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INDUSTRIAL ECONOMICS

Proof That Voluntary Corporate Responsibility Investments Does Not Affect Financial Returns When in the News

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Abstract

This paper presents the results of financial return analyses after 133 articles regarding social and environmental news were published in Svenska Dagbladet. During the period from 2006 to 2015 Swedish Large Cap companies were analysed after the news announcements, using the event study methodology. The study shows that abnormal returns were significant for only three events at the announcement date. A regression analysis shows that firms issuing ESG reports do not significantly have distinct returns from non-issuing firms when in the news. The study shows that firms producing consumer goods or services experienced 0.5 percent significant return differences compared to other firms in the pre-announcement period (two days). Findings also suggest that there are no significant differences between different industries when in the news regarding social and environmental aspects. An analysis of means shows no implications of differences regarding articles of: equality, employees, society or environment. This study concludes that voluntary corporate responsibility acts are not premiered when a firm is in the news regarding social or environmental events.

Sammanfattning

Denna studie presenterar resultatet från analyser av finansiell avkastning efter det att 133 artiklar gällande sociala och miljömässiga faktorer publicerats i Svenska Dagbladet. Svenska Large Cap-företag analyserades under perioden 2006 - 2015 med eventstudiemetoden. Studien visar att dessa artiklar endast genererar signifikant abnormal avkastning vid eventdagen i tre fall. En regressionsanalys visar att bolag som publicerar ESG-rapporter inte visar på en signifikant avkastningsskillnad jämfört med icke-publicerade bolag till följd av dessa event. Studien visar även att företag som producerar konsumentprodukter och konsumenttjänster uppvisar 0,5 procent signifikant skillnad i avkastning under perioden före artikelpublicering (två dagar). Resultaten av studien visar även att det inte finns några signifikanta skillnader mellan industrier efter det att nyheter om sociala eller miljömässiga omständigheter publicerats. En analys av skillnader i medelvärde visar inga implikationer på att investerare värderar nyheter av typerna jämställdhet, personal, samhälle och miljö på skilda sätt. Studien konkluderar att frivilliga investeringar i företagsansvar inte premieras när företaget belyses i nyheter gällande sociala och miljömässiga faktorer.

Preface

I would like to direct my gratitude to Emil Numminen for providing valuable knowledge and insights regarding the directions of the research.

I also want to thank Henrik Linde and Mikael Westling for critically reviewing the thesis. Their insight and feedback have undoubtedly improved the quality of the thesis.

Nomenclature

AAR Average Abnormal Return

AD Announcement Date

API Application Programming Interface

AR Abnormal Return

CAAR Cumulative Average Abnormal Return

CAR Cumulative Abnormal Return

ESG Environmental, Social, Governance

FLS First Line Supplier

ISO International Standardisation Organisation

OLS Ordinary Least Square

Contents

- 1 Introduction** **1**
- 2 Literature Review** **3**
 - 2.1 Investor Reactions to Corporate Responsibility Announcements 3
 - 2.2 The Four Pillars of Media 5
 - 2.3 Portfolio Selection Under Conditions of Risk 7
 - 2.4 Random Walks in Efficient Markets 9
 - 2.5 Agents of the Corporation: Value Maximization versus Stakeholder Theory . . 12
 - 2.6 More than Rationality in the Stock Market 14
- 3 Research Purpose and Hypothesis Development** **18**
- 4 Method** **22**
 - 4.1 Event Study 22
 - 4.2 Event Study Procedure 22
 - 4.2.1 Abnormal Returns 23
 - 4.2.2 Aggregation of Abnormal Returns 23
 - 4.2.3 Magnitude of Abnormal Returns 23
 - 4.3 The Market Model 24
 - 4.4 Models Used in the Event Study 24
 - 4.5 Regressions Models 25
- 5 Data and Descriptive Statistics** **27**
- 6 Results** **31**
 - 6.1 Hypotheses Testing 31
 - 6.1.1 ESG report regression 31
 - 6.1.2 Robustness check ESG report regression 32
 - 6.1.3 Consumer goods and services supplier regression 33
 - 6.1.4 Robustness check consumer goods and services supplier regression . . 33
 - 6.1.5 Industry regression 34
 - 6.1.6 Robustness check industry regression 34
 - 6.2 Analysis of Variances for Event Types 35
 - 6.2.1 Post-Hoc Analysis of Variances for Event Types 35
- 7 Discussion** **36**
 - 7.1 Some Nascent Remarks 36
 - 7.2 Implication for Managers and Investors 37
- 8 Conclusion** **39**
- 9 Recommendations and Future Work** **40**
- A Industry Regression Results** **45**
- B Industry Controlled for Confounding** **46**
- C Post-Hoc** **47**

D	ESG reports during the sample period	48
E	Articles published in SvD	49
F	Total media coverage for sample firms	52

List of Tables

1	Final sample and event representations	28
2	Keywords	29
3	Sample Firms ESG reports	29
4	Sample industry representation	30
5	Abnormal Returns	30
6	CAAR Returns	31
7	ESG Report	32
8	ESG Report and Confounding	32
9	FLS	33
10	FLS and Confounding	34
11	ANOVA	35
12	Industry independent	45
13	Industry Controlled for Confounding	46
14	Announcement Date Post-Hoc ANOVA	47
15	ESG Reports	48
16	Employees	49
17	Environment	49
18	Equality	50
19	Society	51
20	SvD coverage during 2006 - 2015	52

List of Figures

1	Capital asset pricing	8
2	Portfolio Diversification	9
3	A Random Walk of +1/-1 steps	11
4	Efficient Market Hypothesis	11
5	Efficient Market Hypothesis	31

1 Introduction

This paper presents the results of financial return analyses after firms are in the news regarding social and environmental content. During the period from 2006 to 2015 the effect of 133 news articles published in Svenska Dagbladet were evaluated for Swedish Large Cap firms. This paper also relates voluntary corporate responsibility acts to financial returns, effects of consumer proximity and industry effects. Where the first compares returns for firms issuing environmental, social and governance (ESG) reports to non-issuing firms when the firm is in the news, to show if such reports affect returns. The second controls if investors are more informed about the policy of firms close to the consumer, revealing if information is more effectively dispersed for such companies. Lastly an industry control is conducted in order to draw upon distinctions between industries.

The contents of this paper relates corporate repressibility to managerial decisions and the reception of investors. The definition of corporate responsibility in the last four decades has in many aspects taken a straight-line direction. In the 1970s M. Friedman (1970) was among the first economists to present a critical view regarding social responsibilities of a business. M. Friedman (1970) in agreement with Jensen (2002) argues that there is only one responsibility of a corporation and that is to effectively use resources in activities that increase its profits. M. Friedman (1970) argue that managers are agents of the shareholders and therefore exist only for the good of shareholders. Freeman (1984) maintain that a firm's objective must contain the interests of the stakeholders. Stakeholders include, among shareholders, employees, customers, suppliers, community organizations, and consist of those individuals or organizations that can influence the outcomes of the firm in question.

Freeman (1984) thus implies that there could be an implication for firms to engage in social as well as environmental activities to further satisfy the needs of stakeholders. In this study corporate responsibility is defined as a phenomena leaning towards the ideas of Freeman (1984). The used definition is that imposed by McWilliams et al. (2006) stating that corporate responsibility is when firms go beyond what they are required to do by law and engage in actions that could improve both social and environmental aspects. The findings of related studies have suggested that corporate responsibility announcements do not generate significant return differences (Doh et al., 2010; Consolandi et al., 2009; Bauer et al., 2005). In line with this previous research, this study assumes a critical view of the corporate responsibility approach from a financial perspective.

Corporate responsibility has grown together with an increased influence from non-governmental organizations (Guay et al., 2004). Corporate regulation have also been a driving factor. For instance, the Sarbanes-Oxley Act of 2002 regulated and generated board changes in affected corporations (Coville, 2011). In later years, firms have increased their reporting on ESG matters (Fitzgerald, 2007). King & Bartels (2015) report that more companies report their ESG, but many lack quality and consistency which makes one company's report hard to compare to another.

Media as an information intermediary generate sentiment and guide investor decisions (Chen et al., 2013). There are many ways to communicate social and environmental events. In this study news media is used as the communicator. As a trend or phenomena rises, media is more prone to report on the matter. The stakeholder approach has become widely adopted because intangi-

ble assets such as reputation has become of greater importance in the modern economy when valuing a company (Robinson et al., 2011). This has caused many companies to incorporate social and environmental aspects into their business model (Nakai et al., 2013). Questioning whether these actions generate profits for firms can be answered from several directions. A 2014 Nielsen global survey revealed that more than half of the surveyed state that they are willing to pay more for a product coming from a company that has engaged positively in social and environmental acts (Hale, 2016). This emergence of sustainable concern have gained the sturdiest interest among private assets holders, while professional investors have shown less interest. According to Hale (2016) it is emerging investors such as women and millennials that has become increasingly influential in the financial markets and will be a driving factor. The author also point at a 76 percent increase in social and environmentally framed assets over the years from 2012 to 2014. Both Martí-Ballester (2015) and Doh et al. (2010) point at increasing interest among investor for ethical investments. In the United States alone the total asset amount in socially screened fund portfolios has increased from 639 billion in 1995 to 2.71 trillion in 2007 (Doh et al., 2010).

To address this growing corporate phenomena a financial return analysis is performed. This study begins with narrating the findings of related studies on a general level. How corporate responsibility has been communicated and received by investors, and also how media impacts the financial markets. Following this theories of investors, markets and corporations are presented. The rest of the paper is dedicated to explaining the research purpose, the methodology used and the results attained from this study. Concluding the paper is done by discussing both implications for managers and investors and proposing directions for further research.

2 Literature Review

The two first sections of this chapter is related to the literature concerning investor responses to announcements of social and/or environmental information, and the literature concerning media and the stock market. This first part of the literature review narrates the current research and knowledge within the domain for social and environmental announcements, and the second part recites media's influence over investors and the stock market.

The following four sections of this chapter explains established financial theories. Beginning with portfolio selection and traditional market behavior theories. Continuing with with some corporate conflicts, Value Maximization Proposition versus Stakeholder Theory. The chapter is then closed with an illumination of the previous presented theories from a behavioral finance perspective.

2.1 Investor Reactions to Corporate Responsibility Announcements

This section explains both the character of social and environmental responsibility, how these have been communicated and how investors have anticipated announcements. On a timeline, it narrates how social and environmental communication have changed throughout the years. Beginning with human resource decisions, continuing with how indexes for social and environmental screened mutual funds have grown into indexes for individual stocks. The section also explains on a general level the incitements for companies to communicate these issues and how investors have reacted and can benefit towards them.

Some of the earliest documented responsibilities taken by companies was towards their own employees, beginning with labor rights. Researchers have investigated how investors react towards human resource decisions. For instance, Abowd et al. (1990) studied human resource announcements published in the Wall Street Journal during the period of 1980-1987. The results did not imply any significant price changes following the announcements (Abowd et al., 1990). Worrell et al. (1991) studied 179 layoff announcements during the period of 1979-1987 and found that investors reacted only towards the financial implications of the layoff and not the layoff itself. Their findings relates to those of Fama et al. (1969) who found that stock prices are likely to increase because of stock split announcements. In this case, the stock price did not increase as a response to the stock split itself, but the price increased as a result of investors having the notion that split announcements are likely to be followed by dividend announcements (Fama et al., 1969). The research performed in this era has been very concentrated towards specific occurrences. In later years social and environmental screened indexes has risen. Such indexes include for example the Dow Jones Sustainability Index (Consolandi et al., 2009) and the Financial Times Stock Exchange 4 Good (FTSE4Good) (Curran & Moran, 2007). These indexes display a wide range of criteria, which could make their impact harder to evaluate as compared to human resource decisions (Abowd et al., 1990). Jensen (2002) document that one can only optimize against one variable at a time, something that could impose these widespread index criteria to be hard for investors to evaluate.

Fowler & Hope (2007) note that most early research of social and environmental investments have been oriented towards social and environmental mutual funds. Geczy et al. (2005) con-

structured portfolios of mutual funds with social and environmental objectives, and compared those to portfolios constructed of regular mutual funds. Their findings suggest that the costs increase by having a large fraction of social and environmental funds in the portfolio. Fowler & Hope (2007) denote that social and environmental mutual funds could be a source of portfolio risk reduction because of diversification. Which in conjunction implies that social and environmental oriented investments could generate some risk reduction if not covering a too large fraction of the portfolio. Though these funds could have implications for risk-adjustment in portfolios, most research is consistent and suggest little evidence that there is a difference between risk-adjusted returns for regular, and social and environmental mutual funds (Fowler & Hope, 2007). Bauer et al. (2005) reviewed 103 German, UK and US ethical mutual funds and did not find any significant differences in risk-adjusted returns for the period 1990-2001. The reasons for social and environmental fund's risk reduction could be explained by the fact that they have anticipated for future regulation and/or violations. From a managerial perspective, findings suggest that there is a protective or insuring character of social and environmental investments and that these can be used to redeem poor performance and shield the company towards any upcoming negative events (Doh et al., 2010). As firms invest to protect themselves against any upcoming negative environmental or social events, investors are likely to increase their interest in such firms to reduce portfolio risk. Explaining the findings of Geczy et al. (2005), regarding costs and diversification, can be done using portfolio selection theory (Markowitz, 1952). Markowitz (1952) suggest that a high fraction of homogen securities increases risk and costs for the portfolio.

In the early period of social and environmental indexes was based on screened mutual funds. Fund managers then constructed portfolios based on their criteria. In later years, individual companies have been given methods that can serve them as a way of showing their superior performance in social and environmental aspects. For instance, Robinson et al. (2011) argue that many firms strive to communicate this by aiming for membership in social and sustainable oriented indexes. The results for membership announcements of these indexes generally supports little to no evidence that there is a performance difference for stocks included in the indexes. Doh et al. (2010) found that investor reactions were limited to firms that were deleted from the index, which suggests that removal was more powerfully valued by investors than additions to the index. On the contrary Nakai et al. (2013) found indications of positive reactions towards inclusions and no reactions towards exclusions. Findings by Consolandi et al. (2009) are in line with Doh et al. (2010) suggesting that investors seem to punish a deletion harder than they reward an inclusion. This asymmetric behavior can be explained by Prospect Theory (Kahneman & Tversky, 1979). Kahneman & Tversky (1979) propose in their progression of the expected utility theory that individuals demonstrate an asymmetrical valuation between gains and losses. Another explanation is presented by Consolandi et al. (2009) saying that the increasing interest for sustainability by investors cause stock prices to fairly reflect the value of sustainability in the stock price and thus a sudden announcement of negative sustainable information causes a price adjustment. Which is explained by the efficient markets hypothesis (Fama, 1970).

Even though investors have shown weak response towards these announcements there are still incentives for firms to communicate their social and environmental work. Nakai et al. (2013) found by studying social and sustainable index membership announcements and investor reactions during the period from 2003 - 2010 that investors' reactions generally were stronger in the later years. Which could be explained by Hale (2016) stating that emerging investors show an increased interest in social and environmental questions relative to traditional investors.

