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STOCK MARKET REACTION TO CSR AND CSI NEWS

Master`s Thesis in
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ABSTRACT

The research question of this study revolves around the issues of whether news announced by the media about firms' corporate social responsible (CSR) and irresponsible (CSI) actions affect firms' stock prices in a short and in a long period. Furthermore, the thesis also examines, how different ESG-areas, which are environment, social and corporate governance, around CSR and CSI affect stock prices, how the illegality of the action affects, and does it play a role in a which industry a firm operates.

An event study approach is implemented to examine the stock market reaction to the news. To give new academic evidence about stock market reaction to announcement about corporate social responsibility and irresponsibility, the data consists of only European publicly listed firms. Altogether, the data includes 202 news articles that are published between 2000 and 2018. 98 of the articles are about firms' irresponsible actions and 104 of the articles are about responsible actions.

Consistent with previous studies form the U.S. market, the results indicate that investors do not award firms for their responsible activities, but they do punish firms for their irresponsible actions. When grouping the articles according to ESG-area, only environmental CSI publications are associated with stock decline. Moreover, the study shows that investors punish firms only for their illegal CSI actions, not for CSI actions that do not lead financial sanctions. After categorizing firms according to their industry areas, results show that only firms operating financial or consumer businesses are associated with lower stock prices after CSI announcement.

The findings of the study suggest that investors value irresponsible activities while they do not value firms' responsible behavior. That is why firms should carefully manage their responsible image and look out for making any mistakes around corporate social responsibility.

KEYWORDS: Corporate social responsibility, ESG, Stock market reaction, Socially responsible investing

1. INTRODUCTION

"Danske has lost both its chief executive and chairman as a result of the largest money-laundering scandal yet uncovered. The Danish bank said €200bn of Russian and other ex-Soviet money had flowed through its small Estonian branch between 2007 and 2015 with a "large part" of that thought to be suspicious." – Financial Times 2018

News like Danske Bank's money laundering scandal have been in headlines during recent year, and as a consequences of Danske Bank's money laundering scandal, the price of Danske's stock has decreased about 40 % from the stock's average price before the scandal (Bloomberg 2018). The scandal provides an instance of a situation where an unethical action causes huge economic and financial losses. Investors are punishing Danske Bank for its unethical behavior, and especially socially responsible investors, who want to take social aspect into account, must carefully think, whether Danske Bank is appropriate investment anymore.

Corporate social responsibility (CSR) and socially responsible investing (SRI) are important topics today. The CSR is defined as a firm's strategy that aims to maximize environmental and social benefits in addition to financial value of a firm, and SRI is a name for an investment strategy that takes both financial and social criterions into account in investment making process. Both SRI and the CSR have grown rapidly during recent years and nowadays, investors are even more aggressive in brining pressure on firms to act responsible. European SRI Study shows that in Europe, SRI has increased five-fold between 2013 and 2017, which gives an evidence that more and more investors are willing to take social issues into account. It can be assumed that behind the growth of SRI is investors' increasing awareness toward environmental and social issues. (Eurosif 2018; Porter & Kramer 2006; Renneboog, Ter Hors & Zhang 2011; Sparkes & Cowton 2004.)

Since the social responsibility has become increasingly meaningful for society and investors, firms cannot ignore the significance of CSR anymore. External pressure forces firms and corporations to act more responsible, and requirements and agreements based on legislation mandate firms to act more ethical. Furthermore, firms are also voluntary willing to act socially responsible. The relationship between the CSR and firms' financial performance is commonly understood and more and more firms want to have an image as a responsible operator. (Cortez, Silva & Areal 2009; Ioannou & Serafreim 2012; Porter et al. 2006.)

It is ironic that while the importance of the CSR is understood, and firms are more and more willing to take social issues into account in their business, the stories about corporate social irresponsibility (CSI) have become very frequent in the media. The media coverage of CSR news has increased rapidly in a short time, and while the media plays a central role, when it comes to firms' reputation making, firms must systematically manage their CSR images. It is shown that many firms improve their CSR after the media has given attention to firms' unethical practices. For example, Danske Bank started to focus more on prevention of money laundering after the damage caused by the money laundering scandal had already happened. (Flammer 2013; Porter et al. 2006; Financial Times 2018.)

