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The relationship between corporate social performance and corporate financial performance: An event study of firms listed on OSEBX

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Abstract

This thesis examines whether criticism related to environmental, social and governance (ESG) issues affects the stock price of Norwegian listed companies. Further, we look at how companies participating in the UN initiative Global Compact (UNGC) have some sort of insurance against a drop in value in light of such ESG-criticism.

Conducting an event study using a sample of 57 news-events from the years 2008-2013 in Norwegian media, we find that ESG-criticism result in a significant cumulative average abnormal return (CAAR) of -1.81% over a 7 day window covering three days before and after the event day. Further, we find that social events have more impact than environmental and governance events. Looking at companies participating in UNGC, we find significant negative CAAR for non-participants, while an insignificant negative CAAR for participating firm. This thesis concludes that ESG-related criticism has a negative impact on the stock price of Norwegian listed firms.
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Chapter 1: Introduction
In economic literature it is historically assumed that the main objective of companies is to maximize profits. However, over the last decades it is extensively debated whether corporations, which have legally enshrined objectives relating to work in the shareholders' best interest, also have a wider responsibility extending to the society as a whole. These responsibilities concern the environment, social wellbeing of all stakeholders as well as correct corporate governance. Often there exist some fundamental contradictions between commercial objectives on one side, and social or environmental goals on the other. This leads to the classic discussion – “Is corporate social responsibility just a waste of shareholder’s wealth, or is it creating value?”

Despite such an ambiguous relationship between corporate social responsibility and a firm’s profitability, as well as the debate of the actual need for such socially responsible work, it is a fact that many companies are involved in the many initiatives associated with corporate responsibility. Such initiatives includes establishment of codes, guidelines, non-financial annual reports, standards and management systems related to the social, environmental and governance aspects of the business. A growing number of company reports and websites, research literature and government documents write extensively about environmental, social and governance factors (ESG), socially responsible investments (SRI) and corporate social responsibility (CSR). There are no single agreed definitions of these terms, but a key point that recurs is that businesses also have effects on a variety of society's environmental, social and economic objectives, and thus also have a responsibility to contribute to the achievement of these. According to the US Forum for Sustainable and Responsible Investment (SRI), investing had by 2010 reached $3.1 trillion out of $25.2 trillion in the US investment marketplace.¹ The forum predicts that by 2020 SRI will become the norm for major occupational pension funds, insurance companies and other significant investors worldwide. A lot of effort has been directed towards examining the extent of conflicts between the objectives related to social responsibility and the goal of maximum profit - i.e. the extent to which CSR will pay off for the company. There is no universal

¹ http://www.ussif.org/pubs
agreement on the subject neither between researchers nor investors, but we will look deeper into this in a later section of the thesis.

Media play an important role in today’s society. Not only does it affect the population’s behavior towards corporations, but also corporate activities itself. Much of the information and knowledge we act on as customers and shareholders originates from the media. As found in a study by Carroll & McCombs (2003), the most prominent issues on the media agenda prove to be the most prominent issues on the public agenda. One can also look at media as an arena where different stakeholders' perceptions are tested against each other and legitimate business practices defined\(^2\). Media coverage may thus be regarded as an expression of society’s expectations, or the public opinion regarding different companies.

In our study, we will focus on how the market reacts to criticism regarding ESG-issues. This kind of criticism is not a rare sight in the media; on a regular basis there are examples like corruption, environmental crime, breach of labor rights, and insider trading. We will investigate how the Norwegian market reacts to this kind of news, as we believe this can be an important insight not only for companies, but also their stakeholders, especially investors. In order to investigate this we will conduct an event study. An event study draws on the efficient market hypothesis, which suggests that capital markets are efficient mechanisms where all relevant and available information about current and future benefits are processed to determine the stock price of the firm\(^3\).

To sum up, we want to contribute to the literature by conducting the first study of its kind in Norway. We want to find out how the market participants react to ESG criticism, and also if there are any differences between the three sub-groups environment, social and governance related events.

The next chapter provides a background for the rest of the thesis in the form of a presentation and discussion of some key concepts and themes in the literature on ESG and CSR. In chapter 3 we review and explain the existing literature with

\(^2\) Engwall & Sahlin (2007)  
\(^3\) Fama et al (1969)
regards to the link between financial performance and CSR, event studies and the
Norwegian market. In chapter 4 we explain our hypotheses, while chapter 5 on
methodology provides definitions of the variables for this research, and a detailed
account of the design and implementation of the methodological approach.
Chapter 6 contains the data that has been used in the study, before chapter 7
presents the results of the investigations. In chapter 8 we test the validity of our
results. Chapter 9 outlines the limitations of this thesis and present proposals for
further research. In chapter 10 we have a conclusion, while chapter 11 contains
bibliography and chapter 12 the exhibits.

Chapter 2: Background – What is corporate social responsibility?
Corporate social responsibility is a subject to debate on several levels; inside
companies, between personal and institutional investors, in the media and in
academic circles. The term “corporate social responsibility” has been defined and
understood in a number of different ways. However, within an extensive literature
of CSR, the definition proposed by Archie B. Carroll is worth emphasizing: "The
social responsibilities of business encompass the economic, legal, ethical and
discretionary expectations that society has of organizations at a given point in
time"\(^4\).

Following the definition, each and every company has a philanthropic
responsibility to voluntarily contribute to social enhancements beyond its own
activities. Each business has ethical responsibilities to adjust their operations
according to the community’s requirements; legal responsibilities to operate in
between boundaries of local and regional laws and regulations, as well as a
financial responsibility to produce and offer requested products or services while
maintaining a profit. In later released work, Carroll presented the four categories
of responsibility as different levels in a pyramid, starting with the financial
responsibility in the bottom followed respectively by legal, ethical and
philanthropic extensions. To emphasize that no dimensions of corporate social
responsibility is more important than the others, Carroll later replaced the pyramid

\(^4\) Carroll (1979)
with the concept that the various levels of responsibility constituted to overlapping spheres.

Several business and various forms of ethical texts have incorporated these domains or have depicted the CSR Pyramid. According to Wood and Jones (1996), Carroll's four domains have "enjoyed wide popularity among scholars". Due to the acceptance and impact of Carroll's contributions to corporate social responsibility, it has been considered appropriate to re-examine the model to determine whether it can be modified or improved, or if there are possible alternative approaches to conceptualize corporate social responsibility\(^5\).

CSR contains different areas that have been up for discussion. Some of these opinions are directed to the extent of which CSR can said to include the financial and legal spheres of responsibility. Some emphasize that CSR is about the company's role beyond what is required by law and the "normal" commercial role of the business. Following this path, McWilliams and Siegel (2001) define CSR as "actions that appear to further some social good, beyond the interests of the firm and that which is required by law." Among others, the Norwegian Government seems to follow this view of corporate social responsibility, stating in a parliamentary report on CSR that: "The Government applies an understanding of social responsibility, which means that companies integrate social and environmental concerns in their daily operations and in relation to its stakeholders. Responsibility involves what companies do on a voluntary basis beyond complying with existing laws and regulations of the country in which they operate"\(^6\).

The corporations themselves, here represented by the Confederation of Norwegian Enterprises (NHO), defines CSR as: "Corporate social responsibility is about how value creation is happening - that is how businesses produce goods and services in a profitable, decent and sustainable manner. CSR is visible through the company's strategy and daily operations. Key areas are corporate responsibility for human rights, labor, environment, anti-corruption and relations with the local

community". This definition is more concerned about what CSR covers and simultaneously relates it to sustainability, which is another term often used in the debate on CSR. Sustainability or sustainable development as a term in an environmental context was defined by the Brundtland Commission as "development that meets present needs without simultaneously destroying the ability of future generations to meet their own needs". Later, Crane & Matten (2004) extended the term sustainability to include social and economic dimensions. The argument behind the extension of this concept is that there are several contradictions between environmental, social and economic objectives, and therefore must be considered in a context. Hence, the extended sustainability-term can be defined as "the long-term maintenance of systems according to environmental, economic and social considerations".

It is sufficient to note that the extended sustainability-term may be considered as a more specific classification of areas or targets for CSR. In this context, it often expressed by the term "Triple Bottom Line". The Triple Bottom Line is a concept first outlined by John Elkington. The Triple Bottom Line incorporates sustainability into business decisions and it enables organizations to take a longer-term perspective and thus being able to evaluate the future consequences of decisions. Most importantly, the Triple Bottom Line framework highlights the importance of all stakeholders rather than just shareholders.

Due to the nature of corporate social responsibility and all the different factors it covers, it is reasonable to divide different areas into different groups. Just like the Triple Bottom Line concept divides between environmental, social and economic issues. The term ESG consists of environmental, social and governance issues. In this thesis, we will focus on the term ESG, as we find governance to be a very interesting, as well as important, area of corporate social responsibility.

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8 Crane & Matten (2004)
9 Elkington (1997)
10 Slaper and Hall (2011)
2.1 Definition of ESG

Environmental, social and governance (ESG) refers to three main areas of concern regarding sustainability and the ethical impact an investment has for a company or business. These areas include a broad array of concerns with regards to non-financial factors that figure in the valuation of equity, real estate and other investments. ESG is a term covering all criteria’s used in this rather new world of socially responsible investing. There is no such thing as a comprehensive list or a definite amount of ESG issues. Factors and their importance may vary across industries and as well as geographic location. The United Nations describe an ESG factor as: “an issue that is qualitative or quantitative in nature, which may be material to financial analysis. Such factors manifest at a macro, country, and sector or company level”.

Further they define each of the three subgroups as:

E – Environmental assessment may include a company’s resource efficiency in terms of waste, greenhouse gas emissions and water and energy use and its efforts to improve this efficiency.

S – Societal assessment aims to determine the company’s social license to operate, its trade practices and exposure to corruption risk. It can also include product safety, customer loyalty, relationships with the communities in which the company hopes to do business as well as compliance with labeling laws and marketing practices.

G – Corporate governance assessment of companies may deal with remuneration practices, board composition and board policies, risk controls and corporate disclosure practices.

Examples of ESG-issues from our data set includes
- Insider trading
- Health and safety issues on production plants

11 http://www.unpri.org/
- Environmental management and reporting
- Lack of board diversification
- Unsustainable food production
- Employee relations
- Industry espionage
- Corruption

2.2 Implementation and reporting of corporate responsibility

In the field of corporate social responsibility, several measures for implementation of corporate social responsibility have been proposed. The Ashridge Centre for Business and Society (2005)\(^\text{12}\) has developed a model that measures a business in seven categories:

1) Leadership, vision and values

It is vital to measure if, and to what degree, corporate social responsibility is integrated into organizational goals and management systems. It should be measured whether corporate social responsibility is taken into consideration and included in:

- Vision, mission and values
- Objectives and management systems
- Codes of conduct and guidelines
- Strategy, corporate governance and corporate control
- Tying pay and bonus systems to results on corporate responsibility areas
- Internal communication and training related to corporate goals and systems of social responsibility

2) Marketplace Activities

How does the company behave in their contact with the customer? Typical areas to consider may include:

\(^{12}\)http://www.ashridge.org.uk/website/lC.nsf/wFARATT/Catalogue\%20of\%20CSR\%20Activities\%20A\%20broad\%20overview/$file/CSRActivities.pdf
• Responsible customer relationships (such as good customer service, refrain from aggressive or deceptive marketing, "cause-related marketing")

• Product safety and integration of social responsibility in product development

• Adaptation to labeling schemes (e.g. eco-label "Svanen" or "Nøkkelhull" mark) and the promotion of "fair trade" products

• Ethical and fair competition behavior (refrain from market-sharing, ensure fair prices, and the like)

• "Base of the pyramid" activities (e.g. microfinance).

3) Workforce Activities

How are the company’s relation to employees and their work environment?

Typical areas to consider may include:

• Communication with staff and measures to ensure their representation in decision making

• Programs for training, development of skills and career, and job satisfaction

• Measures for anti-discrimination and inclusion of people who face various barriers to participation in the workforce

• Measures for balancing between work and leisure (e.g. flextime, home, etc.)

• Fair and responsible remuneration

• Improvement of health, safety and welfare in connection with work or other measures for an employees' health

• Responsible restructuring (e.g. conducting consultations, job sharing agreements, support for those who go willingly, and the like).

4) Supply Chain Activities

Does the company have control over the social responsibility throughout the supply chain? This includes such areas as:

• Control for and fight child labor, forced labor and otherwise drive the standards of social responsibility in the supply chain by requirements against suppliers, formulation of objectives for providers and monitoring their results according to these
• Measures related to being a responsible customer by listening and collaborating with suppliers and securing righteous prices to drive social and economic development through its role as a customer (for example, give priority to local suppliers conduct training and skills development among these)

5) Stakeholder Engagement
Does the company communicate well with their stakeholders to identify and respond to their wishes and expectations related to their operations? Typical examples may include:
  • Mapping of stakeholders and consultations with them through various meeting forums, complaints procedures, surveys, focus groups, and the like
  • Implementation of externally developed standards for corporate social responsibility (for example, ISO standards, AA1000, SA8000, EMAS, EFQM model);
  • External reporting, corporate goals, systems, work and results of the social field in its own social responsibility or sustainability reports or as an integral part of the annual financial reports and other reporting and transparency initiatives.

6) Community Activities
Does the company engage in philanthropic activities and actively contribute to the local community beyond what is considered the core areas as a business? Typical examples may include:
  • Sponsorships and other financial support to humanitarian, cultural, sporting and other NGOs
  • Arrangements where employees gets paid leave to work
  • Participation in partnerships with such organizations and local authorities to solve a social problem, and the like

7) Environmental Activities
To what degree does the company have a negative impact on the environment? Typical examples may include:
• Resource and energy consumption (e.g. use of environmental technology, renewable energy, environmentally friendly resources and materials, use of natural resources)
• Reductions of emissions and pollution and waste (e.g. through cleaning processes, recycling and reuse)
• Development of more environmentally friendly products (e.g. reduce use of palm oil in food)
• Transportation planning

By regularly reporting ESG-engagements and making certain principles part of a company’s business strategy, a company may become a participant in a UN initiative called Global Compact. Later in our thesis, we will use participation in this initiative to test if this kind of openness and strategy gives Norwegian firms some sort of insurance against a drop in market value in light of ESG criticism.

2.3 UN Global Compact
The UN Global Compact is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labor, environment and anti-corruption. Business, as a primary driver of globalization, can help ensure that markets, commerce, technology and finance advance in ways that benefit economies and societies everywhere.

The ten principles of the UN Global Compact (exhibit 2) are often already enshrined in internal policies of the companies. By joining the Global Compact, the companies’ wants to highlight the fact that they are governing for business and to say that sustainability and social responsibility should be an integral part of companies’ business strategy and daily operations. The companies also want to cooperate with the UN and with other companies to do the effects of globalization most positive and righteous.

Multinational companies and growing companies with increased international efforts often want to show their commitment to the maintenance of human rights, labor rights, anti-corruption and the environment, and draw up procedures and
guidelines to ensure that they do not, directly or indirectly, conflict with recognized human rights. The purpose is to highlight the principles they profess, when operating in countries where such principles are not emphasized as much.

An example is AF-gruppen, one of Norway's leading contractors and industry groups, which in 2009 became an official member of UN Global Compact. This was to ensure better guidance in selecting, contracting and monitoring of foreign suppliers. In addition to AF’s approval to these, they encouraged all their suppliers and subcontractors to follow the same guidelines.

2.4 Why do firms take social responsibility?
Friedman (1970) argued that engaging in CSR engagements is an agency problem where there exists a conflict of interest between managers and shareholders. According to his view, a manager would use CSR to promote his or her own political agenda or career agendas instead of what’s necessarily best for the shareholders. Over the last decades this view has, as mentioned, become quite outdated. Michael Porter and Mark Kramer (2006) state that "CSR can be much more than a cost, a constraint or a charitable deed - it can be a source of opportunity, innovation and competitive advantage". Donaldson & Preston (1995) and Mitchell, Agle and Wood (1997) found that a reason for which more and more managers devote additional resources to promote CSR is the recognition of the relevance of multiple stakeholders – and not only shareholders as in Friedman’s view. For instance, Feldman et. al. (1997) found that firms with better environmental performance is perceived as less risky by investors, while others argue that corporate environmental performance and corporate social performance is positively related to firm value. Jones (1995) concluded that the ethical behavior of firms would enable them to achieve a competitive advantage, because they will develop lasting, productive relationships with their stakeholders.

Gariga and Mele (2004) classified four different theories of why firms take social responsibility – instrumental, political, integrative and ethical. The instrumental theory argues that social responsibility is a part of a firm’s branding strategy,

13 http://www.afgruppen.com/Supply-to-AF-/Policy-for-Corporate-Social-Responsibility/
14 Guenster et. al. (2010)
15 Jiao (2010)
aimed at gaining a competitive advantage and therefore linking CSR solely to the achievement of the firm’s financial goals.

The ethical theory is on the opposite side of the continuum, and argues that a firm will take social responsibility because “it’s the right thing to do” – regardless of the economical outcome. In between the two we find political and integrative theories, focusing respectively on a corporation’s power and responsibilities in a society and how a corporation “needs” to integrate CSR due to expectations and acceptance from the society.

Ditlev-Simonsen & Midttun (2011) also asks the question – What motivates managers to pursue corporate responsibility? One perspective is that coercive compliance pressure to keep up with CSR standards in industrial supply will force companies to engage in corporate responsibility. Another perspective is the fact that CSR engagements may spread through consultancy services – a situation where influential consultancy firms spread similar responsible approaches and norms across firms and sectors. In the same study, Norwegian business leaders are asked what motivates them the most to engage in corporate responsibility. The three factors that motivate the most are, according to these leaders: Branding, value maximization and stakeholdership.

Chapter 3: Existing literature

There exist quite a bit of literature on the subject of corporate social responsibility and corporate financial performance. Literature concerning the impact of CSR on financial performance goes decades back in time. Already in the seventies, Holmes (1976) concluded that managers did not only start to look at social involvement as merely desirable - but necessary - even if it means a reduction in short run profits or no returns in the long run. Research has been done on a vast amount of different measures of the two, with different results and findings. However, the majority of existing literature concludes with there being a positive correlation between social responsibility and financial performance. This is true not only for ESG as a catch-all term, but also for each of the sub-groups covered by the term. A meta-study conducted by Deutsche Bank in 2012 states that
“Academic studies find that strong corporate environmental performance shows a positive link to a lower cost of capital”\(^{16}\). The same is found for corporate social performance\(^{17}\) and strong corporate governance\(^{18}\). Other studies have shown that CSR as a whole do the same thing\(^{19}\).

There are also multiple articles finding a positive link between the three types of performance and both market-based and accounting-based financial outperformance\(^{20}\). At the same time a few other studies finds either a neutral, mixed or negative link between ESG and financial performance. This is something that is intriguing with the subject. After decades of research, there are still mixed results depending on what is used as measures for ESG and/or financial performance.

There has yet to be done much research on the field in Norway. But according to international studies, Norwegian firms are in a global setting generally concerned when it comes to CSR. A study done by Liang and Renneboog (2013) concludes that the legal origins in the country of the firm are the main predictors of CSR activities. They show that the Scandinavian legal origin assumes most CSR, and outperforms all other legal origins in most of the environmental, social and governance areas. The interesting part about this is whether it implies that the public in Norway are more concerned about CSR than in the rest of the world, or that the country take it for granted with a mindset that “CSR is something all companies do and should continue doing”.

Event studies are often used as a tool in researching the relationship between CSR and financial performance. Bechetti et. al. (2009) conducted a study with the intention of observing abnormal returns on a stock after the stock’s addition or deletion from the Domini 400 social index\(^{21}\). The study showed that a stock that

\(^{16}\) Bauer & Hann (2010), Schneider (2011), Graham and Maher (2006)
\(^{17}\) Bauer et al. (2009)
\(^{19}\) Albuquerque, Durnev and Koskinen (2013); Cajias, Fuerst and Bienert (2012); El Ghoul et. al. (2011)
\(^{21}\) The MSCI KLD 400 Social Index comprises companies with high Environmental, Social and Governance (ESG) ratings and excludes companies involved in Alcohol, Gambling, Tobacco, Military Weapons, Civilian Firearms, Nuclear Power, Adult Entertainment, and Genetically Modified Organisms (GMO). The Index aims to serve as a benchmark for investors whose objectives include owning companies with very high ESG ratings and avoiding
has been dropped from the index would experience a drop in share price in the proximity of the event date. The drop is, however, reabsorbed in a period ranging between 11 and 24 days after the event date. Further, the study showed that a negative event i.e. getting dropped from the index affects the stock more than a positive event i.e. added to the index. In the case of addition, the cumulative abnormal returns remain quite stable around zero before and after the event date.

A research paper that has some similarities to our thesis is one by Flammer (2012). The research is an event study examining news announcements related to the environment for U.S. publicly traded companies from 1980 to 2009 with interesting findings. Companies reported to behave responsibly towards the environment (positive news event) experience a significant stock price increase, whereas firms that behave irresponsibly (negative news event) face a significant stock price decrease.

Another interesting aspect with this study is how these abnormal returns have changed through time. The paper concerns with data first dated in 1980, and the results show that the focus on environmental behavior increased dramatically in the last decades. On the other hand there is a visual shift in the “norm”; over time, the positive reaction to a positive news event has decreased, while the negative reaction to a negative event has increased. Also – the paper finds that the positive (negative) stock market reaction to eco-friendly (harmful) events is smaller for companies with higher levels of environmental CSR. Something that is very relevant to our second hypothesis, as we want to investigate the effect of participating in the socially responsible initiative UNGC.

As far as we know, there has not been conducted any similar studies for the Norwegian market. We believe that our findings may be interesting for all investors operating on the Oslo Stock exchange, as well as companies listed on the exchange. The study may give an indication of how the value of a firm is affected by news stories you generally not would like to experience about your firm. It is evident that managers and CEO’s find ESG and sustainability companies that are incompatible with specific values-based criteria. Launched in May 1990 as the Domini 400 Social Index, it is one of the first Socially Responsible Investing (SRI) indexes. Constituent selection is based on data from MSCI ESG Research.
important. A survey conducted by Accenture in 2013 asked 1000 CEO’s across 103 countries and 27 industries on their views on the pathway towards a sustainable economy. 93% of the participants answered that they see sustainability as important for the future success of their business, while 80% look at these issues as a route to competitive advantage in their industry.

Chapter 4: Hypotheses

Our main goal with this research is to find tangible results about whether or not we may expect abnormal returns on a stock after criticism concerning an ESG issue. We will also try to answer if a firm that is a participant of the UN Global Compact will be protected compared to its peers when it comes to performance after a negative news event with regards to the company.

Hypothesis 1:

Will a stock experience negative abnormal return in light of negative publicity concerning an ESG issue in nationwide media?

H0: We will not experience negative abnormal returns after ESG related criticism.

Further, we are interested in the potential difference between environmental, social and governance issues.

Hypothesis 1a:

Will a stock experience negative abnormal return in light of negative publicity concerning environmental issues in nationwide media?

H0: We will not experience negative abnormal returns after criticism of environmental issues.

22 http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture-UN-Global-Compact-Acn-CEO-Study-Sustainability-2013.PDF
Hypothesis 1b:
Will a stock experience negative abnormal return in light of negative publicity concerning social issues in nationwide media?

H0: We will not experience negative abnormal returns after criticism of social issues.

Hypothesis 1c:
Will a stock experience negative abnormal return in light of negative publicity concerning governance issues in nationwide media?

H0: We will not experience negative abnormal returns after criticism of governance issues.

Hypothesis 2:
Will a firm that openly and regularly report its ESG activities and engagements and is a member of UN Global Compact have some sort of insurance against negative ESG news, making the share price less exposed to negative abnormal returns after ESG related criticism?

H0: A “good ESG” firm will not experience negative abnormal returns in light of ESG related criticism.

Chapter 5: Methodology
In theory, stock prices will at all times reflect public information about a firm and its future. Therefore, we want to conduct an event study to analyze the impact of an ESG-related criticism of a company, to see if the price reacts, as the market normally would do, or if we experience (negative) abnormal returns.

It exists much literature on the methodology of event studies. We find that the approach of A. MacKinlay (1997) is a good and thorough approach of the methods needed to conduct the analyses, and we will utilize his work as our primary source when working with our data. This works includes MacKinlay (1997) and Campbell, Lo and MacKinlay (1997)
To find the possible abnormal return, it is necessary to calculate the normal, or expected return on the stock in order to test whether we experience significant changes in price or not. To find the normal return we will measure stock returns in a period prior to the event, and use the market model to estimate normal return in a window surrounding the event date. Abnormal returns will be found by deducting the normal return from the actual return in the event window. To test the significance of these abnormal returns we will use a two-sided t-test. We will use a two-sided t-test as we can not exclude the possibility of an event leading to positive abnormal returns, even though our hypotheses aims to look for negative abnormal returns.

5.1 Defining the event window and estimation window

First of all, we have to define the event date. As we are looking at news covered in nationwide media, it is easy to define the exact date of the event. If the event happened on a non-trading day, we have moved it to the next trading day. Also, if the event happened after the closing of the Norwegian stock exchange, we have set the event date at the following (trading) day.

The event window shows the period of trading days where the abnormal return is measured. We have analyzed different windows, but will concentrate mainly on a (-3,3) window. Due to the nature of our research we find it reasonable to include a few days before the event date in our event window. One reason for this is that from time to time, specific ESG factors receive unusual amounts of attention in media, which sometimes leads to a specific company receiving criticism on the matter some days out in the public discussion. An example of this is from late August 2008 when prof. Espen Eckbo and Olaug Svarva in ‘Folketrygdfondet’ first critized companies on Oslo Børs in general for lack of good corporate governance, followed by Svara a couple of days later criticizing particular companies for the lack of nomination committees in the boardrooms. We find this interesting to analyze as we do not only look at it as “recycled” known information, but we are interested to investigate if the event of criticism might carry some value on its own, and affect the price of these specific companies.
There is a trade-off when it comes to the length of the event-window. We want to include some days before and after the event to account for the aforementioned issues, but extending the event window is also a source of noise to our estimation, as there might be other relevant, but independent, events happening in this period of time that may affect the stock price. With a total of 7 days in our window, we hope to eliminate most of this noise. We have also made sure that none of the events for the same company overlaps with another one.

The normal return in the event window is determined by looking at the actual returns in an estimation window. We have chosen an estimation window of 250 trading days or about one year of daily data. This is in line with one of the more cited papers on event study methodology, namely the paper by Brown and Warner (1985).

![Timeline of an event study](Figure1.png)

Figure 1: Timeline of an event study (MacKinlay 1997)

We choose not to analyze a post-event window, as we are mainly looking at the immediate reaction to the event, and because a post-event window is highly exposed to other events and noise.

It is important not to let the estimation window overlap the event window, as this will cause statistical difficulties and noise. We will use the following notations when performing our analysis. Returns will be indexed in event time using $\tau$. We define the event day as $\tau=0$. $\tau=T_1+1$ to $\tau=T_2$ represents the event window, and $\tau=T_0+1$ to $\tau=T_1$ represents the estimation window. Accordingly; $L_1=T_1-T_0$ represents the length of the estimation window, while $L_2=T_2-T_1$ represents the event window.

Readers who are familiar with the procedure of an event study and the corresponding t-test may skip chapter 5.2 to 5.5.
5.2 Model for measuring normal return

MacKinlay (1997) loosely groups the different asset pricing models used to estimate normal returns into two categories: statistical and economic. The statistical approach follows statistical assumptions and is unmotivated by economic arguments. Economic models such as the Fama-French three factor model and the CAPM on the other hand, are both based on statistical assumptions as well as assumptions about how investors behave in the market. In his article, MacKinlay argues, that there are no justifiable reasons to use an economic model at the expense of a statistical model. Brown and Weinstein (1985) also find that event studies with a multifactor model such as the Arbitrage Pricing Theory are not more powerful than those using the market model. This is usually due to estimation problems and finding the correct factors.

The marked model is defined as follows:

\[
R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}
\]

\[
E(\varepsilon_{it} = 0), \text{var}(\varepsilon_{it}) = \sigma^2_{\varepsilon_{it}}
\]

Where \( R_{it} \) and \( R_{mt} \) represents the security and market return in period \( t \) respectively, and \( \varepsilon_{it} \) is the residual term with zero mean and constant standard deviation. \( \alpha_i, \beta_i \) and \( \sigma^2_{\varepsilon_{it}} \) are the parameters of the market model.

5.3 Estimating the market model

The common method for estimating the parameters in the market model is the Ordinary Least Squares (OLS) method. This is a regression method where you minimize the sum of squared residuals, or the vertical distances between the observed points in the dataset and the points predicted by the linear approximation. OLS assumes constant variance over time and no autocorrelation in the error term. If these assumptions hold, OLS is unbiased and efficient. For company \( i \) the calculations of the parameters in the estimation window are:

\[ \text{Fama and French (1993)} \]
\[ \hat{\beta}_i = \frac{\sum_{t=T_0+1}^{T_1} (R_{it} - \hat{\mu}_t) (R_{mt} - \hat{\mu}_m)}{\sum_{t=T_0+1}^{T_1} (R_{mt} - \hat{\mu}_m)^2} = \frac{\text{cov}}{\text{var}} \]

\[ \hat{\sigma}_{\hat{\epsilon}_i}^2 = \frac{1}{L_1 - 2} \sum_{t=T_0+1}^{T_1} (R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt})^2 \]

Where ‘beta’ measures the stock’s relationship to the OSEBX index and ‘alpha’ gives the intercept of the regression line.

### 5.4 Calculating Abnormal Returns

Abnormal return for stock \( i \) can be defined as \( AR_{it} \) where \( \tau = T_1 + 1, \ldots, T_2 \) is the time interval for abnormal return in the event window for firm \( i \).

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

Under the null hypothesis, the abnormal returns are normally distributed with zero conditional mean and conditional variance equal to:

\[ \sigma^2(AR_{it}) = \sigma_{\hat{\epsilon}_i}^2 + \frac{1}{L_1} \left[ 1 + \frac{(R_{mt} - \hat{\mu}_m)^2}{\hat{\sigma}_m^2} \right] \]

The first term of the expression above is the variance of the noise residual, or disturbance variance, while the second term is additional variance due to sampling errors in the parameters alpha and beta. MacKinlay (1997) argues that when the estimation period is sufficiently long, the measurement of these sampling errors will approach zero, which leads us to the approximation:

\[ \sigma^2(AR_{it}) \approx \hat{\sigma}_{\hat{\epsilon}_i}^2 \]

Given the null hypothesis that a news event have no impact on the returns of firm \( i \), the distribution of the sample \( AR \) over the event window is:

\[ AR_{it} \approx N(0, \sigma^2(AR_{it})) \]
The next step is to aggregate the abnormal return over both time and stocks. We start by finding the cumulative abnormal returns (CARi) of each stock.

\[ CAR_i = \sum_{t=1}^{N} AR_t \]

We then aggregate over the event window:

\[ CAR_i(\tau_1, \tau_2) = \sum_{t=\tau_1}^{\tau_2} CAR_i \]

We then find the average CAR, or CAAR – cumulative average abnormal returns by dividing the sum of CAR by the number of events.

\[ CAAR(\tau_1, \tau_2) = \frac{1}{N} \sum_{i=1}^{N} CAR_i(\tau_1, \tau_2) \]

Following the cross-sectional method of estimating the variance outlined in Campbell, Lo and Mackinlay (1997), the variance estimators are:

\[ \hat{\text{var}}(CAAR(\tau_1, \tau_2)) = \frac{1}{N^2} \sum_{i=1}^{N} (CAR_i(\tau_1, \tau_2) - CAAR(\tau_1, \tau_2))^2 \]

We assume that L (the estimation window) is sufficiently large, so that the variance regarding sample errors goes to zero.

### 5.5 Determining the statistical significance

We will use a simple T-test with corresponding p-values to assess the significance of our results. Inferences about the CAAR can be drawn using:

\[ CAAR(\tau_1, \tau_2) \sim N[0, \hat{\text{var}}(CAAR(\tau_1, \tau_2))] \]
As the real (variance of error term) is unobservable, we can only estimate the variance by using the variance for the market model. The null-hypothesis can be tested using:

\[ \theta_1 = \frac{CAAR(\tau_1, \tau_2)}{\text{var}(CAAR(\tau_1, \tau_2))^{1/2}} \sim N(0,1) \]

The distribution result above is asymptotic with respect to the number of securities \( N \) and the length of the estimation window.

Our hypotheses (\( H_0 \)) states that the average cumulative returns are statistically different from zero – average \( \text{CAR} = \neq 0 \). Whether the \( H_0 \) can be rejected is normally tested on a 99%, 95% and a 90% confidence level, with critical t-values calculated using \( N-2 \) degrees of freedom. Where \( N \) is the sample size and 2 is the number of estimators. The P-values in our analysis are standard P-values, and represents the probability of obtaining a value of the test statistic that are at least as extreme as the observed value, given that \( H_0 \) is true.

**Chapter 6: Data**

In this study, we examine stock market reaction to the announcement of corporate news from the 2008 until 2013. We believe that it is most interesting to limit our period to recent years; due to how much more focus ESG has received over the last years, while still keeping the period large enough to get a sufficient amount of good and relevant events.

The financial data are collected using Thomson Reuters Datastream, available at BI Norwegian Business School. The digital news archive ‘Atekst’ has been used for relevant press coverage regarding events, searching a multitude of original articles from all the major Norwegian printed newspapers, and their respective websites.
This thesis will investigate firms listed on the OSEBX index on the Oslo Stock Exchange (OSE). OSE serves as the main market for trading in shares of Norwegian companies. In addition to a wide range of domestic companies, the OSE attracts international companies within petroleum, shipping and other related areas. The vast majority of firms investigated in this thesis are Norwegian, and the only exception is Bermuda-based Golden Ocean Group. The OSEBX, or the Oslo Stock Exchange Benchmark Index, is an investable index that contains a representative sample of all listed shares on the Oslo Stock Exchange, consisting 53 firms (per 01.12.2013) that accounts for close to 1/4 of the total number of firms listed on the exchange. These firms also accounts for slightly less than 90% of the total market cap (per 01.12.2013). The stocks on the OSEBX-index are the most liquid stocks at the exchange, an makes us able to filter out some of the smaller companies with less media coverage, while still looking at nine tenths of the market cap on the exchange, giving a relatively realistic picture of the firms listed on OSE.

To identify news regarding ESG-related issues, we perform a search in Atekst using the company’s names as keywords. For each company, we went through the whole period looking for ESG-related news about the company. We then read each article to ensure that it is indeed about ESG-related corporate behavior and criticism of such, and classify it as either an environmental, social or governmental event.

To obtain our final dataset, we apply standard data filters. Specifically, articles are excluded in the following cases:

1) The company is not included in the OSEBX
2) Other significant activities (e.g., leadership changes, earnings announcements, mergers etc.) are mentioned in the same article (see McWilliams & Siegel, 1997)
3) No stock market information is available during the estimation period.

These criteria leave us with a sample of 57 events of corporate news regarding ESG-issues, divided between 33 firms. 17 of the firms participate in the UN Global Compact, while the remaining 16 do not. 10 of the events are considered
as environmental events, 17 as governance events, and 30 as social events. Most of the companies experience one event, but one company experience as many as six events within our 6-year period.

Chapter 7: Results
In the following we will present the results of our study. We will focus mainly on the (-3,3) event window, and in addition to analyzing the whole sample we will also have a look at sub-groups examining each of the three ESG- areas, as well as comparing firms and events from UN Global Compact participants with non-participants.

Initially, we look at how the nominal return of stocks reacted to each event to see if we can get an indication of what to expect:

<table>
<thead>
<tr>
<th>EVENT DAY MARKET REACTION - NOMINAL RETURNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
</tr>
<tr>
<td>Whole sample</td>
</tr>
<tr>
<td>Environmental</td>
</tr>
<tr>
<td>Social</td>
</tr>
<tr>
<td>Governance</td>
</tr>
</tbody>
</table>

0 is here defined by +/- 0.5%

Table 1: Nominal returns on the event day

The average nominal return for all 57 samples is 0% at the event day. As we can see there are more companies dropping in value than increasing, but from this table the outcome seems rather random.

<table>
<thead>
<tr>
<th>EVENT DAY MARKET REACTION - ABNORMAL RETURNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
</tr>
<tr>
<td>Whole sample</td>
</tr>
<tr>
<td>Environmental</td>
</tr>
<tr>
<td>Social</td>
</tr>
<tr>
<td>Governance</td>
</tr>
</tbody>
</table>

0 is here defined by +/- 0.5%

Table 2: Abnormal returns on the event day
The table above shows the abnormal returns on the event day for all the events in our sample. As we can see there is still no clear, distinct positive or negative reaction, instead it still looks more or less random. Governance is the one that stands out, where almost 60% of the events show a negative abnormal return of more than 0.5% on the event day.

<table>
<thead>
<tr>
<th>MARKET REACTION CAR (-3,3)</th>
<th>Positive</th>
<th>0</th>
<th>Negative</th>
<th>Sum</th>
<th>CAAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole sample</td>
<td>14</td>
<td>15</td>
<td>28</td>
<td>57</td>
<td>-1.81%</td>
</tr>
<tr>
<td>Environmental</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>10</td>
<td>-0.57%</td>
</tr>
<tr>
<td>Social</td>
<td>6</td>
<td>8</td>
<td>16</td>
<td>30</td>
<td>-2.52%</td>
</tr>
<tr>
<td>Governance</td>
<td>5</td>
<td>4</td>
<td>8</td>
<td>17</td>
<td>-1.28%</td>
</tr>
</tbody>
</table>

0 is here defined by +/- 1%

*Table 3: Cumulative Abnormal Returns over the (-3,3) window*

The table above shows the market reaction after the 7-day (-3,3) window. Half of the events show a negative cumulative return of more than -1%. None of the three sub-groups distinguish themselves significantly from the others, as approximately half of the events in each sub-group exhibit negative return. The highest cumulative abnormal return in the sample was 11.2%, while the lowest was -17.9%. As this is numbers over a seven-day window, we include both some days before the event day due to leakage effect and some days after the event. All this contributes to increase the negative abnormal return compared to looking at the event day only, as further illustrated in the graph below.
Figure 1: Cumulative Average Abnormal Return over the (-3,3) window

The graph above shows the cumulative average abnormal returns from three days prior to the event to three days following the event day for the whole sample. These results are significant at the 1% level (P-value = 0.0033). We observe a negative trend starting already two days before the event day – a trend that continues through the event day and three days later. There are evidence of leakage here, but we must also be aware the fact that not all events are new and “surprising” events on the event day, but rather criticism of a subject being a hot topic in the media at the time around what we’ve chosen as event day. Still, it is interesting to see how the CAAR continues to drop every day throughout the event window.

Although there is a significant negative CAAR over the event window, there are still events exhibiting positive CAR in the event window. The figure below shows the distribution of CAR for all events.
We see that the returns are concentrated around zero, with a rather large negative tail. 33 of the events show a negative CAR over the event window.

ESG is a very wide term, and it covers three main sub-groups. We’ve analyzed the events further by looking at Environmental, Social and Governance events separately.

### 7.1 Environmental

Figure 3: CAAR for the Environmental events over the (-3,3) window
The graph for the environmental-related events shows no clear results. The CAAR is -0.57% for the (-3,3) window, and it is non-significant. The CAR for each event in the sub-group varies from 6.44% to -12.28%. The sub-group is rather small with only 10 events, and it is very difficult to say something adamant about these results. By extending the window two additional days, to (-3,5), the CAAR for the environmental events decreases to -1.14%. But the results are still not significant, neither for the CAAR nor the abnormal negative return on each of the two additional days. The Environmental sub-group is the smallest of the three, and it is difficult to get robust results from such a small sample. Nonetheless, we find it interesting to compare it with the other two sub-groups.

7.2 Social

![CAAR (-3,3) Social]

*Figure 4: CAAR for the Social events over the (-3,3) window*

The Social sub-group is larger than the two others, consisting of 30 events. The graph shows a negative trend through the window, ending at -2.52% three days after the event. These results are significant at the 1% level. Of the 30 events, 14 shows a negative CAR of at least -2%, while only 4 events exhibits a positive CAR of more than 2%.
7.3 Governance

![CAAR (-3,3) Governance](image)

*Figure 5: CAAR for the Governance events over the (-3,3) window*

The sub-group Governance consists of 17 events. The trend over the (-3,3) window is negative, cumulating in -1.28% over the total 7-day window. These results are not statistically significant (P-value = 0.1949), making the Social sub-group the only sub-group to stand out with significant results. It is still worth noting that all of the three sub-group shows, just as the whole sample, negative abnormal returns over the event window.

7.4 UN Global Compact

In our second hypothesis we will observe less negative returns on the events that happened to companies that are participants of the UN Global Compact initiative. These firms generally use more resources on ESG-engagements and reporting and we find it interesting to see if the market has a different perception of these firms, and thus treat news events regarding these firms differently than non-participants.

As of today, 17 of the 34 firms in this study are participants of the UN Global Compact. However, not all current participants were in the policy initiative at the time of an included event. By organizing our events, we find that 25 happened
after the company became a participant, while 32 happened to companies that are not participants, or before the company in question became a participant.

<table>
<thead>
<tr>
<th>UN Global Compact - Participant at event day</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># of events</td>
<td>CAAR</td>
<td>t-value</td>
</tr>
<tr>
<td>Participants</td>
<td>25</td>
<td>-1.36%</td>
</tr>
<tr>
<td>Non-participants</td>
<td>32</td>
<td>-2.17%</td>
</tr>
</tbody>
</table>

*Table 4: CAAR comparison of UN Global Compact participants at the time of event day*

Looking at the participating firms, we find an insignificant CAAR of -1.36% over the (-3,3) window. However, the CAAR for the non-participating firms is significant at the 1% level, accumulating to -2.17% in the same event window.

Finding that there are significantly worse returns for non-participants means that we have evidence to reject our second hypothesis. The market will react more negatively towards criticism of firms that are not participants of UN Global Compact, making the act of participating in the initiative a kind of insurance against a drop in market value in light of ESG criticism. The weakness with this is that we assume (on average) that the seriousness of all events in the two samples are the same. This might be an over-confident assumption, and a problem that depends on the size of the samples.

<table>
<thead>
<tr>
<th>UN Global Compact - Participants as of today</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># of events</td>
<td>CAAR</td>
<td>t-value</td>
</tr>
<tr>
<td>Participants</td>
<td>33</td>
<td>-1.49%</td>
</tr>
<tr>
<td>Non-participants</td>
<td>24</td>
<td>-2.25%</td>
</tr>
</tbody>
</table>

*Table 5: CAAR comparison of UN Global Compact participants as of today*

Companies that were not participating at the time of the event, but became participants later may at the time of the event have been a relatively “better” socially responsible firm than companies that’s not participants – given that they became a participant shortly later. Therefore, as a robustness test, we would like to look at the difference between events for companies that are participants as of today\(^24\) (April 2014) from events happening to non-participating firms. This also

\(^{24}\) [http://www.unglobalcompact.org/ParticipantsAndStakeholders/index.html](http://www.unglobalcompact.org/ParticipantsAndStakeholders/index.html)
means that we will be able to test again with two slightly different samples, giving more robust results when it comes to the assumption that the seriousness of the events in both samples are approximately averaged out. Dividing our sample again, we now find that 33 events happened to participating firms, while 24 did not. Again, the CAAR for the participating firms is insignificant, but negative: -1.49%. As in the other case, the CAAR for non-participants are still significant at the 1%-level, with CAAR being -2.25%. These results are consistent with the previous findings, and hence strengthen the support for rejecting our second hypothesis.

To summarize, we find significant negative cumulative average abnormal returns for the sample as a whole. Divided in to the three sub groups; environmental, social and governance, the tendency is still negative, although the social sub group is the only of the three with statistically significant results. Dividing our sample in to participants and non-participants in the UN Global Compact initiative, we find that there are significantly more negative abnormal returns for events happening to non-participating firms. This is true looking at events happening while the firm in question was a member, as well as if the firm became a participant later.

**Chapter 8: Robustness tests**

We have earlier outlined the rationale behind our focus on the (-3,3) window, which is mainly because our results suggests that there are some degree of leakage, or that the nature of the events are such that it’s natural to experience some stock price movements in the days leading up to the event. By presenting the results from different event windows, we will get a better understanding of how big this leakage effect is. Further, we will also test our results with standardized alpha and beta.
8.1 Sensitivity analysis

<table>
<thead>
<tr>
<th>SENSITIVITY ANALYSIS</th>
<th>(0,1)</th>
<th>(0,3)</th>
<th>(-1,1)</th>
<th>(-1,3)</th>
<th>(-10,10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAAR</td>
<td>-0.60%</td>
<td>-1.16%</td>
<td>-1.06%</td>
<td>*</td>
<td>-1.62%</td>
</tr>
</tbody>
</table>

***, ***, * indicate significance of 1%, 5% and 10% level

Table 6: CAAR of the whole sample – various event windows

As we can see, neither the (0,1) nor the (0,3) window are statistically significant but they are still negative, indicating that there is also a negative CAR in the days following the event, and not just leakage only.

As soon as we include one day prior to the event day, the results show higher significance. The 3-day (-1,1) window shows a CAAR of -1.06%, a result that is significant at the 10% level. Extracting the window to (-1,3) we observe a CAAR of -1.62% well within 5% significance level. These results are consistent with what we have found analyzing the (-3,3) window, namely that we experience a drop in the stock price in the last couple of days leading up to the event.

<table>
<thead>
<tr>
<th>SENSITIVITY ANALYSIS</th>
<th>(-3,0)</th>
<th>(-2,0)</th>
<th>(-1,0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAAR</td>
<td>-0.84%</td>
<td>-1.18%</td>
<td>** 0.64%</td>
</tr>
</tbody>
</table>

***, ***, * indicate significance of 1%, 5% and 10% level

Table 7: CAAR of the whole sample – various event windows

8.2 Standardization of parameters

In our initial analysis, we have used the OLS method on daily data to determine the alphas and betas of each stock in a 250 trading day estimation window. Daily data can carry substantial amount of noise, and there is a large difference in liquidity for the stocks analyzed. This can lead to debatable alpha- and beta-calculations. Some may also argue that a 250-day window can be a rather short estimation window given the volatility in the market, especially as some of our estimation is in the time of a global financial crisis. This suggests that a standardization of alpha and beta can give some additional insight to our research.
By standardizing the parameters, alphas are set to and betas are set equal to 1. Assuming that the stocks in the market are priced efficiently, one should expect an alpha of zero. Our results from the standardization are consistent with what we found in the base case.

<table>
<thead>
<tr>
<th>STANDARDIZED ALPHA AND BETA</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-3,3)</td>
</tr>
<tr>
<td>CAAR</td>
</tr>
</tbody>
</table>

*Table 8: CAAR over the (-3,3) with standardized parameters*

By plotting the standardized observations of CAAR over the base case observations, we see that the similarities are undeniable:

*Figure 6: Comparison of the base case CAAR and standardized CAAR over the (-3,3) window*

There is barely any difference, and we can conclude that the robustness test of standardizing alpha and beta strengthen our findings in the base case.

**Chapter 9: Limitations and proposals for future work**

An obvious area of criticism in our thesis is the subjective selection of ESG-events. As there is no clear definition of what an ESG-event is, our sample consists entirely of what we, after months of researching the topic, define as either an environmental, social or governance issue.
A limitation that originates from the nature of our study is the issue that not all events are completely unanticipated. As mentioned earlier, some events can be a specific article criticizing a specific company – even though the topic being criticized has had media focus in the period leading up to what we have decided as the event date. This makes it difficult to determine the full impact of the event and the market’s reaction to the criticism, as it may already have been, to some extent, priced in the stock in the previous days.

Another limitation with our study is the number of events analyzed. We would optimally like to see more than our 57 events, as it is a rather small sample, especially when divided into three sub-groups. This makes it difficult to say something about the difference between for example environmental and governance events. Still, we believe it is better to have fewer, but more obvious ESG-events rather than including several debatable events. Another issue that is important to keep in mind when doing ESG-research is the fact that the subject is still getting increased attention. There was a different perception of ESG in the beginning of 2008 than what it is today, and it will probably continue to change in the coming years. Further, we believe it could be interesting to look at not just Norwegian stocks, but perhaps Scandinavian. Sweden and Denmark are very similar to Norway both politically and socially, and we think that it is reasonable to believe that the perception of ESG is rather similar in all the Scandinavian countries.

Chapter 10: Conclusion

Our thesis has examined how the Norwegian stock market reacts to ESG-related criticism for listed companies. We have presented results showing that the market reacts negatively over a 7-day window to this kind of criticism. At average, a company exhibits a cumulative abnormal return of -1.81% over a window including three days prior and after the event day. A result that is statistically significant at the 1% level. However multiple firms in the sample show a neutral or positive CAR in the same window. 28 out of 57 events exhibit a negative CAR of at least -1%, while 14 events show a positive CAR of at least 1%.
We find strong evidence for some leakage in the closest days prior to the event, with a significant negative CAR in the (-2,0) window. However, the event day and the following days all exhibit – on average – a negative CAR. On the event day itself, 18 of the 57 events shows a negative abnormal return of at least -1%.

Dividing our total sample into three sub-groups consisting of environmental, social and governance events show evidence towards the market deeming social issues most important. Social events shows an average CAR of -2.52% over the (-3,3) window, a result that is significant at the 1% level. Both environmental and governance events also exhibit a negative CAR on average, but neither are statistically significant.

We find evidence showing that participation in the UN initiative Global Compact gives a kind of insurance against drop in market value after ESG-related news. Companies in our sample that were participants at the time of the event exhibits an insignificant average CAR of -1.36% over the (-3,3) window, while non-participants exhibit an average CAR of -2.17% over the same window, significant at the 1% level. Similar results are experienced when analyzing the events and dividing the companies by being participant today or non-participant, regardless of when the event happened.

As a final conclusion, our event study suggests that ESG-criticism can decrease market value, but considering our relatively small sample, it is difficult to draw strong, adamant conclusions.
Chapter 11: Bibliography


Oxford: Oxford University Press.


Chapter 12: Appendix

Exhibit 1: the events in our study

<table>
<thead>
<tr>
<th>Company</th>
<th>Date</th>
<th>Event class</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/F Gruppen</td>
<td>22.05.2012</td>
<td>Environmental</td>
<td>Reported for environmental crime</td>
</tr>
<tr>
<td>A/F Gruppen</td>
<td>20.04.2013</td>
<td>Social</td>
<td>Criticized for salary-practices for hired Portuguese workers under</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>construction of a hospital in Østfold.</td>
</tr>
<tr>
<td>Aker</td>
<td>02.04.2009</td>
<td>Governance</td>
<td>Questionable practices when acquiring multiple firms from Aker ASA</td>
</tr>
<tr>
<td>Aker Solutions</td>
<td>11.11.2013</td>
<td>Governance</td>
<td>Wayfarer-case</td>
</tr>
<tr>
<td>Aker Solutions</td>
<td>08.04.2008</td>
<td>Governance</td>
<td>Employees openly criticize executive compensation</td>
</tr>
<tr>
<td>Aker Solutions</td>
<td>02.04.2009</td>
<td>Governance</td>
<td>Questionable practices when acquiring multiple firms from Aker ASA</td>
</tr>
<tr>
<td>Aker Solutions</td>
<td>26.06.2010</td>
<td>Governance</td>
<td>Criticized in Dagens Næringsliv in regards to appointment of new CEO</td>
</tr>
<tr>
<td>Aker Solutions</td>
<td>11.11.2013</td>
<td>Governance</td>
<td>Wayfarer-case</td>
</tr>
<tr>
<td>Bonor Pharma</td>
<td>01.06.2011</td>
<td>Governance</td>
<td>Six persons, including employees, reported for insider trading</td>
</tr>
<tr>
<td>Cermak</td>
<td>14.01.2008</td>
<td>Social</td>
<td>Criticized for working conditions at their plant in Chile</td>
</tr>
<tr>
<td>Cermak</td>
<td>19.06.2009</td>
<td>Social</td>
<td>Fined for firing pregnant woman</td>
</tr>
<tr>
<td>Cermak</td>
<td>10.04.2010</td>
<td>Social</td>
<td>Criticized for unethical import of goods from Africa</td>
</tr>
<tr>
<td>Cermak</td>
<td>27.07.2013</td>
<td>Governance</td>
<td>The Norwegian Storting criticized the company’s executive compensation</td>
</tr>
<tr>
<td>DNB</td>
<td>01.03.2008</td>
<td>Social</td>
<td>Criticized for unethical investments</td>
</tr>
<tr>
<td>DNB</td>
<td>30.01.2012</td>
<td>Social</td>
<td>The Norwegian Data Protection Authority warns about DNB’s surveillance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>of their own employees</td>
</tr>
<tr>
<td>Eltek</td>
<td>31.01.2008</td>
<td>Governance</td>
<td>Executive charged with insider trading</td>
</tr>
<tr>
<td>Fred. Olsen Energy</td>
<td>28.08.2008</td>
<td>Governance</td>
<td>Criticized for not having a nomination committee in the boardroom</td>
</tr>
<tr>
<td>Fred. Olsen Energy</td>
<td>21.10.2011</td>
<td>Environmental</td>
<td>News report highlighting how Fred. Olsen is among the Nordic countries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>when it comes to environmental reporting</td>
</tr>
<tr>
<td>Gjensidige Forsikring</td>
<td>20.06.2013</td>
<td>Social</td>
<td>The Norwegian Data Protection Authority criticized Gjensidige for</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>surveillance and espionage of customers</td>
</tr>
<tr>
<td>Golden Ocean Group</td>
<td>29.10.2009</td>
<td>Environmental</td>
<td>Criticized by KLP for being one of Norway’s worst companies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>regarding environmental reporting</td>
</tr>
<tr>
<td>Golden Ocean Group</td>
<td>21.10.2011</td>
<td>Environmental</td>
<td>Criticized for refusing to report environmental issues</td>
</tr>
<tr>
<td>Kongberg Automotive</td>
<td>18.04.2012</td>
<td>Governance</td>
<td>Criticized for bad corporate governance, especially the lack of</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>independence in the boardroom</td>
</tr>
<tr>
<td>Kongberg Automotive</td>
<td>18.06.2008</td>
<td>Social</td>
<td>Taken to court in the USA after firing employees at a plant in Ohio</td>
</tr>
<tr>
<td>Kongberg Gruppen</td>
<td>02.09.2010</td>
<td>Social</td>
<td>Human Rights Watch with new criticism, including the aforementioned</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>case.</td>
</tr>
<tr>
<td>Løsøy Seafood Group</td>
<td>02.05.2012</td>
<td>Environmental</td>
<td>Criticized for not having a sustainable production of salmon.</td>
</tr>
<tr>
<td>Marine Harvest</td>
<td>07.06.2010</td>
<td>Social</td>
<td>Accused for corruption in Chile</td>
</tr>
<tr>
<td>Marine Harvest</td>
<td>27.06.2012</td>
<td>Environmental</td>
<td>The Norwegian Food Safety Authorities with criticism of multiple</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Norwegian plants</td>
</tr>
<tr>
<td>Norsk Hydro</td>
<td>11.04.2010</td>
<td>Social</td>
<td>Criticized for working conditions and greenhouse gas emissions at a</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>new plant in Qatar</td>
</tr>
<tr>
<td>Norwegian Air Shuttle</td>
<td>13.12.2012</td>
<td>Social</td>
<td>Anonymus letter from an employee with strong critique of the company’s</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>practices</td>
</tr>
<tr>
<td>Norwegian Air Shuttle</td>
<td>12.11.2013</td>
<td>Social</td>
<td>The Civil Aviation Authority with criticism regarding health,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>environment and safety</td>
</tr>
<tr>
<td>Ofjell</td>
<td>13.09.2008</td>
<td>Environmental</td>
<td>Criticism for dumping old ships on beaches in Bangladesh</td>
</tr>
<tr>
<td>Olav Thon Eiendomsselskap</td>
<td>28.08.2008</td>
<td>Governance</td>
<td>Criticized for not having a nomination committee in the boardroom</td>
</tr>
<tr>
<td>Orka</td>
<td>09.04.2008</td>
<td>Social</td>
<td>Critical of practices regarding executive compensation</td>
</tr>
<tr>
<td>REC</td>
<td>24.10.2013</td>
<td>Governance</td>
<td>Criticized for the practices around the sale of REC Solar</td>
</tr>
<tr>
<td>Salmar</td>
<td>15.02.2011</td>
<td>Environmental</td>
<td>175 000 salmon escapes. WWF urged a boycott of the company</td>
</tr>
<tr>
<td>SAG Ali</td>
<td>20.05.2006</td>
<td>Social</td>
<td>Sentenced to pay MNOK 140 to Norwegian after industry espionage</td>
</tr>
<tr>
<td>Seadrill</td>
<td>07.01.2008</td>
<td>Social</td>
<td>Sued for about MNOK 700 an Indian company. The case</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>includes a police report for alleged kidnapping of an employed</td>
</tr>
<tr>
<td>Seadrill</td>
<td>18.04.2012</td>
<td>Governance</td>
<td>Criticized for lack of diversity on the board.</td>
</tr>
<tr>
<td>Storebrand</td>
<td>26.06.2008</td>
<td>Social</td>
<td>The Cave-case</td>
</tr>
<tr>
<td>StatOil</td>
<td>03.07.2008</td>
<td>Social</td>
<td>Sued for corruption in Kazakhstan</td>
</tr>
<tr>
<td>StatOil</td>
<td>11.02.2011</td>
<td>Environmental</td>
<td>Sued by the authorities in Alberta for environmental crimes in</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>connection to their oil sand</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>maintenance of their platforms, resulting in huge safety risks for</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>employees</td>
</tr>
<tr>
<td>StatOil</td>
<td>07.08.2012</td>
<td>Social</td>
<td>Fined for insider trading after an oil-find in the North Sea.</td>
</tr>
<tr>
<td>StatOil</td>
<td>12.09.2013</td>
<td>Social</td>
<td>Criticism regarding the lack of safety at their plants abroad</td>
</tr>
<tr>
<td>StatOil</td>
<td>17.12.2013</td>
<td>Environmental</td>
<td>Reported by Bellona for dumping chemicals in the sea</td>
</tr>
<tr>
<td>Telenor</td>
<td>14.05.2008</td>
<td>Social</td>
<td>Child labor and death at a plant in Bangladesh</td>
</tr>
<tr>
<td>TGS</td>
<td>04.06.2012</td>
<td>Social</td>
<td>Corruption in Nigeria</td>
</tr>
<tr>
<td>Torma</td>
<td>09.09.2010</td>
<td>Social</td>
<td>Sentenced to pay a fine of MNOK 200 after exploiting their</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dominating position in the market</td>
</tr>
<tr>
<td>Veidekke</td>
<td>25.01.2011</td>
<td>Social</td>
<td>Admitted serious price-cooperation with competitors</td>
</tr>
<tr>
<td>Veidekke</td>
<td>23.11.2013</td>
<td>Social</td>
<td>Criticism regarding lack of safety after a deadly accident</td>
</tr>
<tr>
<td>Wilh. Wilhelmson</td>
<td>07.09.2012</td>
<td>Social</td>
<td>Investigated by the competition authorities in multiple countries</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>after suspicion of price-fixing agreements</td>
</tr>
<tr>
<td>Yara International</td>
<td>12.05.2011</td>
<td>Social</td>
<td>Charged with corruption</td>
</tr>
<tr>
<td>Yara International</td>
<td>18.05.2012</td>
<td>Social</td>
<td>Executives charged with corruption</td>
</tr>
<tr>
<td>Yara International</td>
<td>12.07.2012</td>
<td>Governance</td>
<td>Criticized for compensation to executives charged with corruption</td>
</tr>
<tr>
<td>Yara International</td>
<td>26.03.2013</td>
<td>Social</td>
<td>Corruption charges in Libya</td>
</tr>
</tbody>
</table>
Exhibit 2: The ten principles of the UNGC

The UN Global Compact's ten principles in the areas of human rights, labor, the environment and anti-corruption enjoy universal consensus and are derived from:

- The Universal Declaration of Human Rights
- The International Labour Organization’s Declaration on Fundamental Principles and Rights at Work
- The Rio Declaration on Environment and Development
- The United Nations Convention Against Corruption
- The UN Global Compact asks companies to embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labour standards, the environment and anti-corruption:

Human Rights

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

Labor

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

Environment

- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

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

Web-address: http://www.unglobalcompact.org/abouttheGc/TheTenprinciples/index.html
Preliminary Master Thesis Report
at
BI Norwegian Business School

- The relationship between corporate social performance and corporate financial performance: An event study of firms listed on OSEBX -
Abstract

In this thesis we seek to find out if news regarding environmental, social and governance issues affecting firms listed on the OSEBX index have an impact on the share price of the companies and therefore leads to abnormal returns. By conducting an event study, we investigate whether firms that focus more on CSR activities have a kind of insurance against volatility in their share price in light of negative media coverage.
Introduction to research topic

Corporate social responsibility (CSR) is a term used for an organization’s responsibility and its effects on social welfare and the environment. The term is normally used for organizations that do more than required by law and regulators. CSR activities range from reducing an organization’s carbon footprint and other environmental issues, to labor ethics and straight out philanthropy. A widely used definition of social responsibility comes from F.R. Andrews’ 1971 paper “The Concept of Corporate Strategy”:

*By social responsibility we mean the intelligent and objective concern for the welfare of society that restrains individual and corporate behavior from ultimately destructive activities, no matter how immediately profitable and leads to the direction of positive contributions to human betterment, variously as the latter may be defined.*

Over the last decades, we have seen a huge development of socially responsible investments, and CSR issues are becoming more important for both companies and their stakeholders. This is reflected in the amount of socially responsible investment funds that have emerged in the last decade, as well as multiple socially responsible indices like the Domini 400 social index. Some firms are still resisting this trend, as some managers argue that investments in social responsibility are inconsistent with the fundamental goal of capitalism; to maximize profits.

It is being conducted an increasing amount of research in the area. The majority of research finds a positive correlation between corporate social responsibility and corporate financial performance, as shown by the meta-study of Orlinsky et. al. (2003). However, some researchers have also found a negative correlation, or a neutral impact like McWilliams and Siegel (2000, 2001).

The research of Albuquerque et. al. (2013) argues that more CSR activity in a company is an investment in customer loyalty, and therefore decreases the systematic risk a company faces, giving the company a lower cost of equity. Pava and Krausz (1996) finds that firms which have been perceived as having met
CSR-criteria have generally shown to have financial performance at least on par, if not better, than other firms. If this is the reality, one can easily argue that companies should strive for being better corporate citizens.

CSR may also have more indirect impacts on financial performance. Godfrey (2005) argues that corporate philanthropy can generate positive moral capital among communities and stakeholders. This moral capital can then provide shareholders with insurance-like protection for a firm’s intangible assets, which contributes to shareholders' wealth.

We will now present our motivation for researching this topic, followed by a review of literature on the subject, and research objectives and further progress.

**Motivation**

Over the last decades, CSR-issues have attracted increasing attention from media as well as from the public opinion. Negative CRS-news has a number of times affected companies severely negatively, and the general expectations to the CSR-commitment of companies are growing. Over the last decades, international studies have mostly found a positive correlation between extensive CSR engagements and market outperformance. Still, after more than 30 years, no common consensus has yet been found, and some researchers still find evidence of mixed or even negative correlations between the two. We are looking to contribute to this research by looking at the Norwegian market, a market that so far hasn’t seen much research in this area. Is it likely to find a similar link in Norway as observed internationally and thus give companies an incentive to use more resources on these matters? If CRS-issues proves to have an impact on market values, it may be an important factor for both the corporations themselves as well as investors and analysts, making them taking CSR-issues into consideration in their analysis to a greater extent than today.

**Literature review**

Literature concerning the impact of CSR on financial performance goes decades back in time. Already in the seventies, Holmes (1976) concluded that managers
did not only start to look at social involvement as merely desirable - but necessary - even if it means a reduction of short run profits or no returns in the long run.

An important aspect when it comes to how CSR impacts corporate financial performance (CFP) is how different stakeholders perceives different kinds of CSR to be important (Akpinar et. al. 2008; Choi et. al. 2010). By creating a stakeholder-weighted CSR measure, they tried to counter what they believed were some of the reasons for inconclusive results from earlier research. Both studies found that CSR has a positive impact on CFP when stakeholders are prioritized. Still, there are studies that argue against this positive impact. McWilliams and Siegel (2000, 2001) conclude that there is a neutral relationship when the model is properly specified and includes R&D- and advertising intensity. This sums up the reason behind the inconclusive results from the literature, namely the seemingly infinite ways to alter and improve the economical models used.

It seems however to be a common consensus that CSR lowers the cost of capital for a company. This is shown by Albuquerque, Durnev and Koskinen (2013); Cajias, Fuerst and Bienert (2012); El Ghoul et. al. (2011). Cajias et. al. also underlines the importance of a good CSR rating for a company. They argue that it may give a company access to additional resources, ranging from the growing ethical investment industry to the part of the labor force for which CSR performance matters when choosing an employer. All these are relatively new elements a company should consider when defining their CSR strategy.

International research on this topic often measure the impact of CSR on financial performance by looking at a firm’s CSR rating from companies like MSCI (KLD score) or if a company is listed on a socially responsible-index or not. Due to lack of both rating agencies and such indices in the Norwegian market, our research will differ a bit from the majority of international research in the sense that we will be conducting an event study based on both positive and negative CSR related news in nationwide media.

Norwegian firms are in an international setting generally good when it comes to CSR. A study done by Liang and Renneboog (2013) concludes that the legal
origins in the country of the firm are the main predictors of CSR activities. They show that the Scandinavian legal origin assumes most CSR, and outperforms all other legal origins in most of the environmental, social and governance areas.

We expect that our thesis will in some sense be similar to the work of Bechetti et al. (2009). They conducted an event study with the intention of observing abnormal returns on a stock after the stock’s addition or deletion from the Domini 400 social index. The study showed that a stock that is dropped from the index would experience a drop in share price in the proximity of the event date. The drop is, however, reabsorbed in a period ranging between 11 and 24 days after the event date. This gives us a good reason to test various time windows around the date in our study. Further, the study showed that a negative event i.e. getting dropped from the index affects the stock more than a positive event i.e. added to the index. In the case of addition, the cumulative abnormal returns remain quite stable around zero before and after the event date.

**Research questions and objectives**

Our main goal with the research is to find tangible results about whether or not we may expect abnormal returns on a stock after news concerning a CSR issue. If we find any noticeable movements, will it happen immediately? And for how long will it last? One of the advantages with an event study is the possibility to test different time windows, so we observe the possibility of changes being reabsorbed after the event, and perhaps anticipated before the event.

We will also try to answer if a firm that is considered a good corporate citizen will be protected compared to its peers when it comes to performance after a negative news event concerning the company.

This makes our main hypotheses in the thesis look like this:

**Will a stock experience abnormal returns in light of negative publicity concerning a CSR issue in nationwide media?**

Our hypothesis is:
$H_0$: We will experience abnormal returns after a negative CSR event.

$H_1$: We will not experience abnormal returns after a negative CSR event.

Will a stock experience abnormal returns in light of positive publicity concerning a CSR issue in nationwide media?
Our hypothesis is:

$H_0$: We will experience abnormal returns after a positive CSR event.

$H_1$: We will not experience abnormal returns after a positive CSR event.

The last question we will ask, is if there is any proof that companies that tries to be, and are perceived as good corporate citizens, have some sort of insurance against volatility in the share price after a negative event. We will compare companies that regularly report its CSR activities to those that do not. While this is not necessarily a measure of how good a company’s CSR engagement is, it gives us the opportunity to divide between firms that openly communicates its CSR work and the more closed and quiet companies. Due to the lack of CSR rating agencies and socially responsible indices in Norway, we argue that this is a good measure to decide if a company is a good corporate citizen or not.

Will a firm that openly and regularly report its CSR activities and engagements (a “good CSR firm”) have an insurance against negative CSR news, making the share price less volatile after CSR related criticism?
Our hypothesis is:

$H_0$: A good CSR firm will experience less volatility in the share price in light of negative CSR related news.

$H_1$: A good CSR firm will not experience less volatility in the share price in light of negative CSR related news.
Further we are interested in investigating any possible differences between good and bad CSR firms in light of positive CSR related news.

**Will a firm that does not openly and regularly report its CSR activities and engagements (a “bad CSR firm”) experience less volatility after positive CSR-related events?**

Our hypothesis is:

\[ H_0: \text{A bad CSR firm will experience less volatility in the share price in light of positive CSR related news.} \]

\[ H_1: \text{A bad CSR firm will not experience less volatility in the share price in light of positive CSR related news.} \]

Finally, we will investigate whether potential short-term fluctuations resulting from positive or negative news gets absorbed over time.

**Will abnormal short-term shocks be absorbed in medium and/or long term time intervals?**

\[ H_0: \text{A positive or negative shock will be absorbed over time.} \]

\[ H_1: \text{A positive or negative shock will not be absorbed over time.} \]

**OSEBX**

This thesis will analyze firms listed in Norway through the investigation of the OSEBX index on the Oslo Stock Exchange (OSE). OSE serves as the main market for trading in the shares of Norwegian companies. In addition to a wide range of domestic companies, the OSE attracts a lot of international companies within petroleum, shipping and other related areas. The OSEBX, or the Oslo Stock Exchange Benchmark Index, is an investable index that contains a representative sample of all listed shares on the Oslo Stock Exchange, consisting of 53 firms (per 01.12.2013) that accounts for close to 1/4 of the total number of
firms listed on the exchange. These firms also account for slightly less than 90% of the total market cap (per 01.12.2013). We use OSEBX to filter out some of the smaller companies with less media coverage, while still looking at nine tenths of the market cap on the exchange, giving a relatively realistic picture of the firms listed on OSE.

**Methodology**

This thesis uses an event study as its main methodology. An event study is a statistical method to assess the impact of an event on the value of a firm. The basic idea is to find the abnormal return attributable to the event being studied by adjusting for the return that stems from the price fluctuation of the market as a whole. As the event methodology can be used to elicit the effects of any type of event on the direction and magnitude of stock price changes, it is very versatile. Event studies are thus common to various research areas, such as accounting and finance, management, economics, marketing, information technology, law, and political science. One aspect often used to structure the overall body of event studies is the breadth of the studied event types. On the one hand, there is research investigating the stock market responses to economy-wide events (i.e., market shocks, such as regulatory changes, or catastrophic events). On the other hand, event studies are used to investigate the stock market responses to corporate events, such as mergers and acquisitions, earnings announcements, debt or equity issues, corporate reorganizations, investment decisions and corporate social responsibility.

In our study we are investigating whether news regarding CSR leads to abnormal returns. The thesis will consider events featured in Norwegian nationwide newspapers concerning CSR issues over the time period 2008-2012. By looking at stock returns in the years leading up to these events, we can calculate the expected return of the stock by using a multifactor model. A study by Von Arx and Ziegler (2008) argues that a multifactor model have a higher explanatory power for stock returns than a simple CAPM model. Næs, Skjeltorp and Ødegaard (2009) have designed a three-factor model that provides a reasonable fit for the cross-section of stock returns on the OSE. The model consists of a market, a size and a liquidity
factor. At this point, we have not decided what kind of model we will use. We aim to use either the model designed by Næs, Skjæltorp and Ødegaard or the Fama and French 3-factor model.

Further, according to Fama (1998) the two most used methods are the CAR- and the BHAR-methods. Fama consider CAR as preferable relative to the BHAR partly because of the removal of model problems producing spurious abnormal returns. The CAR method is thoroughly explained by Dodd & Warner (1983) and Hite & Owens (1983), and we will briefly outline the main concepts and equations and their interpretation:

1) \[ \text{AR}_{it} = R_{it} - (R_{ft} + (R_{mt} - R_{ft}) \times \beta_{im}) \]

AR is the abnormal return/predicted error
R_{it} is the daily return of the stock at day t
R_{mt} is the daily return of the market/index used as measure, on day t
R_{ft} is the risk free rate
\beta_{im} is the growth of the slope of the regression

A common expression for beta is

\[ \beta = \frac{\text{Cov}(r_a, r_b)}{\text{Var}(r_b)} \]

We find the Cumulative Abnormal Return by using the following equation

\[ \text{CAR}_i = \sum_{t=1}^{T} \text{AR}_{it} \]

2) where we add together the abnormal returns from the first period based on the selection of periods in the calculations, to the last day used in the calculations.

We then calculate the Mean Cumulative Abnormal Return which is done by dividing the CAR from (2), with the number of securities, giving the following expression:
According to Hite & Owers (1983), the expected MCAR should be zero in the absence of abnormal return.

Further, we have made selection regarding the length of the time windows around the events studied. We will run various tests to look at three different time windows, from a small window 5 days before and after the event, to bigger windows of +/-30 and +/-90 days. We operate with different screening windows to identify potential differences between short term and long term fluctuations. The time frame for the short term screening window should be able to capture the potential abnormal returns around announcement date, while the medium and long term time frames must be able to capture the potential abnormal returns in the aftermath of the announcement.

CSR-related news can be both positive and negative, hence affect the financial value of companies in both positive and negative ways. An inconclusive list of categories of events are listed under, all concerns that can tend positively as well as negatively in terms of a news story.

*Environmental concerns*

- Climate change
- Hazardous waste
- Nuclear energy
- Sustainability

*Social concerns*

- Diversity
- Human rights
- Consumer protection
- Sin stocks
- Animal welfare
Corporate concerns

- Management structure
- Employee relations
- Executive compensation

Responsible investment

- Investment strategies
- Institutional investors
- Principles for Responsible Investment

Disclosure and regulation

Data collection

In order to conduct the empirical analysis and tests we are going to use several data sets. First of all, we need the share prices for the companies listed on OSEBX through a time period of five years, from 2008 until 2012. The financial data will be collected from Datastream, available at the Norwegian Business School, BI. We will use the Atekst database to find the news articles describing events.

Further thesis progression

After the hand-in of this preliminary report, we will endeavor following the plan described below. The purpose is to make our work with the master thesis structured and efficient. The list is consisting of several sub-goals, making us able to focus on each part of the thesis in a chronological way.

January:

15th: deadline preliminary report
16th - 31st: improve knowledge regarding technical methodology and measuring

February:

Finalize theory, complete collection and structuration of necessary data, and perform descriptive statistics.
March:
Analysis and testing of data following the method described above step by step. Potential replacements and/or collection of additional data. Discuss observations with supervisor, and adjust data accordingly. Interpret and write about findings.

April:
Start editing the final thesis, rewrite the introduction and abstract, and add potential supplements and/or perform changes.

May:
Hand in first draft.

June:
Hand in the master thesis.
Reference list


Cajias, Fuerst and Bienert, 2012. Can Investing in Corporate Social Responsibility Lower a Company’s Cost of Capital?