The anticipation for social and environmental aspects in investment decisions has evolved throughout the years. Beginning with increased responsibilities towards employees, corporations have adopted a wider perspective and now see value in communicating their work through inclusions in social and environmental oriented indexes. Beginning with indexes for social and environmental screened mutual funds, later indexes has evolved to also incorporate best in class companies. Though investors show weak responses towards announcements, these indexes serve a place as an information intermediary and a foundation for risk reduction. According to Kahneman & Tversky (1979) people show an asymmetric valuation between gains and losses, explaining why inclusions often are valued differently from exclusions. Nakai et al. (2013) believes social and environmental investments to become more prominent in future years, as emerging investors show increased interest in those factors.

2.2 The Four Pillars of Media

This section explains the role of media in financial markets, what media does and how it does it. It also explains how investors anticipate media announcements and it is explained why investors react as they do. The idea of media's influence on markets is in many aspects controversial among scholars, on a general level this section explains these controversies. Beginning with an explanation of what media is.

The literature has presented several reasons to why stock prices are likely to be affected by media coverage. Chen et al. (2013) explains four reasons why media affect stocks prices: (1) media is an information intermediary; (2) media is a tool for corporate governance; (3) media is a transmitter of their own favorable information; and (4) media is a generator of investor sentiment. The first reason is self-explanatory. The second reason relates to how media's influence affect managerial decisions, and the balance between managers' private benefit and the actual value maximization for stockholders (Chen et al., 2013). In conjunction, the two first mentioned reasons of media's role can be interpreted as media contributes to valuation decisions of a firm. The third states that media is somewhat biased in their reporting about firms. The fourth reason propose that media is a generator for "feeling" of the market, meaning that media influence the way investors interpret current market conditions. Media can, like social and environmental indexes, act in communicating firm specific aspects and draw attention towards the firm. As an information intermediary, media can alter behavior of corporations and affect investors, thus holding a powerful tool when it comes to corporate responsibility. Media generate sentiment and communicate news to a broader spectrum of audience (Chen et al., 2013).

The information presented in newspaper media is a repackage of already publicly available information and therefore the response by investors to newspaper media announcements should be limited (Chen et al., 2013). Tetlock (2011) investigated how investors distinguish between new and old information. Staleness of a news story is defined by Tetlock (2011) as the textual similarity of previous articles published about a firm. Findings suggest that investors often react to news stories that have occurred well in the past (Tetlock, 2011). This finding of course suggest that media indeed do guide investor attention. Behavioral hypotheses such as limited attention explain very well why investors many times respond to already available information. Investors often fail to incorporate all available information into their decision making process. Huberman & Regev (2001) explain how investors adhere to information published in various sources with an informative example about a one-day return for EntreMed. Huberman

& Regev (2001) document that the EntreMed stock closed at \$12.063 on Friday, opened at \$85 on Monday, and finally closed at \$52 that very same Monday. The reason for this dramatic price movement was a Sunday *New York Times* article regarding a potential blockbuster cancer-curing drug. Dramatic stock price movements and news stories with great findings do of course seem rational, but Huberman & Regev (2001) report that five months earlier several journals, including *Nature*, published the same information. The awakened attention by investors caused a huge deviation in the stock price even though no new information had been presented to the market. While much evidence suggest that individual investors are more prone to such limited attention (Tetlock, 2011), findings regarding analysts suggests that they do not efficiently use information as well (Abarbanell & Bushee, 1997). These findings strongly suggest that a market reaction can be seen when information is communicated to a wide audience through media.

Odean (1998) investigated overconfidence in the stock market and draw upon conclusions suggesting that overconfident investors tend to increase confidence even more when they get confirmation from other parts. Chen et al. (2013) state that individual investors tend to be net buyers when a firm is in the news. This implies that the information packaging by news media is of great importance when evaluating how investors respond to news. Arguments that individual investors have difficulties when choosing from a large pool of stocks support that media coverage of certain stocks makes those investors more likely to purchase a stock covered in media (Fang & Peress, 2009).

One way of evaluating how news are packaged is suggested by Tetlock (2007), who used sentimental analysis to determine if a news article is positively or negatively oriented. Loughran and McDonald (2011) argue that that the dictionaries used for this kind of textual analysis often misclassify financial texts. Loughran & McDonald (2011) further maintain that these methods of linguistic analysis have been developed for other disciplines and are not fully compatible with financial writings and can because of this lead to misclassifications. Despite the critique, Tetlock (2007) presents results suggesting that a pessimistic sentiment does predict a negative price pressure on a stock in the short-term. After Tetlock (2007) several scholars have performed similar linguistic analysis to evaluate media's tonal influence on investors. Walker (2016) found a significant relationship between the tonal content of house market articles and the return premium of stocks related to the housing market. Ferguson et al. (2015) showed that future stock returns can be predicted using the tonal content and article volume of UK news media. Though, Ferguson et al. (2015) remark that article volume is a more distinct indicator than medial tone. Sentiment and volume of social and environmental news are thus likely to affect stocks, at least in the short-term.

More long-term studies of news media effects have been performed by Fang & Peress (2009) who conclude that stocks frequently covered in media earned a significantly lower risk-adjusted return than stocks not covered in media. Fang & Peress (2009) constructed a portfolio of no media coverage stocks and a portfolio of high media coverage stocks. Their findings suggest that the portfolio of no coverage stocks outperformed the high coverage portfolio by three percent annually. The "investor recognition hypothesis" by Merton (1987) state that in markets with incomplete information there must be a no-media premium towards stocks not fully familiar to investors, because of diversification reasons. The no-media premium finding by Fang & Peress (2009) is thus in agreement with findings by Merton (1987) saying that stocks with lower recognition must compensate investors by offering higher returns.

Vogler & Gisler (2016) investigated how Swiss banks were covered in media prior to and during

the 2008 financial crisis. They argue that media coverage of social and environmental responsibility by corporations is increased during times of crisis. Media can be seen as a channel for stakeholders to articulate their demands of corporate responsibility and also as a corporate tool to communicate agendas of corporate responsibility (Vogler & Gisler, 2016; Chen et al., 2013). In a Chinese study, Xu et al. (2014) showed that stock market reactions were characterized by a greater loss of stockholder wealth for environmental violation events with high media coverage. This, thus conflicts findings by Fang & Peress (2009) and Merton (1987). These contradicting findings could imply that all media coverage are not alike. Vogler & Gisler (2016) argue media coverage of corporate responsibility to be communication of corporate reputation. Sinnewe & Niblock (2015) showed that investors are more likely to buy stocks with strong brand recognition and therefore firm reputation is an important factor for investors. Consistent with Fang & Peress (2009), Sinnewe & Niblock (2015) state that these circumstances are more likely to occur to investors who have difficulties selecting stocks from a large pool of investments.

To summarize, this section explained the roles of media in the stock market. As an information intermediary media repackages information and announces it to a broad audience. Findings suggest that medial influence on markets are most obvious in the short-term. This can be explained by the "investor recognition hypothesis" (Merton, 1987). Using media sentiment has been criticized by many scholars, but other show that media sentiment indeed can be used to evaluate future performance of a stock. In the long-term Fang & Peress (2009) found that media has a negative effect for high coverage firms. Distinguishing between short- and long-term effects is key when investigating how media affects the markets. Vogler & Gisler (2016) state that medial coverage is higher during times of crisis which could imply that companies want to anticipate for this by working proactively in questions regarding corporate responsibility.

2.3 Portfolio Selection Under Conditions of Risk

Never put all your eggs in one basket. Handling risk in portfolios and individual securities is perhaps the most important aspect of finance. Previously it was explained that social and environmental investments can decrease risk in a portfolio. This section explains the basis for portfolio selection and risk in more detail. In addition, this section describes both how diversification can decrease portfolio risk while keeping the expected return, and how a single asset's expected returns can only be increased by taking additional risk.

Markowitz (1952) divides the process of selecting a portfolio into two stages. Were the first stage begins with observation and experience and ends with a verdict about the future performance of the available securities. The second stage of portfolio selection begins with the verdict of future security performance and ends with a portfolio of choice. Tobin (1958) showed that Markowitz's model indeed could further be broken down into two phases: (1) choosing a unique optimal combination of risky assets; (2) separate the choice between that combination and a single riskless asset.

Markowitz (1952) assumes investors to be rational in their decision making and therefore does attempt maximize the expected return while trying to minimize the variance of the return. This is explained by Markowitz (1952) in the "expected returns-variance of returns" rule (E-V) which proposes a general solution for portfolio selection. Sharpe (1964) was the first to construct a market equilibrium theory of asset prices under conditions of risk. He showed that such a theory

had implications consistent with Markowitz (1952) and Tobin (1958), and is thus an extension of those theories.

Another rule used by Markowitz (1952) is that investors seek to maximize the discounted value of future expected returns. The expected returns vary with the discount factor, the anticipated risk, therefore the only way for an investor to obtain higher returns is to take on additional risk. Sharpe (1964) states that an investor can only obtain a higher expected return by increasing the risk that he takes and a diversified portfolio will attain any point of desire along a capital market line. The effect of this according to Sharpe (1964) is that the investor is in his investment presented is two prices: the price of time (the pure interest) and the price of risk. Where the pure interest is free of all risk, but the risk of time.

Markowitz (1952) reject the hypothesis that the investor uses techniques to maximize the discounted return, because the rule never implies that a diversified portfolio is preferable to a non-diversified portfolio (market imperfections ignored). The previous rule fails to imply diversification, the rule does only imply that an investor places his funds in the security with the greatest discounted value and is indifferent between two securities with the same discounted value (Markowitz, 1952). Sharpe (1964) thought that an investment plan is efficient only if there is no other investment plan with a higher expected return and lower variance, has a higher expected return and the same variance or higher expected return and a lower variance. Consequently, in line with Markowitz's (1952) idea that investors are rational in the meaning of maximizing expected returns and minimizing variance. Figure 1 displays capital asset pricing according to Sharpe (1964).

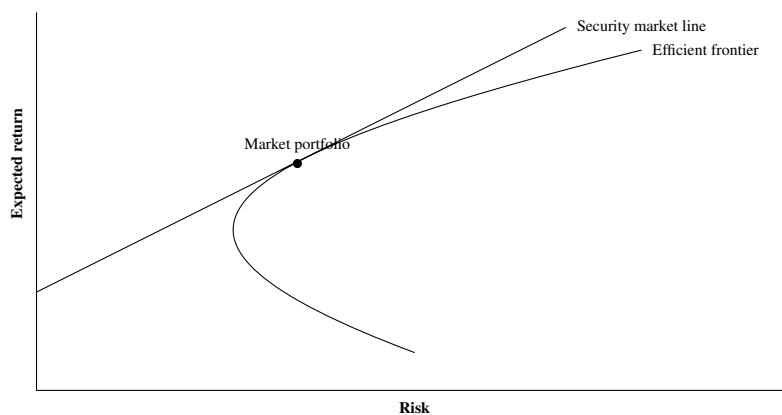


Figure 1: Capital asset pricing
Source: Author's own. Derived from Sharpe (1964).

Markowitz (1952) proposed a rule which let investors maximize the expected return at a minimized variance, the minimum variance rule. Further, Markowitz's theory propose that if the returns of securities are too intercorrelated diversification effects will diminish. Therefore the law of large numbers cannot be applied when diversifying portfolios. A portfolio with maximum return is not necessarily a portfolio with minimized variance. Markowitz (1952) proposed that there is a rate at which investors can gain or reduce the expected return by taking on or reducing variance. This is what led Markowitz to consider the E-V rule. In Markowitz (1952) the isomean is defined as the line of all portfolios that give the same expected return and iso-variance is the curve of all portfolios that yield the same variance. Remember that a portfolio's variance is dependent on the correlation between securities within the portfolio and expected return is the weighted value of each securities discounted expected return.

Recall that the expected returns rule was rejected by Markowitz (1952), because it never implied diversification. The E-V rule on the other hand implies diversification. Diversification does not imply that more is more, and a well-diversified portfolio does not depend only on the number of securities in the portfolio, but the characteristics of the securities in the portfolio (Markowitz, 1952). Comparing portfolios of size, a portfolio containing sixty different railway stocks would not be as diversified as a portfolio containing the same number of stocks including public utility, mining and various manufacturing stocks (Markowitz, 1952). The rationale behind this is that firms in the same industry is more likely to perform similar at the same time than that of different firms. In addition, it is not enough to invest in many securities in order to make variance small, it is necessary to invest in securities with low covariance among themselves. These findings connects with those of social and environmental investments included in portfolios. When in a small fraction such investments can decrease portfolio risk (Doh et al., 2010). Larger fraction however will distort covariances between securities and result in less portfolio diversification.

The findings by Markowitz (1952) relates to total risk. A portion of the risk, the unsystematic risk can be eliminated thanks to diversification. In figure 2 a representation of diversification shows how diversification in a portfolio makes unsystematic risk asymptotical to the market risk line (systematic risk). In Sharpe (1964) the systematic risk is defined as the beta, a measure of security risk relative to the market. Markowitz (1952) state that assets with a correlation less than one with each other can be added to a portfolio without decreasing returns. The Sharpe ratio measures average return in excess to the risk-free rate per total risk.

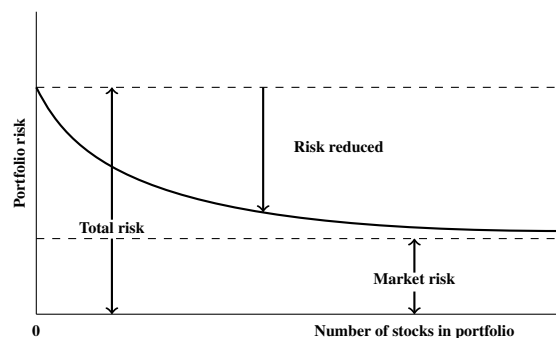


Figure 2: Portfolio Diversification

Source: Author's own. Derived from Markowitz (1952) and Sharpe (1964).

All rational investors seek to minimize risk and maximize the expected return. Markowitz (1952) explained how correlations between securities in a portfolio determines total portfolio risk. Sharpe (1964) document that investors can only increase the expected return by taking on additional risk. The total risk consists of two components: the systematic risk (undiversifiable) and the diversifiable unsystematic risk. As a metric, risk is thus very important in determining portfolio diversification.

2.4 Random Walks in Efficient Markets

In 1827, a Scottish botanist named Robert Brown found that pollen oscillated rapidly when suspended into water (Brown, 1828). Later, in 1863 a French stockbroker, Jules Regnault, found that the longer a security is held, the more the holder can win or lose on the securities' price variations (Sewell, 2011). Rayleigh (1880), then referred to as Lord Rayleigh, was a British

physicist who worked on sound vibrations, proposed a clear notion of the random walk. The first concept of efficient markets understanding was back in 1889, when George Gibson mentioned that shares assume a value that is acquired from the judgement of the best intelligence concerning them (Sewell, 2011). The history of understanding for random walks and efficient markets dates far back. Throughout the twentieth century rigorous work has been done regarding the understanding of efficiency in markets. Fama (1970) is the father of the efficient markets hypothesis and is often credited for his work regarding efficient markets. In this section the random walk (Fama, 1965, 1970) versus the chart theories by Dow¹ describes two camps describing price movements differently. One describing prices, between information releases, to be fully random and the other arguing that prices can be predicted based on historic performance. This evolves into the implications of the efficient market hypothesis as presented by Fama in 1970.

Fama (1970) discuss how research has attempted to explain future movements in stock prices in terms of random walk theory and efficient markets. Answers to the question of to what extent past movements in stock prices can be used to determine the future movements of a stock price is according to Fama (1970) two-fold: on one hand by chartist theories and on the other by random walks. Fama (1965) explains that different chartist theories exist, but in essence they all make the same assumption, that the past behavior of a price movement is so rich in information that it can be used in determining the future price behavior of a stock. In other words, the chartist theories rest on the assumption that history repeats itself and past occurrences are likely to reoccur in the future. Contradicting the chartist theories Fama (1965) explains the theory of random walks to describe the future path of stock price levels to be fully random. Thus, the future price level of a stock is no more predictable than that of a series of cumulated random numbers. The data analyzed by Fama (1965) suggested strong support for the random walk theory and a main conclusion of the study was that chart theories propose no real value in the determination of future price levels. This implies that the future of a stock's price levels cannot be predicted (Fama, 1965). The idea that consecutive price changes are independent and that random price changes will form some probability function together these two statements form the basis for the random walk model (Fama, 1970). The random walk model and the evidence in favor of it should prevent any investor from making attempts to exploit price fluctuations because these are just random and cannot be considered when making investments decisions. The idea of efficient markets is associated with the random walk model (Malkiel, 2003). Malkiel (2003) explains the relation between random walk and efficient markets, should be seen in a manner of the length of information validity. As information is reflected immediately in a stock price it will reflect only the most recent information and tomorrow's price changes is reflected only towards the information of tomorrow. News are not predictable and therefore price changes as a result of news must be random (Malkiel, 2003). Figure 3 shows a random walk that at any time assumes a random value, but has the expected value of zero.

Fama (1970) define an efficient market as a market were prices fully reflect all available information regarding the security. In a review of the of the original, Fama (1991) define the efficient market hypothesis as an investment theory which says that investors are not able to outperform the market because all information is reflected in the stock price at any time. The only way an investor can generate a higher return is by purchasing securities with higher risk. Fama (1970) divide the efficient market hypothesis into three categories: weak form, semi-strong form and

¹As Dow never got to publish a complete version of the theory before his death, perhaps the most rigid work contributions have been in William P. Hamilton's "The Stock Market Barometer" from 1922.

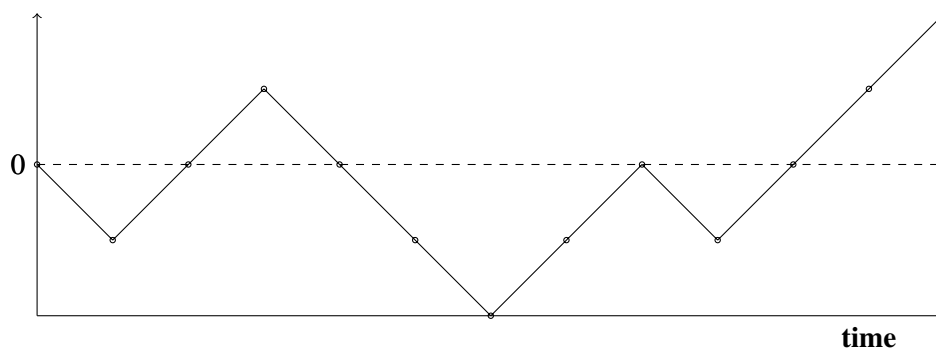


Figure 3: A Random Walk of +1/-1 steps

Source: Author's own.

strong form. Weak form claims past prices are of no value in predicting future prices, the security already reflects all available information. Semi-strong form propose that prices react instantaneous to new announcements of public information such as annual earnings announcements or stock splits. The strong form dues information held by non-public information to be reflected in the stock prices, and thus the stock price reflects not only public information but private information as well. In efficient markets, prices fully reflect all available information, new information is the main driver of price changes and therefore only unexpected events can trigger price changes (Fama, 1970). This implies that current prices are the best approximation of a securities intrinsic value. Figure 4 shows a positive price adjustment according to information efficiency.

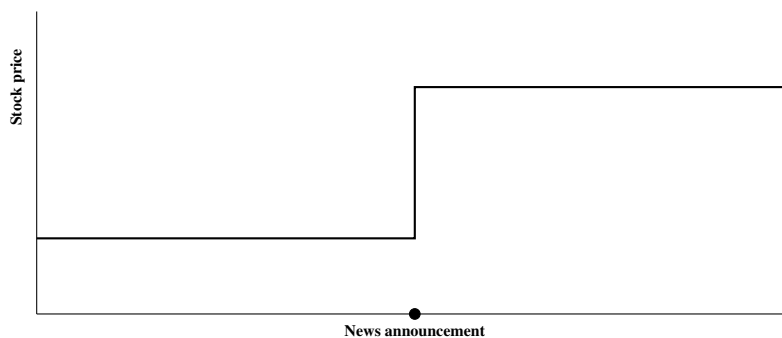


Figure 4: Efficient Market Hypothesis

Source: Author's own. Derived from Fama (1970).

Fama's groundbreaking publication triggered several scholars to publish papers regarding efficient markets, which has divided scholars into two camps. One arguing for the proposition that markets are efficient and the other that markets are not efficient. Grossman & Stiglitz (1980) argue that it is impossible for a market to exhibit information perfectly. Because information is costly, prices cannot reflect all information, because if it did analysts and investors gathering that information would not get paid (Grossman & Stiglitz, 1980). Roll & Ross (1995) showed that it is hard to profit from market inefficiencies. Malkiel (2003) document that markets are more efficient and random, than some scholars perceive and it is thus very hard to profit from market inefficiencies. In 2010 Lee et al. (2010) investigated stock prices in 32 developed and 26 developing countries and concluded that markets are not efficient.

The clash continues, during the period of efficient markets discussion, about half argue in favor for efficient markets and half against (Sewell, 2011). Fama (1970) defined an efficient market:

"A market in which prices always 'fully reflect' available information is called efficient." In practice, there is, strictly speaking, no efficient markets. Science seek the hypothesis that best fits the concerns and until the opposite is shown criticism towards the efficient markets hypothesis is of limited value. The efficient markets hypothesis holds true asymptotically speaking and is therefore holding very strong (Sewell, 2011).

2.5 Agents of the Corporation: Value Maximization versus Stakeholder Theory

The ideas of corporate values are presented in this section. The section reveals the conflicts of value maximization and stakeholder theory. The view of the firm from a value maximization standpoint contrasts that of the stakeholder standpoint. Presented is two views of what a firm should do in order to perform optimally. As seen maximizing firm and shareholder wealth is not the same as maximizing stakeholder benefits.

Freeman (1984) argue that managers must find the setting were all ideas of stakeholders go in the same direction. Jensen (2002) argue that managers must maximize the firm's objective function. The rationality of the value maximization proposition is contrasted by stakeholder theory's describing nature rather than the presentation of logic in an arguing manner. The Value Maximizing Proposition by Jensen (2002) states that a corporation should make all decisions so that the total long-run value of the firm is maximized. Freeman (1984) argues that managers shall make all decisions in a manner where these account for all interests relative to the firm. Jensen (2002) argue that it is impossible to maximize an objective function in more than one direction at any one time. Maximizing value for society and social welfare can only be done in one way according to Jensen (2002): when all firms in the economy have maximized their total firm value. One of the major flaws with the stakeholder theory is found in its describing and non-arguing nature. Jensen (2002) state that both this and the incompleteness of the theory was intentional for the theory to serve private interests of those who promote it. Jones (1995) argues that stakeholder theory must be advanced by giving economic context to the theory. One such economic context is competitive advantage and reputational gains, which allows firms to generate more sales.

According to stakeholder theory the firm is defined by its relationships to groups and individuals (the stakeholders). These stakeholders either have the authority to influence the performance of the firm or have an interest in the firm's performance (Jones, 1995). There is thus a distinction between stakeholders. Some with interest to influence and change the behavior of the firm and some with the interest of the function of the firm. Each contributing stakeholder expects appropriate compensation. Compensation is in the form of benefits either economical or other and there is no benefit that outweighs the other (Donaldson & Preston, 1995). Thereby these benefits could be for example economic, change in firm social and/or environmental policy, firm governance, et cetera. It is rather clear that Jensen's (2002) proposition is rational in many ways, because the objectives of stakeholder theory goes in various directions. Adopting stakeholder theory corporations have no way of keeping score, they do not know if the convergence of ideas has provided benefit or harm, to either the corporation or the stakeholders. Often one stakeholder group is promoted more than others at the price of both firm performance and other stakeholders' wealth (Cordeiro & Tewari, 2015). Suggesting that that strong stakeholders are likely to reap more benefit than others while destroying the value maximization for companies.

Three Types of Stakeholder Theory

To obtain a better understanding of how stakeholder theory has been obtained throughout the years this section narrates the three different types of stakeholder theory as proposed by Donaldson & Preston (1995): descriptive, instrumental and normative. This work, although comprehensive and strongly related to stakeholder theory has experienced critique. Friedman and Miles (2002) argue that this integrating practice of stakeholder theory is premature. They claim that not enough work has been done on the organization/stakeholder relationship to distinguish stakeholder theory into such a framework. The critics of this classification state that not enough work has been conducted regarding the different types of stakeholders that exist to draw such conclusions regarding classifications of stakeholders as Donaldson & Preston (1995) did. Throughout the years focus has rather been on defining who or what a stakeholder is rather than focusing on what the dynamics are between the organization and the stakeholder (A. L. Friedman & Miles, 2002). But the main interest of stakeholder theory in this study is the instrumental portion. That is, the study aims to answer how the connections between the corporation and stakeholders are affecting firm value based on social and environmental news articles. Most commonly the goals of the corporation are profitability, stability, growth et cetera. However, these three classifications as expressed by Donaldson & Preston (1995) provide a good understanding of the variety of the stakeholder theory. This section is specified to further explain these three classifications to provide means to navigate the many and sometimes hard to comprehend aspects of stakeholder theory.

Descriptive: The descriptive portion of stakeholder theory according to Donaldson & Preston (1995) presents a model of what the corporation is. This is used to describe and explain the specific characteristics of the corporation and behaviors. Previous work has described: (I) the nature of the firm; (II) how managers think about managing; (III) the board members view of constituents' interests and opinions; (IV) and how companies are actually managed. An interpretation by Jones (1995) further clarifies the descriptive part the concept as the segment that explains how firms and their managers behave. This aspect of stakeholder theory clarifies the past, present and future states of corporations and stakeholder affairs.

Instrumental: The stakeholder model according to Donaldson & Preston (1995) describes and examines the connections between the practice of stakeholder management and how firms achieve certain performance goals of the corporation. Where empirical data is available in conjunction with the stakeholder theory it can be used to identify both connections and the lack of connections between stakeholder management and these performance metrics. To examine these connections conventional statistics tests are used in order to draw conclusions. Companies drawing upon a stakeholder perspective could be proven successful or unsuccessful in their stakeholder management through statistical tests. Companies of very diverse natures can draw upon the same characteristics in for example social and environmental responsibility and achieve similar benefits, despite being diverse in many ways. The main interest is that, all other things equal, a firm performing stakeholder management will become relatively successful in common terms of performance. This portion according to Jones (1995) describes what will happen if the firm behaves in a certain way. Basically, this approach is hypothetical. The instrumental approach states that if you want to achieve (avoid) some result then do this (do not do this).

Normative: Donaldson & Preston (1995) points at the normative portion of stakeholder theory to be the basis for the theory. The rationale behind their reasoning is that stakeholders are groups or people with genuine interest in practical or fundamental features of the firm's setting. Whether the firms have interest in the stakeholder or not, the stakeholders are identified by their interest for the corporation. Intrinsic value is the main interest of all stakeholders, that is they prefer the firm showing interest in their objective and not necessarily what is of interest for other groups. The normative approach is categorical: do this because it is the right thing to do; or do not do this because it is the wrong thing to do.

As Jensen (2002) put it: "How do we want the firms in our economy to measure better versus worse?" Jensen's idea with the Value Maximizing Proposition is that a scoreboard must be kept in order for companies to know whether their effort have paid off or not. Logically it is impossible to maximize in more than one dimension. This scoreboard provides according to Jensen (2002) companies with a solid answer to the question if decisions made were right or not. In Donaldson and Preston's (1995) explanations of stakeholder theory it is obvious that there are complementing properties in Stakeholder Theory and Value Maximization Theory. Stakeholder Theory provides the answers of where and what and Value Maximization Proposition measures if the directions taken have been beneficial or not. In many cases regarding Stakeholder Theory corporations are attempting to maximize in several directions without knowing the tradeoffs made between them (Jensen, 2002).

This section revealed that the value maximization proposition by Jensen (2002) states that optimizations can only be conducted towards one variable. Freeman (1984), on the other hand argues that a firm should find the converging point of all stakeholder interests. Rational thinking results in the understanding that going in several directions is a compromise and will not lead to maximized performance in any variable. Maximum value does not imply to ignore interests of stakeholders, but to find the production function which maximizes the total value of the corporation and therefore also for the stakeholders (Jensen, 2002; M. Friedman, 1970).

2.6 More than Rationality in the Stock Market

Until the mid 1980s criticism towards the efficient markets hypothesis was argued from a standpoint where investors and markets were considered rational, even if markets were not always proved to be efficient (Sewell, 2011). More interest for human behavior regarding decisions under risk grew into the field of behavioral finance, and is often associated with Shiller et al. (1984). This section relates to the human side of financial markets, or more precisely irrationality because of psychological biases. Trends and fashions have throughout history put a large impact on people and even if something has been known for a long time can sporadically appear as a trend. What cause people to change their view about something, known for a long time, and suddenly appreciate it? Much can be explained through arguments of groupthink, emotions and biases. This section closes the literature review and invites the understanding of investors as social individuals.

One could argue that the stock market is less likely to fall victim to trends and fashion of the fact that decisions are made by rational and value maximizing investors (Shiller et al., 1984). Still, from time to time the stock market experience extravagant occurrences, such as the dot-com bubble in the early twenty-first century. Despite human flock behavior, real returns are in many

aspects unforecastable of the reason that the real price of a stock is close to its intrinsic value (Fama et al., 1969). This is also the basis for the efficient market hypothesis and according to Shiller et al. (1984) an error of economic thought. The rational research in the 1950s to 1970s have in many aspects overlooked the psychological aspects of investing. The understanding of this is certainly important since investing is a social behavior.

Critique towards the efficient market hypothesis by Fama et al. (1969) was presented by Shiller et al. (1984). Fama's (1969) findings literately discredited all investors beating the market, because in an efficient market all that deviates from market performance is just luck or bad luck. Shiller et al. (1984) on the other hand argues that there is a great deal of evidence saying that trends and fashions are important in determining the performance of a security. In agreement with Shiller's (1984) argument, Huberman & Regev (2001) explanation of the limited attention theory suggest that investors are likely to be influenced by already "known" information. Fashions and trends are in many ways according to Shiller et al. (1984) unpredictable, and because of this random-walk behavior in markets could be explained because investors may overreact towards announcements of, say, earnings or dividends which makes the investor demand largely unpredictable. More evidence of irrational behavior in individuals can of course be found in Kahneman and Tversky's (1979) findings of asymmetrical valuations between gains and losses. The bad news anomaly by Womack (1996) explains how analyst recommendations affected investment values. Despite these recommendations did not expose new market information, Womack (1996) found that there is a short-term and very weak response towards buy recommendations, but a larger and more prolonged price drift for sell recommendations. Findings by Kahneman and Tversky (1979) and Womack (1996) suggest both irrationality and asymmetry in human decision making.

Shiller et al. (1984) proposed that trends and fashion are likely to affect investors, and that investor opinions are likely to be derived socially. Shiller et al. (1984) refer to several experiments regarding group behavior pointing towards individuals being silent when their opinion deviates from the group's, and this silence will of course affect the reflection of relevant information. Likewise, an idea might not be fully propelled within an individual until he hears about the same idea of several friends or from authorities (Shiller et al., 1984). This, of course, implies that thought and idea processes may be helped along the way if influenced by news, or even slowed down if contradicted by news.

There are of course several explanations from the psychology field of such behavior. One of the more interesting explanations is found in the psychology of the unconscious. Markowitz (1952) and Sharpe (1964) draw upon distinctions saying that investors are rational in their decision making and will always strive for utility maximization. Modern neurobiology research has started to confirm Sigmund Freud's view of emotions and the unconscious centrality (Kandel, 1999). Investor decision making can be seen not only from the rational perspective proposed by Markowitz (1952) and Sharpe (1964), but also from understanding of the human mind and how emotions and the unconscious drive investment decisions among investors.

Previously it was explained that Tetlock (2011) found that individual investors compared to institutional investors are more influenced by media in their investment decisions. Tuckett et al. (2009) argues that financial assets have the power to rouse emotions when making decisions under risk. His findings suggest that excitement of a potential financial gain disconnects the excitement from anxiety regarding risk, which produce financial bubbles and groupthink. The interpretation of this is that investors get caught up in momentum and drive asset prices

upwards. The aftermath is when anxiety finally breaks through, causing loss of confidence and an investment becomes all bad. Interestingly, and somewhat contrary to findings by Tetlock (2011), Tuckett et al. (2009) draw upon his conclusions from surveying professional fund managers. The role of the unconscious affects investors regardless of them being individual or professional. Tucket (2009) and Kandel (1999) use psychology and behavioral theories to explain how people are imperfect decision makers, prone to bias in their decisions. Wolozin & Wolozin (2007) reveal that neuroimaging of the brain and psychoanalysis show that some brain functions involving decision making are not made under conscious control.

French & Simpson (2010) document and expand Wilson Bion's theory of groups. The theory suggests that groups simultaneously operate in two contrasting ways: the basic assumption mentality and work group mentality. Hafsi (1999) have reviewed Bion's distinction between basic assumption groups and work groups. In finance these understandings relate to groupthink and the relations between the individual investor and the group. A work group defines a task and has a clear purpose while promoting cooperation of its members (Hafsi, 1998). In basic assumption groups the individuals do not make individual decisions, but engage in groupthink (Hafsi, 1998). The idea about these contrasting views of groups, is that they determine a group's ability to achieve its objectives. In a financial context, behaviors such as "herding" can be used to portray the basic assumption group (Wermers, 1999). This is particularly apparent in financial asset bubbles, but also when it comes to financial innovations and ideas causing investors to get caught up in a state of wishful thinking. Shiller (2003) describes how rational individuals get caught up and become irrational and deny underlying risk. Emerging financial products such as social and environmental oriented mutual funds (Hale, 2016) and ESG reports (Halbritter & Dorfleitner, 2015) are two examples of growing trends for both investors and corporations. Connecting to the instrumental portion of stakeholder theory, this can be seen as an attempt by companies to connect more stakeholders through a common media (Donaldson & Preston, 1995). The acts of social and environmental responsibility can be viewed from the descriptive portion of stakeholder theory as well, the nature of various firms have taken similar measures in satisfying stakeholders. A question rises about what the real value of social and environmental responsibility is, for the corporations. Answers can be sought both in the normative portion of stakeholder theory (Donaldson & Preston, 1995) saying that external interest groups influence firms to act in a certain way, or on the other hand according to Jensen (2002) there is an agency problem in the firm setting. Implications are that firm managers adopt social and environmental policies, in excess to regulations, because they want to look good in public channels, such as media. Connecting stakeholder theory and irrational investors is utterly important, as Hale (2016) document that emerging investors in many cases put emotional features before value maximization features. In many aspects, emotional investors connect to the normative portion of stakeholder theory, doing things of the right reasons (read as proposed by the herd), or as a rational investor connecting to the instrumental portion seeking results rather than personal confirmation. There are of course rational implications for firms to adopt some of the stakeholder model ideas, such as reputational gains or shielding the company from unanticipated future events.

This captures the irrationality of the human mind. How groupthink, trends, fashion and other external pressures influence decision making. Much of irrationality comes from both the unconscious as explained by Kahneman and Tversy (1979), Womack (1996) and Shiller (1984, 2003), and from external parties as explained by French and Simpson (2010) and Hafsi (1998). Connecting neurobiology, psychology and finance has increased the understanding of investor

behavior. Group behavior and emotions affects investors to a far greater extent than traditional finance theories could have ever accounted for.

3 Research Purpose and Hypothesis Development

The purpose of this study is to test investor rationality and efficiency in markets, regarding news announcements of social and environmental character. Recall that a rational investor will maximize utility while minimizing risk (Markowitz; 1952; Sharpe, 1964), and in an efficient market all available information are reflected in security prices (Fama, 1969). Several scholars including Shiller (1984), Tucket (2009), Kandel (1999) have questioned both the rationality of investors and the efficiency in markets. The emerging field of behavioral finance seeks explanations from psychology and neurobiology to explain any irrational behavior or inefficiency in markets.

The influence of media is considered from a perspective of decision making under conditions risk. Kuran & Sunstein (1999) argue that individuals base their risk judgement on interlinked social mechanisms. These mechanisms displays both important and desirable effects, as well as harmful effects on risk awareness. Kuran & Sunstein (1999) mention such harmful effects to range from health regulations to concerns about foods with no scientific confirmation. Such driving forces do according to Kuran & Sunstein (1999) trigger legislation and beliefs without practical representation. This phenomena can be explained as an availability cascade (Kuran & Sunstein, 1999). The availability cascade forms a collective belief triggered by a chain-reaction and is eventually perceived as more and more plausible. Suggesting that stale news do not only trigger additional responses, but reinforce beliefs as well (Tetlock, 2011). Increased media coverage on social and environmental aspects are thus likely to influence both investors and corporations. Undoubtedly, most people (with some exceptions) agree that environmental change is a realistic threat, and social and ethic values are a desirable feat of corporations, at least to some extent. Increased media reporting on social and environmental aspects makes the link between media and financial markets important to investigate from an economic standpoint.

The study applies the contrasting fields of traditional finance and behavioral finance towards news of social and environmental character and measure against a market proxy if any of these news events result in any significant differences in the return of the stock as compared to the market proxy. As all news are already public information this study investigate if investors are prone to irrationality and react towards old information. Market efficiency tests have throughout history been conducted in various ways, with varying results. The originality of this study is the method of using a newspaper as a proxy for dispersion, social and environmental events as the driver and three stakeholder specific branches in the corporation. Namely: ESG-reports, company standing in the supply chain and firm sector. There have been no previous studies testing investor rationality and market efficiency by using social and environmental news events and controlling for the same factors. What follows is a deeper explanation of the three main areas investigated in the study.

Xu et al. (2014) propose that firms with an ISO 14001 certification attracts more media attention than firms with no certification for environmental violation events. The authors document 27.27 % media attention for ISO 14001 companies versus 16.96 % for non-certified companies in case of environmental violation. Further Xu et al. (2014) document that firms with an ISO 14001 certification also experienced smaller declines in returns after environmental violation announcements than firms that were not ISO 14001 certified. Suggesting that such certifications could act as a shield against such events. Something that could only be explained by investor irrationality, simply because there is no actual difference in the impact of the violation,

regardless of the firm being certified or not.

The ISO 14001 certification is only oriented towards environmental aspects and can be issued towards any industry. In later years, certifications have in many aspects been toned down and are not as desirable to advertise as they once were, instead companies have increasingly adopted environmental, social and governance (ESG) reporting (Fitzgerald, 2007). Halbritter and Dorfleitner (2015) document findings suggesting ESG portfolios do not demonstrate a significant return difference regardless of firms having high or low ESG ratings. Thereby, suggesting rationality in investor behavior. One important distinction between this study and that of Xu et al. (2014) is that their study focused on the how certifications can shield against losses in case of environmental violations, whereas this study solely study the link between social and environmental reporting in news media and the financial return response, regardless of if there has been a violation or not. The ESG-reports are in their character consistent with stakeholder theory, because they go in many directions. Which of course implies that the value maximization goes in several dimensions and thus becomes harder to track and measure than ISO 14001 certifications. Because of this it is thus likely that in agreement with Jensen (2002) the impacts of ESG-reports are non-existent to investors.

Doh et al. (2010) findings suggest that firms with a strong environmental and social reputation were protected against stock declines when removed from the social index as compared to companies with weaker reputations. Which is in line with Xu et al. (2016). However, disagreements in this area are many. While some authors argue that the reputational gains from social and environmental responsibility will attract more talent and allow for the charge of premium prices for goods and services (Robinson et al., 2011), several authors fail to show that announcements of social and environmental responsibility produce significant returns. In addition, findings by Tetlock (2011) suggest that news articles often are only a repackaging of already known information. Their findings do however suggest that investors to some extent do respond to news announcements. The empirical research display findings suggesting both rationality and irrationality among investors. News content of an ESG-report is already available information and according to market efficiency there should not be any difference in returns as compared to the expected return for each individual stock. By investigating the investor response to news regarding social and environmental question, the findings are two-fold: (I) ESG-reports are a stakeholder approach by companies; (II) any abnormal response by investors points at irrationality in the decision-making process.

The evidence that social and environmental announcements in news media do not yield any significant changes in the magnitude of the returns seem to be stronger than the evidence that the magnitude of the returns should be statistically distinct from the market. To my knowledge there have been no previous study explaining the returns after social and environmental news using a newspaper as an information proxy. Neither is there any previous study that have controlled for ESG-reports for Swedish stocks. I therefore elaborate a negative hypothesis regarding social and environmental news announcements while controlling for ESG-reports:

H1a: ESG reports will not contribute to a significant magnitude difference in abnormal returns on the announcement date compared to non-publishing firms when subject to social and environmental news.

H1b: ESG reports will not contribute to a significant magnitude difference in abnormal returns in the event window compared to non-publishing firms when subject

to social and environmental news.

H1c: ESG reports will not contribute to a significant magnitude difference in abnormal returns in the pre-announcement period compared to non-publishing firms when subject to social and environmental news.

H1d: ESG reports will not contribute to a significant magnitude difference in abnormal returns in the post-announcement period compared to non-publishing firms when subject to social and environmental news.

Chen et al. (2013) argue that individual investors tend to trade when a firm is in the news. Hale (2016) report that individual investors are paying more interest in social and environmental aspects than institutional investors when investing. The "investor recognition hypothesis" by Merton (1987) suggest that investors are likely to invest in what they recognize. Investigating whether investors tend to move towards stocks covered in media and is familiar to the investor is thus of interest. Likely, investors are more informed about companies manufacturing consumer goods or consumer services. Despite having a closer relationship to the company, investors are also more informed, suggesting that investors are more rational in their decisions. In other words, investors are more likely to be familiar with policies of a retail business, compared to a business manufacturing mining equipment.

H2a: Firms producing consumer goods or services will not show a significant magnitude difference in abnormal returns on the announcement date compared to other firms when subject to social and environmental news.

H2b: Firms producing consumer goods or services will not show a significant magnitude difference in abnormal returns in the event window compared to other firms when subject to social and environmental news.

H2c: Firms producing consumer goods or services will not show a significant magnitude difference in abnormal returns in the pre-announcement period compared to other firms when subject to social and environmental news.

H2d: Firms producing consumer goods or services will not show a significant magnitude difference in abnormal returns in the post-announcement period compared to other firms when subject to social and environmental news.

Vogler and Gisler (2016) state that the Swiss banking industry prior to the 2008 financial crisis was considered a major contributor to the national economy. After the crisis, the Swiss banking industry was considered a tension on both society and the country. Paying closer attention to different industries could be of interest when evaluating the returns. Often, as Vogler and Gisler (2016) suggest media tends to report excessively on a phenomenon once it has been exposed (Tetlock, 2011). It is thus likely that some industries are more sensitive towards announcements of social and environmental character. Curran & Moran (2007) show that industries such as banks, media and retail are overrepresented in the FTSE4Good index, while sectors such as chemicals and mining are underrepresented. Industry investigations are also of interest because of diversification reasons, if one industry is very prone to social and environmental responsibility, of any reason, that industry is likely to be affected because of diversification from rational investors. An explanation to this can be derived from findings by Fowler and Hope (2007) suggesting that social and environmental investments can reduce total risk if they only cover a small

fraction of the total portfolio. On the contrary, a too large fraction of social and environmental investments instead increases portfolio risk because of less diversification.

Like the hypothesis of consumer goods and services, there seems to be some correlation between some industries and the anticipation for social and environmental performance. Though previous studies denote that there is an asymmetry between the sector representations of social and environmental oriented indexes, no study have investigated how different industries' financial return magnitudes are affected when social and environmental announcements are communicated through news media. Because of this I perform a comparison of mean returns between different industries.

H3a: Compared to all other sample represented industries, no industry will show a significant magnitude difference in abnormal returns on the announcement date when subject to social and environmental news.

H3b: Compared to all other sample represented industries, no industry will show a significant magnitude difference in abnormal returns in the event window when subject to social and environmental news.

H3c: Compared to all other sample represented industries, no industry will show a significant magnitude difference in abnormal returns in the pre-announcement period when subject to social and environmental news.

H3d: Compared to all other sample represented industries, no industry will show a significant magnitude difference in abnormal returns in the post-announcement period when subject to social and environmental news.

4 Method

4.1 Event Study

The event study methodology dates to the 1930s as an important method used by economists (Sorokina et al., 2013; MacKinlay, 1997). Since then the event study methodology has been used in the most various settings in economic research, for instance stock splits (Dolley, 1933), layoff announcements Worrell et al. (1991), human resource decisions Abowd et al. (1990), investor anticipation of corporate responsibility communication through social and environmental indexes (McWilliams et al., 2006; Curran & Moran, 2007; Consolandi et al., 2009; Robinson et al., 2011). Over the year's scholars have not only used the event methodology to understand the effects of news announcements on a financial asset's price, but several scholars have dived deeper into the technicalities of the methodology and explained and argued for both the power and problems of the event study methodology. MacKinlay (1997) informs that since the first well-known event study by Dolley (1933) the methodology has gained significant improvements. In the late 1950s several scholars started to use methods that let them remove general stock market movements and separated out confounding events. A widely-cited study by Fama et al. (1969) is typically seen as the pioneer in modern event study methodology. The authors studied the effect of stock splits after removing the effects of dividend increases. They found that stocks splits were often announced with announcements of changes in dividends, and thus previous studies of stocks splits were likely to have captured the effects of changes in dividends instead of stock splits.

4.2 Event Study Procedure

The first step of the event study is to define the event of interest and over which period the security prices should be analyzed for each respective event (MacKinlay, 1997). This period is known as the event window. In this study, the events of interest are news articles and the event period is set to six days. The event window spans two days before the announcement date (AD) and three days after the announcement date. This allows for investigating the days surrounding the event date. The reason for using an event window that spans two days before the event and three days after the event is to capture any effects due to information leakage and latecomers. Consistent with previous studies (Nakai et al. 2013; Robinson et al. 2011; Martin Curran & Moran, 2007) the event window was selected to be as short as possible to minimize the effect of unwanted events during the event window.

When the event of interest and the event period is defined, MacKinlay (1997) identifies the next step to be determining which stocks should be included in the study. A more detailed description of the stocks included in the study is presented in the data chapter. MacKinlay (1997) derives some useful tips that has been incorporated when creating the sample of stocks used in the study. He recommends some sample characteristics, such as firm market capitalization, industry representation, distribution of event and what plausible biases could occur in the sample process.

The use of the market model requires historical price data of both the security and the market. MacKinlay (1997) denominates a period called the estimation window, which is the period of time prior to the event window used to determine the expected return of the stock within the

event window period. Recent studies such as Martin Curran & Moran (2007) has used a -310-day to -10-day estimation window and Consolandi et al. (2009) used a 52-week estimation window from week -52 to week -1. I use a -252 day to -3 day estimation window. The 252 days responds to approximately a year of trading days and the last day of the estimation window is the day just before the event window.

4.2.1 Abnormal Returns

The abnormal return is any return that is distinct, either negatively or positively from the expected return of the stock. The expected return is often denoted as the normal return. Today there are two common methods of calculating the normal return, constant mean return model and the market model (MacKinlay, 1997). The constant mean return model does just what the name implies, calculates the normal return assuming that the security return is constant through time. The market model assumes there is some relationship between the market return and the security return. The market model requires a proxy index to which the scholar can perform a regression between the proxy return and the individual stock. More details on the use and rationale behind using the market model is explained in a following section.

4.2.2 Aggregation of Abnormal Returns

In order to draw conclusions regarding the abnormal returns for the event window MacKinlay (1997) states that the cumulative abnormal return (CAR) must be calculated. CAR aggregates the returns for an individual stock during the entire event window. This aggregated measure gives a total understanding of how the stock have performed during the event window. The cumulative abnormal return (CAR) gives a summation of the returns over the entire event window. CAR gives an understanding of how the total price performance for a given stock was during the entire event window.

4.2.3 Magnitude of Abnormal Returns

This study investigates the magnitude of abnormal returns over a six day event window (AD-2:AD-3). The reasoning behind measuring the magnitude of abnormal returns and not positive/negative returns is two-fold: (1) sentimental analysis is not performed; (2) related literature has not shown any proof that certain events will be positively or negatively valued by investors. Initially sentimental analysis was conducted on a test sample. In line with Loughran & McDonald (2011) sentimental analysis did not generate reliable results for the sample news articles. This could be of several reasons, including that news articles are published in Swedish and no sentimental analysis word-list could be obtained in Swedish. This means that articles would have to be translated into English and then be processed. Obviously, things get lost in translation and translating a word from one language to another do in many cases change the power of meaning for the word. Relating to the second reason, lack of literature support, one could assume that research provides a framework for determining if certain news are likely to cause a positive or negative price reaction towards a news event. As the related literature presented in this study suggest, there are no such findings. These studies draw upon conclusions

on a general level. For instance, one cannot assume that increased equality is positive (or negative) from an economic standpoint, the literature does not propose such evidence. These are the main reasons why the magnitude of abnormal returns are measured. Therefore the power of the response is measured.

Converting abnormal returns into magnitudes is done simply by taking the absolute value of the abnormal return. These are then used for calculating the aggregate abnormal returns and the average abnormal returns.

4.3 The Market Model

The return of any given stock is related to the market return (MacKinlay, 1997). The market model specifies a linear relationship between the returns of the market and the returns of the stock. To use the market model one must selected an appropriate proxy. The proxy should be chosen so that the individual security return is well described by the proxy. MacKinlay (1997) mentions a distinct advantage of the market model over the constant mean return model. The market model removes the part of the return that relates to variations in the market, which implies that the variation in the abnormal returns is reduced. This greatly improves the ability to spot any effects from the event. The market model is a so called one factor model which means that only one variable describes the stock return, the market return. Several other more sophisticated multifactor models exist, such that account for instance industry indexes in addition to the market. However, a single factor model is still widely used a multifactor model do not describe the return to much greater extent. Therefore, the market model is used in this study, even if more sophisticated models do exist.

4.4 Models Used in the Event Study

For every day in the estimation window and event window the daily value change is calculated:

$$R_{it} = \ln(P_{it}/P_{i(t-1)}) \quad (1)$$

Where R_{it} denotes the return for the stock and P_{it} is the observed price. The advantage of measuring the return in logarithmic scale is normalization.

Then the market model is used to calculate the expected return for the stock in the event window:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (2)$$

As proposed by MacKinlay (1997). Where ε_{it} is an error term assumed to be equal to 0 in this study. Where R_{mt} is the market proxy return for day t and α and β are the coefficients determined by performing an ordinary least square regression. To determine the coefficient α and β an ordinary least square regression is performed on the observations in the estimation window.

Then the abnormal returns are calculated using the formula:

$$AR_{it} = R_{it} - E(R_{it}) \quad (3)$$

The cumulative abnormal returns are calculated over the event window:

$$CAR_i(t_j, t_k) = \sum_{t=t_j}^{t_k} AR_{it} \quad (4)$$

Typically stocks returns are noisy. MacKinlay (1997) propose to aggregate the daily abnormal returns across the sample. Given a number of N events the mean abnormal return for each respective event day is averaged across all the event using the following formula:

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it} \quad (5)$$

The mean CAR of all events, known as the cumulative average abnormal return (CAAR) is calculated:

$$CAAR_t = \frac{1}{N} \sum_{i=1}^N CAR_i(t_1, t_2) \quad (6)$$

4.5 Regressions Models

To test the hypotheses three ordinary least square dummy regression models were used. These regression models are subject to a robustness check were an additional dummyvariable was incorporated to control for confounding events that has occurred any time during the event window.

The regressions are performed at the announcement date, before the announcement, after the announcement and over the entire event window. This was done to test the hypotheses in the respective time frame. Comparison of the parameters were then performed between the different time frames.

To increase the reliability of the coefficients a robustness test was performed. The robustness tests revealed if the ESG, consumer proximity and industry parameters generated the differences or if any return differences were more likely to have occurred due to confounding events.

Regressionstests were thus performed two-fold. First with a model containing only the variable of interest, and secondly with a model including a dummyvariable set to one if confounding events were observed in the event window. This then allowed to draw distinctions between the models, which could be used to conclude the impact of the variables.

Model 1

Model 1 is used to test the first hypothesis regarding ESG reports. If the firms has published an ESG report anytime during the year of the news announcement the dummy variable is set to 1. The reason behind using the whole year as a determiner is because information regarding the firm's ESG work has been known previous to the release of the report.

Model 1a:

$$R = \alpha_0 + ESG\beta_1 \quad (7)$$

Model 1b:

$$R = \alpha_0 + ESG\beta_1 + Confounding\beta_2 \quad (8)$$

Model 2

To test hypothesis 2 model 2 is used. If the firm is producing consumer goods or services the dummy variable FLS is set to 1. FLS is an acronym for first line supplier, the company supplies goods or services that will be used by a private consumer.

Model 2a:

$$R = \alpha_0 + FLS\beta_1 \quad (9)$$

Model 2b:

$$R = \alpha_0 + FLS\beta_1 + Confounding\beta_2 \quad (10)$$

Model 3

Model 3 is used to test hypothesis 3. For each industry in the sample the regression model is used individually and compared to other industries. The reason for not running all industries at once is the "dummyvariable trap", which could cause collinearity between variables and thereby be excluded in the regression.

Model 3a:

$$R = \alpha_0 + Industry\beta_1 \quad (11)$$

Model 3b:

$$R = \alpha_0 + Industry\beta_1 + Confounding\beta_2 \quad (12)$$

5 Data and Descriptive Statistics

Data was retrieved of all stocks listed on the Nasdaq Nordic Stockholm Main Market from Nasdaq OMX Nordic. Nasdaq OMX Nordic is the owner of the Stockholm Stock exchange and provides the complete lists of stocks registered on the market and can further be divided into three sub-divisions: Large Cap, Mid Cap and Small Cap. All companies listed on the exchange per 2017-03-15 was included in the initial sample. The initial sample data consisted of 118 Large Cap stocks, 125 Mid Cap stocks and 99 Small Cap stocks. Several companies have both A and B shares as well as dividend preferred stocks listed on the exchange and therefore a culling of this data was performed and only a single stock type per company was kept. All A and preferred stocks were removed from the sample. In some rare cases companies had C shares listed, these are equivalent to B shares in this study (if B shares exists they are removed). The difference between an A or B (or C) share is that A shares have more votes in the board. Generally, the trading volume and frequency is higher in B shares and are because of that used in the study. After A and preferred stocks was removed, the sample consisted of 89 Large Cap stocks, 115 Mid Cap stocks and 96 Small Cap stocks. This is a company representation of the stocks listed on the index, one company - one stock.

The initial sample was not adjusted for listing dates which means that news articles were attempted to be found for all stocks in the sample during the period of 2006 to 2015. This lead to later removal of stocks covered in media, but not listed during the sample period. The rationale behind the selected time period is the Kyoto Protocol entering into force February of 2005 and thus implying companies being increasingly interested in social and environmental actions, and the end period was selected because 2016 reports were not available in the first quarter of 2017. For every company that has had their name mentioned in either the headline or the introduction in an article of sustainable or social character during the period will be included in the analysis. The study is concerned with the question of how investors respond towards global social or environmental news exposure.

Because the only stocks of interest were those that has had environmental or social coverage during the period all stocks that have not been covered in an environmental or social setting during the period were removed. This yielded the final sample of 44 Large Cap stocks. The reason for excluding both Mid Cap and Small Cap was because media coverage of social and environmental issues was very scarce. Typically, only a very limited number of companies were covered during the period, thus a small versus big comparison would be misleading. In addition the sample was cleaned for all data with a Z score higher than three. This means that all observations deviating more than three standard deviations from the mean were removed. The reason for this was to remove outliers that had experienced very high abnormal returns, to not distort the analysis. Descriptives of the final sample are presented in table 1.

Articles were selected by searching for the specific company name in the headline and introduction for articles published in Svenska Dagbladet (SvD) during the period. SvD is generally accepted as one of Sweden's most high quality newspaper. SvD reaches about one million readers daily. There were some limitations to selecting SvD as the newspaper of choice for the study, but similar limitations occur in most wide reach newspapers. For instance, 60.3 % of readers are located in Stockholm which could imply that the study is biased towards preferences of inhabitants in the capital rather than the country as a whole. The demographics of SvD shows an almost equal distribution between males and females (51 % versus 49 %) and the average

Table 1: Final sample and event representations

Left side describes sample reduction. Right side describes the belongings of the final sample.

Initial	156	ESG reports	100
Not listed	-1	Confounding Events	11
Non-unique Events	-12	Consumer Goods and Services	58
Removed Outliers	-10		
Total	133		

reader is 50 years of age. The average reader also has an average annual salary of 36 % above the average of Swedish households (SvD, 2017). Overall media coverage during the sample period is presented in appendix F.

The article search was conducted using company names in headlines and introductions. An additional list of keywords was used to retrieve only social and environmental framed articles. The list of keywords consisted of words created from Thomson Reuters ESG metrics shown in table 2. Thomson Reuters provides ESG data on over 6000 listed companies worldwide. They provide a sample of available ESG metrics at: <http://financial.thomsonreuters.com/content/dam/openweb/documents/pdf/financial/esg-research-brochure.pdf>. The ESG metrics are based on three pillars: Environmental, Social and Governance. The list of keywords was created using a manual methodology. The ESG metrics was interpreted, selected and translated into Swedish keywords. Thomson Reuters provided a sample of 25 environmental and 25 social metrics. Table 2 contains the keywords used in the article search. The metrics used by Thomson Reuters are in many ways too complex for use at a keyword search. This was the reason for interpretation of the metrics and generating keywords from them. For instance, Thomson Reuters used combinations of keywords such as water withdrawal total and water recycled, I simplify this into the keyword water. This simplification implies that all articles generated through the keyword search must be manually screened to determine if the article is of either environmental or social character. In addition to keyword framing in social and environmental categories the articles are further divided into four sub-groups: equality, employees, society and environment. These four groups were used in a variance analysis and is presented as an extension to the analysis. The result of the article search is presented in appendix E.

Table 2: Keywords

Environment		Social	
Ekosystem	Avfall	Olyckor	Fack
Miljögifter	Koldioxidutsläpp	Donation	Facklig
Miljöforskning	CO2	Flexibel	Personalomsättning
Effektivitet	Klimatpåverkan	Ansätlld	Kund
Grön	Miljöpåverkan	Arbetstid	Samhälle
Hybrid	Återvinn	Skadegrad	Medarbetare
Vatten	Växthusgas	Arbetskada	Jämställd
Miljömål	Miljövänlig	Arbetskador	Mångfald
Klimatmål	Energianvändning	Barnarbete	Utbildning
Förnybar		Kvinna	Engagemang
Miljö		Kvinnor	Kompetens
Miljömärkt		Kundnöjdhet	Rättigheter

Financial data was collected from both Yahoo Finance and Nasdaq OMX Nordic. Data was collected for both the estimation window and event window. In order to make the data collection more efficient a simple Python program was created to download, organize and format data according to the conditions of the calculators used in the event study. These calculators are in fact self-constructed spreadsheets which provide some automation when conducting the calculations and validity checks. The data downloaded with the Python program was attained through the Yahoo Finance API. This data was only available for OMXS30 after 2009 and is the reason why the data collection was complemented with Nasdaq OMX Nordic. The only explanation found to data not being available prior to 2009 was because of a change in the index ticker, which caused some conflicts with the old one and is because of that reason not available. For the year prior to 2009 the data is downloaded from Nasdaq OMX Nordic. All downloaded data has been manually checked for errors and mismatches. Mismatches in data generally occurs when a holiday falls on a weekday and previous close data is added to these days.

Table 3: Sample Firms ESG reports

Year	No. Of ESG-Reports	Percentage of Sample Companies
2006	9	21%
2007	19	44%
2008	22	51%
2009	25	58%
2010	31	72%
2011	31	72%
2012	32	74%
2013	33	77%
2014	32	74%
2015	34	79%

Data of ESG reports was downloaded through Thomson Reuters ESG Screener. A complete view of these can be found in appendix D and a summary of descriptives can be seen in table 3. This data has been collected and analyzed by a third party which increases validity of the

data. Each company's respective industry was collected from Nasdaq OMX Nordic, shown in table 4. Determining if a company is delivering consumer products or services has been done by evaluating if a company sells a product that is used directly by a private individual.

Table 4: Sample industry representation

Industry	No. of Related Events
Food and Beverages	1
Industrial Goods and Services	27
Construction and Materials	11
Healthcare	3
Automobiles and Parts	1
Financial Services	34
Personal and Household Goods	10
Technology	7
Retail	15
Realestate	2
Oil and Gas	1
Basic Resources	10
Telecom	11

Table 5 shows how many abnormal returns were significant at each respective day in the event window, the average magnitude of the abnormal returns and their t-values. Note that all average abnormal returns are statistically significant. This is an effect of taking the magnitude of the average abnormal return.

Table 5: Abnormal Returns

	AD-2	AD-1	AD	AD+1	AD+2	AD+3
Observations	133					
No. of Significant	5*	10*	3*	10*	8*	3*
Magnitude AAR	0,009	0,009	0,010	0,009	0,010	0,010
t-value	14,46**	11,60**	12,12**	12,22**	11,16**	11,62**

* Significant at 0.05 level.

** Significant at 0.01 level.

6 Results

In the event analysis, market reactions towards social and environmental news was tested. This first part of the results chapter presents clear reactions towards the news as the magnitude of cumulative abnormal returns shows. Table 6 displays the magnitude of cumulative average abnormal returns and their t-values.

Table 6: $|CAAR|$ Returns

	$ CAAR $	t-test
AD-2:AD-1	0.018	17.36**
AD	0.010	12.22**
AD+1:AD+3	0.029	18.04**
AD-2:AD+3	0.057	22.58**

** Significant at 0.01 level.

In the first case, pre-announcement (AD-2:AD-1) CAAR (1.8 %) is significantly distinct from zero, suggesting pre-announcement information leakage. Returns maintain a significant difference (2.9 %) even after the announcement date (AD+1:AD+3), which implies that the market is still adjusting towards the information. Over the entire event window (AD-2:AD+3) a significant 5.7 % magnitude difference is observed. Accounting for pre-announcement information leakage and post-announcement latecomers, social and environmental news are anticipated for by markets before and after the announcement is made in media. The dashed line in figure 5 displays the illustrative actual response and the thick line displays an efficient response.

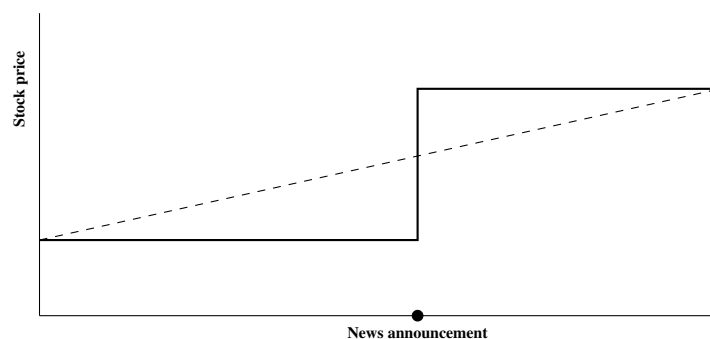


Figure 5: Efficient Market Hypothesis

Source: Author's own. Derived from Fama (1970).

6.1 Hypotheses Testing

The hypothesis testing is done in two stages. First a single variable model is used. Then a robustness check for the result is performed, controlling for confounding events.

6.1.1 ESG report regression

Table 7 reports the results from the regression using ESG as an independent dummy variable. The coefficients in Model 1a does not suggest any significant return contributions for the

announcement date, event window, pre-announcement or post-announcement. Because of this H1a, H1b, H1c, and H1d are accepted, ESG reports did not contribute significantly to returns for any of the time-frames.

A closer look at the coefficients reveal that ESG reports contributed with a weak insignificant positive return at the announcement date (0.001) and after the announcement date (0.001). In the pre-announcement period ESG report show a weak insignificant negative return contribution (-0.002). Over the event window an insignificant no return (0.000) was observed.

Table 7: ESG Report

		B	t	Sig.
AD	Constant	0,01	5.695	0
	ESG Report	0,001	0.345	0.730
AD-2:AD+3	Constant	0.057	11.178	0
	ESG Report	0	-0.016	0.987
AD-2:AD-1	Constant	0.02	9.335	0
	ESG Report	-0.002	-0.843	0,401
AD+1:AD+3	Constant	0.028	8.625	0
	ESG Report	0.001	0.342	0.733

6.1.2 Robustness check ESG report regression

In the second ESG report regression the confounding dummy variable is included, to alleviate that confounding events influenced the results. Table 8 shows the regression results. Controlling for confounding events did not suggest any notable difference in ESG returns, except in one case. The event window period shows that a weak insignificant negative return (-0.001) was the contribution of ESG reports. In the post-announcement period confounding events contributed with a positive return (0.01) significant at the 0.1 level.

Table 8: ESG Report and Confounding

		B	t	Sig.
AD	Constant	0,01	5,622	0
	ESG Report	0,001	0,336	0,737
	Confounding	0	0,159	0,874
AD-2:AD+3	Constant	0,056	11,004	0
	ESG Report	-0,001	-0,091	0,928
	Confounding	0,015	1,618	0,108
AD-2:AD-1	Constant	0,019	9,167	0
	ESG Report	-0,002	-0,894	0,373
	Confounding	0,004	1,103	0,272
AD+1:AD+3	Constant	0,027	8,45	0
	ESG Report	0,001	0,264	0,793
	Confounding	0,01*	1,753	0,082

* Significant at 0.1 level

6.1.3 Consumer goods and services supplier regression

Testing whether there is a difference in abnormal returns for companies supplying consumer goods or services was done with a dummy regression. Table 9 shows the result of the regression. This regression is strong in a sense that comparison of groups are supported by even group sizes. One can therefore argue that a high number of events (133) and even distribution between groups generate sturdy results.

Table 9: FLS

		B	t	Sig.
AD	Constant	0,011	9,866	0
	FLS	-0,002	-1,189	0,237
AD-2:AD+3	Constant	0,06	17,975	0
	FLS	-0,008	-1,511	0,133
AD-2:AD-1	Constant	0,02	14,502	0
	FLS	-0,004**	-2,058	0,042
AD+1:AD+3	Constant	0,03	13,739	0
	FLS	-0,001	-0,433	0,666

** significant at 0.05 level

In the pre-announcement period these companies show a -0.004 return difference significant at the 0.05 level. Suggesting information leakage for companies producing consumer goods or services. All observations showed a negative impact of the FLS coefficient, suggesting that the magnitude of abnormal returns are lower for companies supplying consumer goods and services. Hypothesis H2a, H2b and H2d is accepted as firms supplying consumer goods and services displayed a significant negative return in any of the periods. H2c is not accepted as the FLS coefficient did contribute with a significant negative return contribution.

For all four periods the FLS coefficient contributed with a negative impact on the returns. Suggesting that responses were weaker for stocks that supplied consumer good or services when in the news regarding social and environmental aspects.

6.1.4 Robustness check consumer goods and services supplier regression

Table 10 presents the results of the regression. After controlling for confounding events the FLS constant contributes with a significant (0.05 level) decrease of 0.005 in the pre-announcement period.

Confounding events contribute with a positive return contribution (0.06) significant at the 0.1 level over the event window. In the post-announcement period confounding events contribute with a positive return contribution (0.011) at the 0.1 level.

For all four periods, FLS still generate a negative impact and confounding events generate a positive impact on returns.

Table 10: FLS and Confounding

		B	t	Sig.
AD	Constant	0,011	9,681	0
	FLS	-0,002	-1,215	0,227
	Confounding	0,001	0,322	0,748
AD-2:AD+3	Constant	0,06	17,679	0
	FLS	-0,009*	-1,735	0,085
	Confounding	0,017*	1,833	0,069
AD-2:AD-1	Constant	0,02	14,198	0
	FLS	-0,005**	-2,211	0,029
	Confounding	0,005	1,339	0,183
AD+1:AD+3	Constant	0,029	13,451	0
	FLS	-0,002	-0,656	0,513
	Confounding	0,011*	1,836	0,069

* Significant at 0.1 level
** Significant at 0.05 level

6.1.5 Industry regression

The industry regression is presented in appendix A. At the announcement date the real estate sector show a significant (0.01 level) positive return contribution (0.024) as compared to other industries. Only two events were associated with the real estate sector which could have influenced the result.

In the entire event window the real estate sector still perform significantly different from other industries. These results are significant at the 0.05 level with a return contribution of 0.046.

In the pre-announcement period the industrial goods and services sector show a significant (0.01 level) positive difference (0.008) from other industries.

6.1.6 Robustness check industry regression

The robustness test for the industry regression is presented in appendix B. At the announcements date confounding events did not have a significant return contribution to the real estate section, which suggests that the event itself contributed to the return. The same goes for the event window, confounding events did not contribute to the return and the real estate sector thus show implications of a stronger reaction than other industries. Maintain that real estate events are very few in numbers and therefore results are not likely to be reliable.

In the pre-announcement period industrial goods and services still show a significant positive contribution to abnormal returns.

6.2 Analysis of Variances for Event Types

In this extension of the analysis an analysis of variance between groups is presented. Based on the characteristics of the news articles events were divided into four groups: equality, employees, society and environment. A complete overview of articles for each respective group is available in appendix E.

This extension of the analysis explores if there are any differences in mean returns for the four groups. This analysis is performed for the announcement date, the event window, pre-announcement and post-announcement. As table 11 presents there are no statistically significant differences between events based on the article characteristics.

Table 11: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
AR+0	Between Groups	0	3	0	1,705	0,169
	Within Groups	0,012	129	0		
	Total	0,012	132			
Event Window	Between Groups	0,004	3	0,001	1,399	0,246
	Within Groups	0,11	129	0,001		
	Total	0,113	132			
Before Event Date	Between Groups	0	3	0	0,771	0,513
	Within Groups	0,019	129	0		
	Total	0,019	132			
After Event Date	Between Groups	0,001	3	0	0,564	0,64
	Within Groups	0,045	129	0		
	Total	0,046	132			

6.2.1 Post-Hoc Analysis of Variances for Event Types

The post-hoc ANOVA is presented in appendix C. The post-hoc test is performed only on the announcement date since the ANOVA test showed results to be more significant compared to others. There are no significant differences in mean returns on the announcement date. The result suggest a valuation ranking of the four types where articles concerning employees generate the highest abnormal return magnitudes, followed by equality, society and lastly environment. Note that these findings are not significant.

7 Discussion

7.1 Some Nascent Remarks

This study suggest that only three out of 133 events displayed significant abnormal return at the date of announcement. This study also suggest that ten events had significant abnormal returns the day before and after the announcement. Over the entire event window all days except for one, the last day, proved to have more events with statistically significant returns compared to the announcement date. This implies that information leakage affects return in the pre-announcement period and continues after the announcement date. When not controlling for confounding events.

Note that the total number of significant abnormal returns for each respective day is low relative to the entire number of events. Because of this it is likely that random or confounding effects have influenced the returns more than the social and environmental news announcements. In this study it was chosen to keep confounding events. It was revealed that confounding events had a significant contribution in the post-announcement period. This have likely impacted the results and thus post-announcement returns are more likely to be described by confounding events and not corporate responsibility announcements.

In the pre-announcement period confounding events did not contribute to returns significantly. It is thus likely that the news information has been available to investors prior to the announcement in SvD. This is explained as SvD has gotten their information from some source. It is because of this very likely that the information has been available to investors prior to the article being published in SvD. The implications of this is that there is a pre-announcement effect and that is more determining than the announcement date itself. The media repackaging effect and investors reacting towards stale information can thus be questioned (Chen et al., 2013; Tetlock, 2011).

Confounding events did not contribute significantly to returns on the announcements date. A low amount of events proved to have significant abnormal returns on the announcement date. This implies that random effects cannot be ruled out. This study showed the pre-announcement effect is more determining than the event date effect. This would contradict findings by Huberman & Regev (2001), saying that investors are likely to react towards already known information. Alternatively investors see no financial implications of the events and responses are because of this limited (Abowd et al., 1990; Fama et al., 1969)

Looking at CAARs for the different periods in the event window a significant difference can be seen. This study cannot however rule out that these are just random effects due to random walks (Fama, 1965). A not so pleasant outcome of taking the magnitude of returns is that any noise in the stock return is amplified. The CAARs for the events indeed do produce significant return differences. But it is very likely that these differences are due to noise/randomness or confounding events.

To summarize these findings, market efficiency and investor rationality is discussed. Market efficiency is strong in a sense that differences in returns were observed even before SvD made the announcements. This implies that information dispersion is efficient and stock prices will reflect the information before it is communicated through media (Fama, 1970). This study and several others support that corporate responsibility is a growing desire for companies. Despite

this trend investors do not show any tendency to follow this (Shiller et al., 1984). Findings are therefore consistent with Sharpe (1964) and Markowitz (1952) claiming that investors are rational and try to maximize the expected value while minimizing risk, and only reacting towards announcements with financial implications (Abowd et al., 1990; Fama et al., 1969). Corporations on the other hand display stakeholder behavior going in multiple directions and are not maximizing the firm's objective function Jensen (2002). In the next section implications for managers and corporations are discussed.

7.2 Implication for Managers and Investors

Both the literature review and this study has revealed that corporate responsibility is a growing phenomena or trend within corporations. Hale (2016) claim emerging investors to have interest in corporate responsibility and are according to a 2014 Nielsen Global Survey willing to pay more for products or services that have been produced by responsible corporations. This study does not support that this effect is seen in the financial market. Neither does findings by Doh et al. (2010) or Robinson et al. (2011). This study suggest that there are no short-term return differences for stocks in the news of social and environmental coverage. More long-term studies by Halbritter & Dorfleitner (2015) does not show any differences between companies with high corporate responsibility versus companies with low corporate responsibility. Some authors like Roberts & Dowling (2002) state that corporate reputations are critical in value creation, since intangible assets have become of much greater importance when valuing a company. There are very little empirical evidence that such reputation gains reap any economic profits.

Many companies have adopted the stakeholder approach Freeman (1984). Since there are no strong empirical evidence that these actions generate wealth, one cannot rule out an agency problem within firms (Jensen, 2002). Media is a tool for corporate governance (Chen et al., 2013) and when things are good management will be in media in a positive setting and the opposite for negative exposure. There are thus strong implications for management to portray corporate responsibility.

This study shows more irrationality in management than in investors. Such behavior could be explained by external pressure or an agency problem. In the case for ESG reports one can argue that the increase of published ESG reports have come from external pressure (Guay et al., 2004) or as a result of an agency problem (M. Friedman, 1970). The result of this study show no significant differences between companies publishing ESG reports and those that do not. This is in line with Halbritter & Dorfleitner (2015). On one hand, Bauer et al. (2005) explain that the risk reducing features of corporate responsibility has become more widely known and because of this are not attractive from a diversification reason (Markowitz, 1952). On the other hand, it is possible that there are no financial implications from corporate responsibility. Publishing ESG reports can thus be seen as an over-investment and will off-set the firm's objective function (Jensen, 2002). Roberts & Dowling (2002) argue that corporate reputations are critical in value creation, since intangible assets have become of much greater importance when valuing a company. Roberts & Dowling (2002) further claim that firms with good social and environmental reputation are likely to show a better ability to negotiate terms of trade and partake in better interaction with stakeholders, which is said to indicate that firms with good reputation are likely to demonstrate good financial performance. The results of this study presents no evidence that ESG reports have significant impact on abnormal return when a firm is in the news regarding

social or environmental matters.

This study finds no incitements for investors to use a strategy for social or environmental investing. An investment strategy focusing on social and environmental investments would off-set the risk expected-return function (Markowitz, 1952). Because a strict strategy would exclude some industries. In agreement with Fowler & Hope (2007) a more prominent strategy would be to add some social and environmental investments as a risk-reduction tool.

The study does show indications that a firm's consumer proximity significantly affects abnormal returns in the pre-announcement period by 0.5 percent. Merton (1987) suggest that investors are more likely to invest in what they are familiar with. A higher level of information about familiar stocks are likely to decrease any return reaction (Fang & Peress, 2009). These findings could imply that investors are more informed about companies in the close proximity as argued by Chen et al. (2013) news information is only a repackage of already known information and if investors are more aware then responses should be limited.

Concerning industries there were much much higher representations of some industries as compared to others. The real estate sector was only represented in two events and showed a significant return difference over the event window and at the announcement date. Because of very low representation of the real estate sector no general conclusions can be drawn. The findings could be random, even if confounding events did not significantly describe the differences. The industrial goods and services sector showed significant return contributions in the pre-announcement period. This implies that this sector does respond differently from other industries in the pre-announcement period.

The final part of the results presented an analysis of means between different event types. This did not show any significant differences between articles of the types: *equality*, *employees*, *society* and *environment*. This study can because of this not draw upon any conclusions of any aspect being more important than other when attracting investors.

8 Conclusion

Recall that this study investigated the magnitude of abnormal returns. It does because of this not take into account for any positive or negative effects of the events. One cannot, based on the results of this study, answer what type of news are anticipated by investors and in what direction. This study concludes that there is a pre-announcement response for news announcements of social and environmental character. The effect is weak and random effects cannot be ruled out.

From the sceptical view, focus on social and environmental responsibility would blur the firm's objective function (Jensen, 2002). From the positive perspective, social and environmental responsibility could increase corporate reputation and attract both talent and emerging investors (Hale, 2016). Corporate responsibility can be forced by regulation (Vogler & Gisler, 2016) or voluntary as according to the stakeholder theory (Freeman, 1984). Regulation alters corporations while increasing costs, violations distort reputation, while voluntary acts are claimed to increase reputation. This study found no significant return contributions from voluntary acts such as ESG reports.

Media does cover some companies more than others (see appendix F), during the sample period only 44 of 89 Large Cap companies were covered. One could ask if media has created the "need" for voluntary corporate regulation or if it actually contribute value to the organizations and the stockholders. Despite being more than 30 years since Freeman (1984) published his book about stakeholder theory, little robust and widespread research has shown that corporate responsibility either drives economic or social growth. Some scholars argue that reaping reputational gains will allow firms to charge premium prices (Hale, 2016). However, most of these studies are survey based and mostly answers the desired behavior of the individual, not how the individual actually behaves.

One cannot rule out that an agency problem (Jensen, 2002) is more likely to occur in a company frequently covered in media as compared to a company less frequently (or not at all for that matter). During the sample period the number of companies issuing ESG reports grew. In the beginning of the sample period one in five companies published ESG reports, and in the end of the period four out of five companies published ESG reports. Xu et al. (2014) showed that ISO 14001 certified firms draw more media attention in case of environmental violations compared to non-certified firms. ESG portfolios did not demonstrate a significant return difference, regardless of high or low rating (Halbritter & Dorfleitner, 2015). This report did in line with Halbritter & Dorfleitner (2015) show that in case of social and environmental news ESG report publishing firms did not experience significant return differences from the other firms in the sample. According to Jensen (2002) optimization can only be done towards one variable. While ISO 14001 certification only covers environmental factors, ESG covers environmental, social and governance aspects. A clear distinction between the two is the focus of ISO 14001 and the lack of focus in ESG reports. The major conclusion for management is thus to find focus of their social and environmental work and for investors to invest in focused companies.

9 Recommendations and Future Work

The empirical evidence that corporate responsibility announcement generate stock returns are hesitant (Bauer et al., 2005; Doh et al., 2010). This study does in line with Fitzgerald (2007) suggest that an increasing number of number of companies issue ESG reports. Firms also attempt to communicate their corporate responsibility through stock indexes (Consolandi et al., 2009; Curran & Moran, 2007).

Firms render investments in corporate responsibility despite the fact that the wealth creation of these actions are unclear and empirical evidence support that investors do not significantly appreciate these actions. The act of corporate responsibility is considered a stakeholder approach (Freeman, 1984). Corporate responsibility is also seen as an agency problem within the organisation (Jensen, 2002).

Considering this there are no incitements for corporations to heavily invest in corporate responsibility from a value maximization standpoint (Jensen, 2002). An important addition to the literature is to investigate if some firms tend to over-invest in corporate responsibility. That is if some corporation actually produce a significant harm in the value creation for its stockholders due to this over-investment. Such research would contribute to the balance between value maximization and the stakeholder theory.

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Appendices

A Industry Regression Results

Table 12: Industry independent

	AD			AD-2:AD+3			AD-2:AD-1			AD+1:AD+3		
	B	t	Sig.	B	t	Sig.	B	t	Sig.	B	t	Sig.
Constant	0,01	11,952	0	0,057	22,316	0	0,018	17,225	0	0,029	17,914	0
Food and Beverage	0,014	1,434	0,154	0,025	0,838	0,403	0,022	1,861	0,065	-0,011	-0,613	0,541
Constant	0,009	10,047	0	0,055	19,491	0	0,017	14,547	0	0,029	16,164	0
Industrial Goods & Services	0,004	1,838	0,068	0,01	1,563	0,121	0,008	2,995	0,003	-0,002	-0,382	0,703
Constant	0,01	11,658	0	0,056	21,251	0	0,018	16,603	0	0,028	16,828	0
Construction & Materials	-0,001	-0,449	0,654	0,01	1,084	0,28	-0,001	-0,338	0,736	0,013	2,192	0,03
Constant	0,01	12,087	0	0,058	22,651	0	0,018	17,293	0	0,029	18,031	0
Health Care	-0,006	-0,999	0,32	-0,029	-1,685	0,094	-0,008	-1,165	0,246	-0,015	-1,368	0,174
Constant	0,01	11,995	0	0,057	22,357	0	0,018	17,189	0	0,029	17,851	0
Automobiles & Parts	-0,001	-0,133	0,894	-0,008	-0,258	0,797	-0,003	-0,27	0,788	-0,003	-0,163	0,871
Constant	0,011	11,215	0	0,058	19,799	0	0,019	15,769	0	0,029	15,223	0
Financial Services	-0,003	-1,486	0,14	-0,005	-0,816	0,416	-0,004	-1,532	0,128	0,002	0,467	0,641
Constant	0,01	11,79	0	0,058	21,988	0	0,018	16,827	0	0,029	17,533	0
Personal & Household Goods	-0,002	-0,728	0,468	-0,011	-1,171	0,244	-0,003	-0,804	0,423	-0,006	-0,942	0,348
Constant	0,01	11,842	0	0,057	21,871	0	0,018	16,785	0	0,029	17,431	0
Technology	-0,002	-0,532	0,595	-0,003	-0,223	0,824	0	-0,081	0,935	0	-0,023	0,982
Constant	0,01	11,519	0	0,059	21,931	0	0,019	16,968	0	0,03	17,43	0
Retail	-0,001	-0,53	0,597	-0,014	-1,727	0,086	-0,006	-1,688	0,094	-0,007	-1,343	0,182
Constant	0,01	12,088	0	0,056	22,38	0	0,018	17,04	0	0,029	17,712	0
Real Estate	0,024	3,682	0	0,045	2,191	0,03	0,01	1,118	0,265	0,011	0,853	0,395
Constant	0,01	12,022	0	0,057	22,31	0	0,018	17,132	0	0,029	17,811	0
Oil & Gas	-0,004	-0,376	0,708	0,021	0,703	0,483	0,008	0,669	0,505	0,016	0,87	0,386
Constant	0,01	11,376	0	0,056	21,34	0	0,018	16,64	0	0,028	16,938	0
Basic Resources	0,003	0,799	0,426	0,012	1,249	0,214	-0,001	-0,256	0,798	0,01	1,729	0,086
Constant	0,01	11,578	0	0,057	21,608	0	0,018	16,283	0	0,03	17,587	0
Telecommunications	-0,001	-0,196	0,845	-0,004	-0,436	0,663	0,004	0,942	0,348	-0,007	-1,202	0,232

B Industry Controlled for Confounding

Table 13: Industry Controlled for Confounding

	AD			AD-2:AD+3			AD-2:AD-1			AD+1:AD+3		
	B	t	Sig.	B	t	Sig.	B	t	Sig.	B	t	Sig.
Constant	0.01	11.34	0	0.056	21.03	0	0.018	16.184	0	0.028	16.781	0
Confounding	0.001	0.214	0.831	0.015	1.643	0.103	0.004	1.123	0.264	0.01	1.753	0.082
Food and Beverage	0.014	1.434	0.154	0.026	0.886	0.377	0.023	1.891	0.061	-0.011	-0.572	0.568
Constant	0.009	9.475	0	0.054	18.265	0	0.016	13.554	0	0.028	15.061	0
Confounding	0.001	0.332	0.741	0.016	1.772	0.079	0.005	1.354	0.178	0.01	1.741	0.084
Industrial Goods & Services	0.004	1.853	0.066	0.011	1.718	0.088	0.008	3.108	0.002	-0.001	-0.238	0.812
Constant	0.01	11.303	0	0.056	20.587	0	0.018	16.029	0	0.027	16.253	0
Confounding	0.001	0.328	0.744	0.013	1.35	0.179	0.005	1.224	0.223	0.007	1.171	0.244
Construction & Materials	-0.002	-0.526	0.6	0.006	0.622	0.535	-0.003	-0.698	0.487	0.01	1.731	0.086
Constant	0.01	11.518	0	0.056	21.525	0	0.018	16.359	0	0.028	17.03	0
Confounding	0.001	0.316	0.752	0.017	1.892	0.061	0.005	1.24	0.217	0.012	1.995	0.048
Health Care	-0.006	-1.03	0.305	-0.033	-1.946	0.054	-0.009	-1.327	0.187	-0.018	-1.646	0.102
Constant	0.01	11.392	0	0.056	21.07	0	0.018	16.16	0	0.028	16.719	0
Confounding	0.001	0.172	0.864	0.015	1.61	0.11	0.004	1.053	0.294	0.01	1.763	0.08
Automobiles & Parts	-0.001	-0.128	0.898	-0.006	-0.218	0.828	-0.003	-0.242	0.809	-0.002	-0.118	0.906
Constant	0.011	10.717	0	0.057	18.716	0	0.019	14.892	0	0.028	14.271	0
Confounding	0	0.101	0.919	0.015	1.579	0.117	0.004	0.992	0.323	0.01	1.795	0.075
Financial Services	-0.003	-1.473	0.143	-0.004	-0.74	0.461	-0.004	-1.479	0.142	0.002	0.562	0.575
Constant	0.01	11.174	0	0.057	20.632	0	0.018	15.758	0	0.028	16.343	0
Confounding	0	0.114	0.91	0.014	1.527	0.129	0.004	0.996	0.321	0.01	1.696	0.092
Personal & Household Goods	-0.002	-0.713	0.477	-0.01	-1.042	0.299	-0.003	-0.716	0.475	-0.005	-0.8	0.425
Constant	0.01	11.304	0	0.056	20.748	0	0.018	15.881	0	0.028	16.439	0
Confounding	0.001	0.203	0.84	0.015	1.63	0.106	0.004	1.065	0.289	0.01	1.77	0.079
Technology	-0.002	-0.54	0.59	-0.003	-0.308	0.759	-0.001	-0.136	0.892	-0.001	-0.114	0.909
Constant	0.01	10.892	0	0.057	20.529	0	0.018	15.872	0	0.029	16.203	0
Confounding	0	0.119	0.905	0.013	1.453	0.149	0.003	0.894	0.373	0.01	1.641	0.103
Retail	-0.001	-0.512	0.609	-0.013	-1.569	0.119	-0.005	-1.581	0.116	-0.006	-1.168	0.245
Constant	0.01	11.437	0	0.055	21.08	0	0.018	16.002	0	0.028	16.575	0
Confounding	0.001	0.32	0.749	0.016	1.73	0.086	0.004	1.107	0.27	0.01	1.806	0.073
Real Estate	0.024	3.678	0	0.046	2.271	0.025	0.01	1.16	0.248	0.012	0.927	0.356
Constant	0.01	11.419	0	0.056	21.024	0	0.018	16.102	0	0.028	16.679	0
Confounding	0.001	0.165	0.869	0.015	1.638	0.104	0.004	1.079	0.283	0.01	1.796	0.075
Oil & Gas	-0.004	-0.37	0.712	0.022	0.75	0.454	0.008	0.697	0.487	0.017	0.924	0.357
Constant	0.01	10.859	0	0.055	20.213	0	0.018	15.725	0	0.027	15.944	0
Confounding	0	0.161	0.872	0.015	1.603	0.111	0.004	1.064	0.289	0.01	1.755	0.082
Basic Resources	0.003	0.793	0.429	0.012	1.228	0.222	-0.001	-0.275	0.784	0.01	1.711	0.089
Constant	0.01	11.045	0	0.056	20.464	0	0.017	15.377	0	0.029	16.564	0
Confounding	0.001	0.177	0.86	0.015	1.621	0.107	0.004	1.054	0.294	0.01	1.788	0.076
Telecommunications	-0.001	-0.197	0.844	-0.004	-0.454	0.651	0.004	0.933	0.352	-0.007	-1.228	0.222

C Post-Hoc

Table 14: Announcement Date Post-Hoc ANOVA

(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.
Equality	Employees	-0,003468935	0,002502627	0,51
	Society	0,000246347	0,002152142	0,999
	Environment	0,002469737	0,002288432	0,703
Employees	Equality	0,003468935	0,002502627	0,51
	Society	0,003715282	0,002514313	0,454
	Environment	0,005938673	0,002631915	0,114
Society	Equality	-0,000246347	0,002152142	0,999
	Employees	-0,003715282	0,002514313	0,454
	env	0,00222339	0,002301206	0,769
Environment	Equality	-0,002469737	0,002288432	0,703
	Employees	-0,005938673	0,002631915	0,114
	Society	-0,00222339	0,002301206	0,769

D ESG reports during the sample period

Table 15: ESG Reports

This table show ESG reports published by final sample firms between 2006 and 2015.

Stock	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	Total
AAK	No	No	No	No	No	No	No	No	No	No	0
ABB	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10
Alfa Laval	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9
ASSA Abloy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	9
Astra Zeneca	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	9
Atlas Copco	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10
Autoliv	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	7
Avanza	No	No	No	No	No	No	No	No	No	No	0
BillerudKorsnäs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	7
Boliden	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10
Electrolux	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10
Ericsson	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	9
Fingerprint	No	No	No	No	No	No	No	No	No	No	0
Getinge	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	6
Handelsbanken	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	7
Hennes & Mauritz	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10
ICA	Yes	Yes	Yes	No	No	No	No	No	No	No	3
Industrivärden	No	No	No	No	No	No	No	No	No	No	0
Investor	No	No	No	No	No	No	No	No	No	No	0
JM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	7
Kinnevik	No	No	Yes	Yes	Yes	Yes	No	No	No	No	4
Lundin Petroleum	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	6
NCC	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	6
Nibe	Yes	Yes	No	No	No	No	No	No	No	No	2
Nordea	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	8
Peab	No	No	No	No	No	No	No	No	No	No	0
Saab	Yes	No	No	No	No	No	No	No	No	No	1
Sandvik	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10
SCA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	9
SEB	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	9
Securitas	Yes	Yes	Yes	Yes	No	No	No	No	No	No	4
Skanska	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10
SKF	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10
SSAB	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	8
Stora Enso	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	9
Sweco	No	No	No	No	No	No	No	No	No	No	0
Swedbank	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10
Swedish Match	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	6
Tele2	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	7
Telia	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	8
Trelleborg	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	9
Volvo	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	9
Wallenstam	No	No	No	No	No	No	No	No	No	No	0
Åf	No	No	No	No	No	No	No	No	No	No	0
Total	34	32	33	32	31	31	25	22	19	9	

E Articles published in SvD

Table 16: Employees

Stock	Headline	Date
AAK	35 fick gåav 124 varslade	2011-01-24
Astra Zeneca	Städstrejk rycker närmare	2010-10-12
Autoliv	Autoliv i tvist med anställda	2007-09-26
Electrolux	Electrolux läste in anställda	2013-01-16
Electrolux	Electrolux får facklig kritik	2011-07-15
Ericsson	Jamo höjde lön	2008-06-13
Hennes & Mauritz	H&M och IF Metall vill bekämpa daliga arbetsförhållanden i kambodjanska fabriker	2012-10-23
Hennes & Mauritz	Bomull plockad av barn i H&M:s kläder	2007-11-26
Hennes & Mauritz	Hard kritik För andra gången	2006-03-17
NCC	NCC varslar 80 i Stockholm	2013-06-06
Sandvik	Neddragning hos Sandvik	2013-06-13
Sandvik	Jobb raddas i Sandvikfabrik	2009-06-01
Sandvik	Lagre lön raddar Sandvikjobb	2009-05-16
Skanska	SAGER UPP I NORR Skanska säger	2016-03-14
SSAB	Facklig kritik efter dodsolycka	2013-10-18
SSAB	SSAB avslutar krisprogram	2013-06-18
SSAB	SSAB:s atgard får facket att se rott	2012-12-01
SSAB	SSAB går vidare med sitt krisavtal	2012-11-30
SSAB	Kris sätter press på facket	2012-11-30
Stora Enso	Fel byxlangd ledde till varsel	2012-09-06
Handelsbanken	Storbank utan varningsklocka - Handelsbanken saknar ett säkert och anonymt anmälningssystem	2013-01-16
Swedbank	Aldre medarbetare i kylan	2012-04-05
Swedbank	Diskriminerad fick 70000	2011-07-19
Telia	Facket skarper tonen mot Telia	2008-02-23
Telia	Dags för ännu ett varv i karusellen	2008-02-09

Table 17: Environment

Stock	Headline	Date
ABB	ABB tar fart med ny energiIngen rubrik tillgänglig	2010-07-13
Alfa Laval	Goda tider hotar miljomal	2011-07-12
Alfa Laval	ETIKEN FAR FASTE Svenska	2006-01-14
Assa Abloy	Miljon i baklas i Assa Abloy	2007-04-14
Atlas Copco	Tungviktare långt från klimatmalen	2008-04-28
BillerudKorsnas	Billerud investerar	2011-12-08
Boliden	Boliden i blasvader i Chile	2009-11-23
Electrolux	ETIKEN FAR FASTE Svenska	2006-01-14
Ericsson	Varldsutställning med flyt	2008-06-13
Ericsson	Tungviktare långt från klimatmalen	2008-04-28
Ericsson	Skandaler, klimat och lyx	2007-12-21
Handelsbanken	Stark agare bra för miljön	2009-12-15
Hennes & Mauritz	H&M vattensatsar med WWF:s hjälp	2013-01-24
Hennes & Mauritz	Kladjätte laggar kraft på miljövanlig bomull	2012-04-14
Hennes & Mauritz	Smutsiga transporter	2007-04-15
Hennes & Mauritz	H&M:s utsläpp ökar starkt - Har stigit med 50 procent sedan 2003	2007-04-15
Hennes & Mauritz	Ekologiskt a la 2007	2007-03-25
Investor	Miljöforetagen nästa mål - Men hos Investor finns varken uttalad policy eller miljöansvarig i ledningen	2007-04-17
Nordea	Foretagen underskattar risker kopplade till vatten	2014-06-03
Nordea	Nordea valkomnar okant bolag	2011-05-03
Nordea	Svenska storbanker missar ansvarsfrågor	2006-10-11
Sandvik	Tungviktare långt från klimatmalen	2008-04-28
Sandvik	Sandviks miljöarbete sent ute "Vi har tagit tid på oss för att det ska - ...fungera över hela världen".	2007-05-08
SCA	Jätten varnar om miljön - i teorin	2014-11-26
SCA	Uppförandekod för hela verksamheten	2008-02-17
SCA	Skogsbolag toppar miljöindex	2006-11-03
Securitas	Securitas brister på miljö och ansvar	2011-03-22
Skanska	Skanska renar vatten i Peru	2014-04-02
SKF	Goda tider hotar miljomal	2011-07-12
SKF	Foretag tjänar på ett rent samvete - Investeringar i etik och hållbarhet ger bättre borsvarde	2008-01-14
Sweco	Svenskar ritat hållbar stad i Kina - En miljövanligtator stor som Uppsala ska byggas	2007-06-11
Swedbank	Svenska storbanker missar ansvarsfrågor	2006-10-11
Telia	Bolagens hänsyn svar att mata	2013-08-14
Trelleborg	Foretag tjänar på ett rent samvete - Investeringar i etik och hållbarhet ger bättre borsvarde	2008-01-14
Volvo	Volvo säljer hybridlastbil	2011-03-30

Table 18: Equality

Stock	Headline	Date
ABB	Forsta kvinnan i ABB:s styrelse	2011-03-03
ABB	Barnevik vill bekampa misaren	2006-08-18
ASSA Abloy	Ojamlikheten består ibolagen	2010-02-18
Electrolux	Kvotering otankbart för styrelseproffset	2012-02-17
Ericsson	Nu satsar Ericsson på kvinnor	2006-02-21
Getinge	Helst inte!	2014-03-18
Handelsbanken	Storbolag som i år minskar	2009-05-06
Hennes & Mauritz	På rätt väg	2006-04-26
ICA	Skillnaden börjar på golvet	2013-02-25
ICA	Ica brister i jämställdhet	2012-05-03
Industrivarden	Industrivarden får kvinnlig vd	2015-05-02
Industrivarden	Stormig var för Industrivarden	2015-05-02
Industrivarden	Kvinnobrist svartlistar SAS och Industrivarden	2015-03-03
Investor	Starkt kvinnligt ledarskap	2015-03-25
Investor	Investor får beröm för offensiv satsning	2015-03-03
Investor	Fler kvinnor för Investor	2010-03-13
Investor	Wallenbergs kvinnokamp	2009-10-13
Investor	Kvinnor slår fortfarande i glastaket	2007-12-18
JM	JM får ännu en styrelsekvinnor	2006-11-27
Kinnevik	Trenden med fler vd- kvinnor bromsas	2014-01-24
Kinnevik	Stenbeck sticker ut bland mannen	2007-03-10
Kinnevik	Få kvinnor bland sfarens chefer	2006-03-14
NCC	Få kvinnor i NCC-toppen	2007-02-19
Nordea	Ojamlikheten består ibolagen	2010-02-18
Saab	Saab visar vägen för kvinnlig chef	2013-10-20
Sandvik	Ojamlikheten består ibolagen	2010-02-18
SCA	SCA-direktörerna är som kulturmannen	2015-07-02
Skanska	En del borsbolag väljer in fler kvinnor	2010-03-15
Skanska	Storbolag som i år minskar	2009-05-06
Skanska	Kvinnor-satsning bär frukt Skanska överträffar målet	2007-03-07
Skanska	När normmannen Petter Eiken	2006-05-13
SSAB	Kvinnobrist svartlistar SAS och Industrivarden	2015-03-03
SSAB	Storbolag som i år minskar	2009-05-06
Swedbank	Hon ska styra Swedbank mot mer hållbarhet	2014-07-16
Swedbank	Kvoteringshot går hem hos Swedbank	2014-02-19
Swedish Match	Kvinnlig offensiv i styrelser	2013-03-12
Telia	Storägare försiktigt positiva till valet av Ehrling	2013-02-07
Telia	Storbolag som i år minskar	2009-05-06
Trelleborg	Storbolag som i år minskar	2009-05-06
Wallenstam	Trio på nya styrelseposter	2008-03-09
Af	Fler kvinnor söker sig till mansdominerad teknikbransch	2014-09-18
Af	Jämställdhet är viktigt för AF	2014-09-18
Af	Kvinnlig offensiv i styrelser	2013-03-12

Table 19: Society

Stock	Headline	Date
Astra Zeneca	Astra Zeneca- anstalld förhörd av kinesisk polis	2013-07-23
Atlas Copco	Storbolag bryter mot FN:s riktlinjer	2013-10-29
Atlas Copco	Mansklig rätt blind flack för svenska bolag	2013-10-29
Avanza	Bast och samst när bankkunder tycker till	2014-12-25
Ericsson	Teknik och stjärnglans konfliktlösa i Mexiko	2014-02-16
Ericsson	Volvo och Ericsson bast på etik	2010-01-28
Ericsson	Barnarbete skakar Telenor	2008-05-29
Fingerprint	Haktad var hog chef	2012-03-29
Hennes & Mauritz	Indien-kritik mot H&M	2015-12-30
Hennes & Mauritz	Stormen kring slojan	2015-10-01
Hennes & Mauritz	Pengarna kom från H&M	2007-03-31
Hennes & Mauritz	H&M vann SvD-pris Varifrån kom initiativet till H & M:s samhällsengagemang?	2006-06-08
ICA	Ica får bota för nekande av sloja	2007-05-04
Investor	Illa rimmat mellan ord och handling - PERSPEKTIV	2013-11-13
Kinnevik	Kinnevik investerar i utbildning	2015-04-24
Lundin Petroleum	Folksam ratar Lundin - säljer hela innehavet	2012-05-31
Nordea	Trog kund stor tillgång i Nordea	2015-12-23
Nordea	Fler klagomal mot bankerna	2010-01-18
Peab	Tidigare anstalld vid Peab haktad	2013-10-18
Peab	Mutmisstankar kring storbygge	2013-10-16
Sandvik	Storbolag bryter mot FN:s riktlinjer	2013-10-29
SCA	Jaktresorna kan falla inom ramen för muta	2015-01-16
SCA	Skogsbolag toppar miljöindex	2006-11-03
SEB	SEB laser in bolånekunder	2015-11-14
SEB	SEB- vd duckar om VW-uppdrag	2015-09-25
SEB	SEB-chef hade pengar på dolt konto	2015-02-23
SEB	Storbanker säljer ratade kunder vidare	2013-04-01
SKF	Affarside som tal att granskas	2008-01-14
SKF	SKF får toppbetyg av Amnesty	2007-02-02
Stora Enso	Stora Enso vill bli foredome	2015-07-21
Stora Enso	AP-fond säljer av Stora Enso	2014-12-12
Stora Enso	Kritiserad vd gar	2014-04-24
Stora Enso	Anklagelse om barnarbete i Pakistan	2014-03-06
Sweco	Swecokonsulter doms till fängelse	2015-06-27
Swedbank	Swedbank får hallbarhetschef	2014-07-16
Swedbank	Lansforsakringar kvar i toppen	2009-11-23
Swedbank	Tio ars bonus har uttraderats	2009-03-18
Tele2	Ny misstankt mutharva i Kazakstan	2014-10-17
Tele2	Bolag beskylls för barnarbete	2008-09-08
Telia	Eurasien ska tas till ny nivå	2014-09-30
Telia	Ny misstankt i Takilantharva	2013-04-05
Telia	Telia dolde diktaturlank	2012-09-20
Telia	Telia annu pressat om diktaturstater	2012-08-24
Telia	Telia fornekar stod till diktatur	2012-04-20
Telleborg	Affarside som tal att granskas	2008-01-14

F Total media coverage for sample firms

Table 20: SvD coverage during 2006 - 2015

Stock	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	Total
AAK	0	1	0	1	0	2	1	1	3	5	14
ABB Ltd	45	34	28	33	46	33	34	30	36	55	374
Alfa Laval	10	16	9	10	17	8	10	11	19	22	132
ASSA ABLOY B	12	10	11	8	11	11	5	21	11	10	110
AstraZeneca	38	24	21	12	21	18	29	41	119	40	363
Atlas Copco B	27	16	23	13	14	22	19	23	22	16	195
Autoliv SDB	2	8	13	10	16	10	6	9	11	10	95
Avanza Bank...	15	6	27	14	10	11	18	23	32	24	180
BillerudKorsnas	0	0	0	0	0	0	1	5	5	8	19
Boliden	26	23	28	14	16	15	13	11	19	39	204
Electrolux B	64	34	31	17	26	28	20	29	35	39	323
Ericsson B	289	271	242	152	93	99	107	99	187	209	1748
Getinge B	8	4	9	6	6	8	7	14	36	13	111
Hennes & Mauritz	96	85	79	42	56	30	51	106	95	88	728
ICA Gruppen	70	73	59	42	37	28	40	73	53	58	533
Industrivarden B	13	18	16	18	18	15	7	23	40	88	256
Investor B	93	69	32	30	27	39	27	47	37	54	455
JM	20	12	17	14	6	6	13	7	19	5	119
Kinnevik B	21	19	15	13	9	18	15	53	88	31	282
Lundin Petroleum	15	14	10	5	8	20	28	21	37	42	200
NCC B	36	32	26	21	24	19	15	21	26	25	245
NIBE Industrier	3	7	2	1	4	5	3	9	10	5	49
Nordea Bank	68	89	75	52	70	91	78	143	108	145	919
Peab B	14	22	21	11	12	21	11	18	18	22	170
SAAB B	96	92	162	408	215	384	141	145	155	113	1911
Sandvik	20	23	24	19	14	21	16	36	29	30	232
SCA B	22	41	20	16	14	25	27	25	109	267	566
SEB C	94	81	116	127	102	90	79	138	134	134	1095
Securitas B	38	39	17	10	11	31	10	11	16	9	192
Skanska B	55	53	42	34	45	35	33	33	72	75	477
SKF B	16	27	29	16	22	18	18	26	36	52	260
SSAB B	22	20	27	19	15	15	22	20	45	45	250
Stora Enso R	11	22	22	14	16	12	7	30	62	8	204
Sv. Handelsbanken B	41	33	63	40	27	28	51	40	49	74	446
SWECO B	10	9	5	6	4	6	4	6	7	10	67
Swedbank A	11	60	158	151	76	89	56	113	128	96	938
Swedish Match	22	18	8	9	7	7	8	10	16	9	114
Tele2 B	21	43	28	31	17	20	15	75	72	67	389
Telia Company	132	136	127	62	50	41	115	173	153	163	1152
Trelleborg B	35	73	41	62	49	52	11	9	11	21	364
Wallenstam B	6	15	8	5	3	6	7	4	7	7	68
Volvo B	193	231	300	281	208	166	165	236	240	266	2286
AF B	5	6	5	3	6	8	11	8	14	12	78
Total	1835	1909	1996	1852	1448	1611	1354	1976	2421	2511	18913



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