The growing impact of the CSR and recent scandals about firms' unethical activities announced in the media, raise a question, whether investors are punishing firms for their irresponsible actions. In the case of Danske Bank, the link between the money laundering scandal and the decreased stock price is obvious but does the relationship between the CSI and lower stock price always exist? Therefore, if investors punish CSI firms, it is interesting to examine whether investors also reward ethically behaving firms.

A number of previous researchers, such as Flammer (2013), Shane and Spicer (1983) and Collett (2002), have measured the relationship between the CSR announcements and firm values. Most of the studies focus on short-term effects and plenty of the studies give evidence from the United States. This thesis contributes to the existing literature by measuring short- and long-term effects and by examining purely European sample. The data includes announcements of CSI and CSR news from 2000 to 2018, which makes this study current by giving the including evidence of recent events.

1.1. Purpose of the study

The purpose of this thesis is to measure how CSR and CSI news affect firms' stock prices. More precisely, this thesis examines whether the effect is same for the CSR and CSI news articles, and whether the effect varies in different time periods. The thesis also investigates, how different topics about CSR and CSI affect stock prices - Are investors reacting same way to environmental, social and corporate governance news? Furthermore, the thesis also examines does it matter, whether the firm's unethical action is against the law or just against the cultural norms.

The thesis analyzes firm's stock prices prior and after CSR and CSI news articles announcements which is consistent with the previous research by Philipp Krüger (2015). The target of the thesis is to give evidence of short- and long-term stock market reactions to CSR and CSI news articles, and in the same way as in Krüger's study (2015), the news articles are grouped to three categories according to their topics. In this study, the groups are: news about environmental issues, news about social issues, and news about corporate governance. This thesis also gives evidence for the question whether investors are reacting differently to the CSR news about firm's activities against the law than to the CSI news about activities, which are not against the law, but still against cultural norms.

The literature on the impact of firms' responsible and irresponsible announcements in the European markets is scarce. A large proportion of existing studies focus on firms that are listed on the U.S. stock exchanges. This thesis aims to narrow the gap in the literature by focusing on European firms, and by giving up-to-date status of the CSR and CSI. The used data in this thesis include announcement from 2000 to 2018.

1.2. Research hypotheses

The hypotheses of this study revolve around the questions of whether news announced by the media about responsible (CSR) and irresponsible (CSI) actions affect companies' stock prices. According to the traditional finance theory and efficient capital markets, companies' stock prices should reflect all information affecting companies' future cash flows (Fama 1965; Markowitz 1952). Therefore, investors' reaction should happen immediately after an announcement with information that will affect the firm's future cash flows. Furthermore, since the positive relationship between corporate responsible behavior and profit-making is commonly understood, the first hypothesis is as follows:

H_0: News about CSR and CSI do not affect the stock prices

H_1: News about CSR and CSI affect the stock prices

If it is the case that the null hypothesis is rejected, two-additional hypothesis could be drawn. Previous studies, such as Capelle-Blancard & Petit (2017) and Krüger (2015), show that investors punish companies about non-ethical activities more than they award

companies about responsible activities. Academic literature also shows that investors are more likely to react to negative news than to positive news about firms (De Bondt & Thaler 1985). Moreover, the media is also playing a central role, when it comes to the CSI news articles. While the CSR news articles are more likely to reported by the firm itself, the CSI news are more likely to be announced by the media, which commonly gives more audience for the news. Hence, the second hypothesis is as follows:

H_2: The CSI news about companies has more significant effect on stock prices than CSR news

The third hypothesis that could be drawn, if the null hypothesis is rejected, is related to the length of the effect of CSR news. As mentioned previously, the efficient market hypothesis assumes that announcements that consist new information about companies' future profit making affect stock prices (Fama 1965). However, studies also show that investors are likely to overreact in a short run (De Bondt et al. 1985). This leads to an assumption that the effect of the events is statistically significant in a short run, but do not exist in a long run. The third hypothesis is as follows:

H_3: The effect of announcements exists in a short-term, but disappears in a long-term

1.3. Structure of the thesis

The structure of the thesis proceeds as follows: the second chapter reviews theoretical background of stock price valuation and theories behind stock price movements. The chapter includes the model of capital asset pricing, arbitrage pricing theory, three factor model, and theory of efficient market hypothesis.

The third chapter focuses on the definition and the impact of corporate social responsibility. Third chapter represents how social responsibility has grown during last two decades and it reviews the relationship between corporate social responsibility and companies' financial performance. The fourth chapter presents existing literature by reviewing several main studies about CSR and CSI news' effect on firms' values.

The data and methodology are presented in the chapters five and six, and the seventh chapter of the thesis shows the empirical analysis. Finally, the eight chapter summarizes the main results of the study and provides conclusions and suggestions for future studies.

2. THEORETICAL BACKGROUND

In order to analyze the relationship between a new announcement and stock price, it is important to understand how stocks are priced, which makers affect stock prices and what the role of new information for the stock prices is. To receive this goal, three popular stock pricing models and efficient market hypothesis are presented in the following subchapters.

2.1. Stock pricing models

According to the efficient market hypothesis, company's stock value is always its real value (Fama 1970). However, academic literature shows that the efficient market hypothesis does not always hold, thus company's actual stock value does not always present its real value (Bromiley, Govekar & Marcus 1988). This theoretical part presents three models for pricing stocks, which are all well recognized in financial literature.

2.1.1. Capital asset pricing model

Capital asset pricing model, CAPM, is a security-pricing model. Establishers of the model are Markowitz with his portfolio theory (1952) and Sharpe (1964) and Lintner (1965) with their studies about asset pricing and valuation. The CAMP is used to estimate the theoretically appropriate required rate of return of a security. The model assumes that investors have homogeneous expectations and there is a complete competition in the markets, which may not take place in the real world. (Sharpe 1964; Lintner 1965; Hull 2015: 75.)

The CAMP bases on the idea that the expected rate of return of a security consists of the risk-free rate, market's return the security's beta (Sharpe 1964; Lintner 1965; Hull 2015: 75). The formula of CAMP is presented below:

(1) $$E(R) = R_f + \beta\,(R_m - R_f)$$

The *E(R)* is asset's expected return and it consists of two parts: nonsystematic risk and systematic risk. Risk free rate, R_f, represents systematic risk and it affects the whole market and thus cannot be diversified away. The CAPM states that a stock's return bases on a stock's unsystematic risk that is measured by Beta, β. R_m is the average return from the markets and it is usually approximated as the return of well-diversified stock index such as S&P 500. (Hull 2015: 75.)

CAMP based on a number of assumptions and Hull (2015: 75) has listed them as follows:

"1. Investors care only about the expected return and standard deviation of the return from an asset.
2. The returns from two assets are correlated with each other only because of their with the return from the market. This is equivalent to assuming that there is only one factor driving returns.
3. Investors focus on returns over a single period and that period is the same for all investors.
4. Investors can borrow and lend at the same risk-free rate.
5. Tax does not influence investment decisions.
6. All investors make the same estimates of expected returns, standard deviations returns, and correlations between returns."

2.1.2. Arbitrage pricing theory

Arbitrage pricing theory, APT, is a stock pricing model introduced by Stephen Ross (1976). In the same way as the CAPM, the APT estimates future returns by measuring an asset's risk and expected return. However, unlike the CAPM, the APT do not assume that markets are perfect. The theory consists of three assumptions that are as follows: there is a perfect competition on the markets, systematic factors explain assets' returns and investors can create a portfolio of assets where diversification eliminates specific risk. (Ross 1976; Bodie, Kane & Marcus 2014: 332.)

On the contrary to the CAPM, which expect that only systematic risk affects an asset, the APT states that the expected return of an asset is composed of several risk factors. According to the APT, assets that have same sensitivity to the same factors should have equivalent returns. The APT is presented in the formula two below. (Nikkinen, Rothovius & Sahlström 2002: 78.)

(2) $$E(R) = R_f + \beta_1 f_1 + \beta_2 f_2 + \ldots + \beta_n f_n$$

In the same way as in the formula of CAPM, *E(R)* is the expected return of an asset, and R_f is the risk free rate on the markets. β_n describes an asset's sensitivity to the factor of n, and the f_n is the n^{th} factor price. However, unlike the CAPM, APT does not specify the factors. (Brealey, Myers & Allen 2014: 205.)

2.1.3. Three factor model

Fama and French (1993) present in their study a theory to explain assets' returns. They measure that three factors explain the most of assets' returns: a market risk factor, a size risk factor and a value risk factor. The market risk factor, beta, measures stock's unsystematic risk, and it is the same factor that is presented in the CAPM. The formula of three factor model is as follows (formula 3). (Fama & French 1993.)

(3) $$E(R) = R_f + \beta(R_m - R_f) + \beta_{si} SMB + \beta_{hi} HML$$

E(R) is an asset's expected return and R_f is risk-free rate on the market. Beta, β, measures an asset's sensitivity to the factors. *SMB* is an average return of small capitalization portfolio minus an average return of big capitalization portfolio, and *HML* is an average return of a portfolio that includes value stocks minus a portfolio that include growth stocks. To sum up, three factor model consists of the CAMP plus the size and the value factors. (Fama et al. 1993; Nikkinen et al. 2002: 79.)

2.2. Efficient market hypothesis

Kendall (1953) was the first one to bring up the idea of random walk. The theory of stocks' random walk suggests that stock prices have no memory and that is why stocks' future movements cannot be predicted based on the previous movements of stocks (Kendall 1953). Furthermore, in the early sixties, Eugene Fama studied the daily price movements of stocks that included Dow Jones Industrial Average Indexes between

years 1957 to 1962. Fama's results show strong evidence of stocks independence in daily price changes. According to the Fama's research, stocks prices follow the random walk, and that is why it is impossible to predict stocks' price changes based on a historical data. Therefore, on a given day, the price of a stock is as likely to increase after a previous day's rise as after a previous day's drop. (Fama 1965.)

In 1970, Fama introduced the efficient market hypothesis, EMH, in his article "Efficient Capital Markets: A Review of Theory and Empirical Work". The hypothesis based on an assumption that markets are efficient information-wise. It means that in an efficient market any investor cannot constantly win the market and achieve excess returns relative to average market returns on a risk-adjusted basis given the information available at the time the investment is made. The model also lies under the perfect market assumption, which means that markets do not consist any taxes or transaction costs, information is costless, investors are rational, and investors have homogenous expectations. (Fama 1970.)

Rational investors value securities based on a security's fundamental value that is basically a security's net present value of its future cash flows. When investors learn something new about a stock's fundamental value, they are responding to the information. Therefore, securities' prices include all the available information and the new information announced reflects almost immediately to the stock's price: prices move to the new level based on their new net present values. Therefore, in an efficient market, historical information is not a prediction of future returns because securities prices change only because of the release of new information. (Fama 1970.)

Hence, when news about the value of a security hits the market, its price should react immediately to that news. Therefore, the price of a security should not either underreact or overreact to the announcement and a security's price should be equal to its fundamental value. It means that a security's price should not change without any new information been announced in the markets. Prices of securities should also change only in a consequence of news about securities' fundamental values. Hence, news about changes in demand or supply should not affect securities' prices. (Fama 1970.)

2.2.1. Three forms of market efficiency

Fama (1970) divides the concept of equity market efficiency into three categories depending on the quality of the information. The levels are weak, semi-strong and

strong. In the stock price change forms of all three categories, the future price changes are assumed to be independent of past stock price changes, which means that stocks follow random walk. (Fama 1970.)

The weak form of the theory states that securities' prices include all historical information. It means that securities' prices include, for example, information about earlier stock price developments and trading volumes. In inefficient markets, higher profits than normal returns cannot be achieved by using technical analysis methods. (Fama 1970.)

In the semi-strong market, securities' prices are assumed to fully reflect all publicly available information. Publicly available information includes corporate releases, news releases and financial statements. When markets fulfil the semi-strong rules, investors cannot achieve abnormal returns by using a fundamental analysis. To test whether markets fulfil the semi-strong rules, an event study approach is used. The event study approach is used to measure if a particular announcement affects a security's price and whether the change happens immediately or over some particular period. (Fama, Fisher, Jensen & Roll 1969; Fama 1970.)

In markets that fulfil the strong market conditions, securities' prices include all available information. In that case, markets include all historical information, all public information and all insider information. However, strong form is not expected to be an exact description of a reality. (Fama 1970.)

2.2.2. Studies about the EMH

The study of Keown and Pinkerton (1981) supports the semi-strong form of efficient market hypothesis. They show that a stock's price begins to increase 12 trading days before the announcement of a proposed merger, and then increase on the date of the public merger announcement to reflect the takeover premium offered to target firm shareholders. The conclusion indicates that impending merger announcement do not stay fully secret and inside investors trade by using the information about upcoming merger. (Keown et al. 1981.)

The study of Shiller, Fischer and Friedman (1984) supports stocks' random-walk theory. They state that fashions are rather unpredictable than predictable; hence stocks price movements are as likely to increase or decrease in the future (Shiller et al. 1984). Similarly, Scholes's study (1972) shows that non-information does not affect stocks'

prices. He examines stocks' price reactions to sales of large amount of stocks in individual companies by significant shareholder. He finds that there is relatively small stock price reaction to those sales. (Scholes 1972.)

Therefore, the early studies about EMH were mostly only supportive and whenever a researcher found a small moneymaking chance, it was explained away by different arguments. The most common explanation was that there are failures in risk adjusting. And even if the EMH assumes investors' rational behavior, the hypothesis does not fail, if some investors do not behave rational. If there are large numbers of irrational investors and their trading strategies are uncorrelated, their trades are likely to cancel each other out. (Shleifer 2000: 18.)

However, it has been measured that the theory of market efficiency is not always accurate and in the real world, the perfect market assumptions underlying the efficient market hypothesis do not hold and markets are not fully efficient. It is also questionable whether the new information entering the market will affect stock's future cash flows. (Bromiley et al. 1988.)

Fischer Black (1986) shows that some investors trade on noise. Noise trading means for example, that an investor makes investment decisions based on information that has not arrived yet and follow advices of financial gurus, and thus investors react irrelevant information and they do not follow the passive strategies in the uninformed markets as the EMH assume. The noise trading makes markets inefficient but may also prevent investors to take advantage of inefficiencies. (Fischer 1986.)

Furthermore, Bromiley et al. (1988) point out that unlike the EMH assumes, short-term price changes may not be a good indicator of a firm's long-term gain or loss, Additionally, McGoun (1990) states that it is not worth to consider markets as either efficient or inefficient with respect to each three forms of the test. He argues that it is more beneficial to see markets having different degrees of the efficiency-related features of speed of price adjustment and volume required to effect on a price adjustment. Market efficiency is better researched by analyzing these features directly. (McGoun 1990.)

Shiller, Fischer and Friedman (1984) show that instead of irrational investors' uncorrelated strategies, investors are more likely to deviate in the same way. Many of irrational investors are either selling or buying securities in the same time as other irrational investors and hence buying and selling are highly correlated across investors. This problem grows even stronger when noise traders listen to rumors and follow each

other's mistakes. Social movements and fashion are important sources of speculative asset price movements. (Shiller et al. 1984.)

Shiller's (1981) study shows that stocks prices do not equal to the present value of estimated future cash flows. He states that stock prices are more volatile than they should be if markets would follow the assumptions of EMH. Similarly, the research of Cutler, Poterba and Summers (1991) presents evidence against the EMH and its assumptions that stock price movements are fully explicable by news about future cash flows. They examine stock price movements in United States between years 1926 and 1986 and they find that a big number of the movements happened on days when no major news came out and only one third of price movements can be explained by news. (Cutler et al. 1988.)

2.3. Investors reaction to news

Traditional financial theory states that an investor makes investment decisions rationally and leaves no space for psychology or emotions (Markowitz 1952). However, academic literature shows that while financial decisions of investors are result of knowledge and thoughts, they are also result of emotions and consequences of values; behavioral finance. Behavioral finance, a sub-field of behavioral economics, argues that the characteristics of individuals affect the decisions that individuals make. It gives an evidence against the assumption of investors' rational behavior. Theories of behavioral finance suggest that investors are irrational and that is why investors' decisions are not always based on statistics and the relationship between risk and return. (Kahneman & Tversky 1997; Matloff & Chaillou 2013: 31.)

Psychological studies also show that humans give more weight to negative events than they give to positive events, which is called negativity bias (Rozin & