Japan	Industrial Goods	0,0067349	0,0003211	0,0070561
Mitsui & Co. Ltd.	2004	Add	Japan	Industrial Goods & Services	0,0217303	0,0292087	0,0509390
Mitsui & Co. Ltd.	2007	Del	Japan	Industrial Goods & Services	0,0080626	0,0170553	0,0251178
Mitsui Fudosan Co. Ltd.	2007	Del	Japan	Financial Services	-0,0014229	-0,0216766	-0,0230995
Mitsui Fudosan Co. Ltd.	2006	Add	Japan	Financials	0,0082280	-0,0030153	0,0052127
Mitsui O.S.K. Lines Ltd.	2003	Add	Japan	Industrial Goods	-0,0249560	0,0204315	-0,0045245
Motorola Inc.	2006	Del	USA	Technology	-0,0236978	0,0196864	-0,0040113
Motorola Inc.	2004	Add	USA	Technology	-0,0143688	-0,0147238	-0,0290926
Murata Manufacturing Co. Ltd.	2007	Add	Japan	Industrial Goods & Services	0,0224684	-0,0178584	0,0046100
National Express Group PLC	2002	Add	UK	Industrial	-0,0046806	-0,0184697	-0,0231503
NEC Corp.	2002	Add	Japan	Technology	0,0020867	-0,0118740	-0,0097873
NEC Corp.	2004	Del	Japan	Technology	-0,0012447	-0,0087945	-0,0100393
NEC Corp.	2005	Add	Japan	Technology	-0,0013144	0,0380079	0,0366935
NEC Electronics Corp.	2006	Del	Japan	Technology	-0,0206821	0,0005324	-0,0201497
NEC Electronics Corp.	2005	Add	Japan	Technology	0,0086599	0,0231886	0,0318485
Neste Oil Oyj	2007	Add	Finland	Oil & Gas	-0,0085592	0,0049577	-0,0036015
Neste Oil Oyj	2005	Del	Finland	Oil & Gas	0,1759000	0,4341000	0,6100000

Company	Year	Status	Country	Industry	AR1	AR2	CAR
Newmont Mining Corp.	2007	Add	USA	Basic Resources	0,0395207	0,0149683	0,0544890
Nicor Inc.	2002	Del	USA	Utilities	0,0084836	0,0159120	0,0243956
Nikko Cordial Corp.	2002	Add	Japan	Financial	-0,0081690	-0,0002955	-0,0084645
Nippon Yusen K.K.	2003	Add	Japan	Industrial Goods	-0,0083335	0,0039399	-0,0043936
NiSource Inc.	2005	Del	USA	Utilities	-0,0211234	-0,0134553	-0,0345787
Noble Corp.	2004	Add	USA	Energy	1,1670000	-0,0023352	1,1646648
Nomura Holdings Inc.	2005	Add	Japan	Financial Services	-0,0063258	-0,0049313	-0,0112571
Novell Inc.	2002	Add	USA	Technology	0,0496579	-0,0359639	0,0136940
Novell Inc.	2003	Del	USA	Technology	-0,0222577	-0,0330278	-0,0552855
Omnicom Group Inc.	2003	Add	USA	Media	0,0011658	0,0049856	0,0061514
Omnicom Group Inc.	2004	Del	USA	Media	-0,0073596	0,0068193	-0,0005403
Parametric Technology Corp.	2004	Del	USA	Technology	-0,0021460	-0,0315073	-0,0336533
Pearson PLC	2002	Add	UK	Consumer, Cyclical	0,0225439	-0,0221299	0,0004140
Pennon Group PLC	2003	Add	UK	Utilities	-0,0022063	0,0025954	0,0003891
Pennon Group PLC	2005	Del	UK	Utilities	-0,0018705	0,0004780	-0,0013924
PepsiCo Inc.	2007	Add	USA	Food & Beverage	0,0062756	0,0023824	0,0086580
Pfizer Inc.	2007	Del	USA	Health Care	-0,0068182	-0,0029467	-0,0097649
Pitney Bowes Inc.	2003	Del	USA	Technology	0,0217797	-0,0003528	0,0214268
Plantronics Inc.	2003	Del	USA	Technology	-0,0015758	-0,0026083	-0,0041842
PPG Industries Inc.	2002	Del	USA	Basic Materials	-0,0032885	-0,0291651	-0,0324536
Praxair Inc.	2003	Add	USA	Chemicals	-0,0084958	0,0015738	-0,0069221
Premier Farnell PLC	2004	Add	UK	Industrial Goods & Services	0,0131517	0,0248452	0,0379969
Premier Farnell PLC	2006	Del	UK	Industrials	0,0076177	-0,0335154	-0,0258977
Provident Financial PLC	2005	Add	UK	Financial Services	0,0093095	0,0070898	0,0163993
Pulte Homes Inc.	2006	Del	USA	Consumer Goods	-0,0123781	0,0408836	0,0285055
Puma AG Rudolf Dassler Sport	2006	Add	Germany	Consumer Goods	0,0117932	-0,0077297	0,0040635
Quest Diagnostics Inc.	2004	Add	USA	Healthcare	-0,0090513	-0,0058298	-0,0148811
Reckitt Benckiser PLC	2003	Add	UK	Non-cyclical Goods	0,0093541	0,0022280	0,0115820
Reckitt Benckiser PLC	2007	Del	UK	Personal & Household Goods	-0,0040512	0,0053465	0,0012953
Reckitt Benckiser PLC	2005	Del	UK	Personal & Household Goods	0,0097200	0,0025364	0,0122564
Reckitt Benckiser PLC	2006	Add	UK	Consumer Goods	-0,0153678	-0,0042083	-0,0195761
Reed Elsevier PLC	2003	Add	UK	Media	-0,0102864	0,0023571	-0,0079293
Renault	2006	Add	France	Consumer Goods	0,0011237	-0,0098115	-0,0086878
Rentokil Initial PLC	2005	Add	UK	Industrial Goods & Services	-0,0104692	0,0096501	-0,0008191
Ricoh Co. Ltd.	2002	Add	Japan	Technology	-0,0244624	0,0135542	-0,0109082
Rohm Co. Ltd.	2002	Del	Japan	Technology	-0,0170532	-0,0212022	-0,0382555
Rolls-Royce PLC	2002	Add	UK	Industrial	-0,0130641	-0,0649472	-0,0780114
Royal Caribbean Cruises Ltd.	2004	Del	USA	Cyclical Goods & Services	-0,0024169	0,0005524	-0,0018645
Sanofi-Aventis S.A.	2007	Add	France	Health Care	0,0010473	0,0097715	0,0108188
Schneider Electric S.A.	2002	Add	France	Industrial	-0,0304970	0,0085088	-0,0219882
Sekisui Chemical Co. Ltd.	2006	Add	Japan	Consumer Goods	-0,0004265	0,0106679	0,0102414
ServiceMaster Co.	2006	Add	USA	Consumer Services	0,0267919	-0,0140705	0,0127214
Severn Trent PLC	2007	Add	UK	Utilities	-0,0113275	-0,0045501	-0,0158776
Severn Trent PLC	2006	Del	UK	Utilities	-0,0038395	-0,0026541	-0,0064936
Shaftesbury PLC	2007	Add	UK	Financial Services	-0,0215748	-0,0355499	-0,0571247
Skanska AB B	2003	Del	Sweden	Construction	-0,0189195	-0,0025279	-0,0214473
Skanska AB B	2004	Add	Sweden	Construction	0,0084092	0,0169434	0,0253525
Skanska AB Series B	2006	Del	Sweden	Industrials	0,0045029	0,0001498	0,0046527
Smith & Nephew PLC	2002	Add	UK	Healthcare	0,0202512	-0,0138183	0,0064329
Smith International Inc.	2006	Add	USA	Oil & Gas	-0,0205816	0,0068579	-0,0137236
Smiths Group PLC	2002	Add	UK	Industrial	-0,0126748	-0,0279459	-0,0406206
Smiths Group PLC	2003	Del	UK	Industrial Goods	0,0138306	0,0011524	0,0149831
Sodexho Alliance S.A.	2005	Add	France	Travel & Leisure	-0,0033120	-0,0037787	-0,0070906
Sonoco Products Co.	2002	Del	USA	Industrial	0,0108448	-0,0143932	-0,0035483
SSL International PLC	2002	Add	UK	Healthcare	-0,0171161	-0,0160609	-0,0331770
SSL International PLC	2006	Del	UK	Consumer Goods	0,0099544	0,0046413	0,0145957
Stagecoach Group PLC	2003	Del	UK	Non-cyclical Goods	-0,0139278	-0,0040504	-0,0179782
Stagecoach Group PLC	2004	Add	UK	Non-cyclical Goods & Services	-0,0105441	0,0011154	-0,0094287
Stagecoach Group PLC	2005	Del	UK	Travel & Leisure	0,0200787	-0,0079024	0,0121763
Staples Inc.	2004	Add	USA	Retail	0,0020150	-0,0057232	-0,0037082
Statoil ASA	2002	Add	Norway	Energy	-0,0051191	0,0039119	-0,0012072
Stora Enso Oyj R	2006	Del	Finland	Basic Materials	-0,0065313	0,0006735	-0,0058579
Suez	2002	Add	France	Utilities	0,0187974	-0,0446848	-0,0258874
SUEZ	2004	Del	France	Utilities	0,0338520	0,0292200	0,0630721
Sumitomo Corp.	2005	Del	Japan	Industrial Goods & Services	-0,0258460	0,0129894	-0,0128565
Sumitomo Corp.	2006	Add	Japan	Industrials	-0,0080283	0,0084535	0,0004252
Sumitomo Electric Industries Ltd.	2007	Add	Japan	Industrial Goods & Services	0,0044298	0,0061981	0,0106279
Sumitomo Forestry Co. Ltd.	2005	Add	Japan	Personal & Household Goods	-0,0183430	-0,0036543	-0,0219973
Svenska Cellulosa AB B	2003	Del	Sweden	Non-cyclical Goods	-0,0187253	0,0014941	-0,0172312

Company	Year	Status	Country	Industry	AR1	AR2	CAR
Taisei Corp.	2002	Add	Japan	Industrial	0,0183751	-0,0305581	-0,0121831
Taisei Corp.	2006	Del	Japan	Industrials	0,0330163	-0,0055423	0,0274740
Taisei Corp.	2004	Del	Japan	Construction	0,0126294	-0,0066677	0,0059616
Taisei Corp.	2005	Add	Japan	Construction & Materials	0,0081016	-0,0051791	0,0029225
Target Corp.	2007	Add	USA	Retail	0,0177720	-0,0172855	0,0004865
TDK Corp.	2002	Add	Japan	Industrial	-0,0188960	0,0001554	-0,0187406
Technip S.A.	2003	Add	France	Energy	0,0000800	0,0078391	0,0079191
Teijin Ltd.	2005	Del	Japan	Chemicals	0,0011055	-0,0161546	-0,0150491
Telenor ASA	2002	Add	Norway	Telecommunications	0,0235049	0,0204873	0,0439923
TeliaSonera AB	2003	Del	Sweden	Telecommunications	0,0059548	0,0215975	0,0275523
TeliaSonera AB	2006	Add	Sweden	Telecommunications	-0,0058484	-0,0070826	-0,0129310
Tesco PLC	2005	Add	UK	Retail	-0,0049230	0,0037533	-0,0011697
Tetra Tech Inc.	2002	Add	USA	Industrial	0,0351600	-0,0066942	0,0284658
Tetra Tech Inc.	2005	Del	USA	Industrial Goods & Services	-0,0490642	-0,0303838	-0,0794481
Texas Instruments Inc.	2004	Del	USA	Technology	0,0058663	-0,0417631	-0,0358968
TietoEnator Oyj	2005	Del	Finland	Technology	0,0037509	-0,0002692	0,0034817
Time Warner Inc.	2007	Del	USA	Media	-0,0080463	-0,0156256	-0,0236718
Tokyo Electric Power Co. Inc.	2002	Del	Japan	Utilities	-0,0342660	0,0168981	-0,0173679
Tokyo Gas Co. Ltd.	2006	Del	Japan	Utilities	0,0112037	-0,0073667	0,0038370
Tokyu Corp.	2002	Del	Japan	Industrial	-0,0144249	-0,0037562	-0,0181811
Tomra Systems ASA	2007	Del	Norway	Industrial Goods & Services	0,0118967	-0,0077782	0,0041186
Toray Industries Inc.	2007	Add	Japan	Chemicals	-0,0212214	-0,0198878	-0,0411092
Total S.A.	2004	Add	France	Energy	0,0006695	0,0009616	0,0016311
Toto Ltd.	2007	Del	Japan	Construction & Materials	-0,0017804	-0,0015095	-0,0032899
Toto Ltd.	2005	Add	Japan	Construction & Materials	-0,0075228	0,0349446	0,0274218
Toyota Motor Corp.	2003	Add	Japan	Automobiles	0,0144895	-0,0064452	0,0080443
Transocean Inc.	2002	Del	USA	Energy	-0,0402999	0,0034803	-0,0368196
Travis Perkins PLC	2002	Add	UK	Consumer, Cyclical	-0,0144353	-0,0437227	-0,0581580
Trend Micro Inc.	2002	Add	Japan	Technology	0,0135678	0,0335032	0,0470711
Trend Micro Inc.	2003	Del	Japan	Technology	-0,0385537	0,0116005	-0,0269532
Trend Micro Inc.	2004	Add	Japan	Technology	0,0298189	-0,0122759	0,0175430
TUI AG	2002	Del	Germany	Consumer, Cyclical	-0,0400002	-0,0057831	-0,0457833
TUI AG	2006	Add	Germany	Consumer Services	-0,0002363	-0,0011491	-0,0013853
Tyco International Ltd.	2002	Del	USA	Industrial	-0,0310355	0,0048066	-0,0262289
Unisys Corp.	2002	Add	USA	Technology	-0,0239424	-0,0177044	-0,0416468
Unisys Corp.	2007	Del	USA	Technology	-0,0056981	-0,0179015	-0,0235997
United Parcel Service Inc. Cl B	2002	Add	USA	Industrial	0,0097445	-0,0086131	0,0011314
United Parcel Service Inc. Cl B	2007	Del	USA	Industrial Goods & Services	-0,0073133	-0,0033975	-0,0107108
United Utilities PLC	2002	Add	UK	Utilities	-0,0001692	-0,0092160	-0,0093851
United Utilities PLC	2004	Del	UK	Utilities	0,0103146	-0,0214511	-0,0111364
United Utilities PLC	2007	Add	UK	Utilities	-0,0028808	0,0075453	0,0046645
UPM-Kymmene Oyj	2002	Add	Finland	Basic Materials	0,0256933	0,0001528	0,0258460
UPM-Kymmene Oyj	2006	Del	Finland	Basic Materials	-0,0051510	0,0132436	0,0080925
Walt Disney Co.	2006	Add	USA	Consumer Services	0,0004429	0,0003180	0,0007608
Waste Management Inc.	2005	Add	USA	Industrial Goods & Services	0,0072090	0,0064917	0,0137006
Veolia Environnement S.A.	2003	Add	France	Utilities	0,0106303	-0,0270525	-0,0164222
Veolia Environnement S.A.	2004	Del	France	Utilities	0,0322619	0,0040214	0,0362832
Veolia Environnement S.A.	2006	Add	France	Utilities	-0,0039577	0,0138458	0,0098881
West Japan Railway Co.	2003	Del	Japan	Industrial Goods	0,0058856	0,0007925	0,0066782
Vestas Wind Systems A/S	2007	Del	Denmark	Industrial Goods & Services	0,0049170	0,0091846	0,0141015
Weyerhaeuser Co.	2002	Del	USA	Basic Materials	-0,0136372	-0,0317589	-0,0453961
Whirlpool Corp.	2007	Del	USA	Personal & Household Goods	0,0042080	-0,0159564	-0,0117484
Whirlpool Corp.	2005	Add	USA	Personal & Household Goods	0,0061017	-0,0081658	-0,0020641
Whole Foods Market Inc.	2005	Add	USA	Retail	-0,0020772	0,0008582	-0,0012189
Whole Foods Market Inc.	2006	Del	USA	Consumer Services	-0,0070719	0,0145151	0,0074432
Vinci S.A.	2007	Del	France	Construction & Materials	0,0007388	0,0039776	0,0047165
Vinci S.A.	2006	Add	France	Industrials	-0,0027976	-0,0066640	-0,0094617
Visteon Corp.	2006	Del	USA	Consumer Goods	-0,0022638	0,0004658	-0,0017980
Volkswagen AG	2007	Add	Germany	Automobiles & Parts	-0,0015908	-0,0001668	-0,0017576
Volkswagen AG	2005	Del	Germany	Automobiles & Parts	0,0178560	-0,0017543	0,0161018
WPP Group PLC	2007	Del	UK	Media	-0,0055305	-0,0095934	-0,0151239
Xstrata PLC	2006	Add	UK	Basic Materials	-0,0051606	-0,0126108	-0,0177714
Yamaha Corp.	2002	Add	Japan	Consumer, Cyclical	-0,0016109	0,0088620	0,0072511
Yamaha Corp.	2003	Del	Japan	Cyclical Goods	0,0189251	-0,0013162	0,0176089
Yell Group PLC	2004	Add	UK	Media	-0,0046000	-0,0098162	-0,0144163
Zimmer Holdings Inc.	2002	Del	USA	Healthcare	-0,0101848	0,0310574	0,0208725

Appendix II – Data collection details

Country	Index	Stock Exchange	Currency
Sweden	OMX	Stockholm SE	SEK
Denmark	OMXC	Copenhagen SE	DKK
Finland	SHB Nordix	SIX Nordic	EUR
France	CAC 40	Paris SE	EUR
Germany	HDAX	Deutsche Börse	EUR
Japan	TOPIX100	Tokyo SE	JPY
Norway	SHB Nordix	SIX Nordic	NOK
UK	FTSE100	London SE	GBP
USA	US100	New York SE	USD

Press release dates

Year	date
2002	04-sep
2003	04-sep
2004	02-sep
2005	07-sep
2006	06-sep
2007	06-sep

Dimension	Criteria	Weighting (%)
Economic	Codes of Conduct / Compliance / Corruption&Bribery	5.5
	Corporate Governance	6.0
	Risk & Crisis Management	6.0
	Industry Specific Criteria	Depends on Industry
Environment	Environmental Performance (Eco-Efficiency)	7.0
	Environmental Reporting*	3.0
	Industry Specific Criteria	Depends on Industry
Social	Corporate Citizenship/ Philanthropy	3.5
	Labor Practice Indicators	5.0
	Human Capital Development	5.5
	Social Reporting*	3.0
	Talent Attraction & Retention	5.5
	Industry Specific Criteria	Depends on Industry

*Criteria assessed based on publicly available information only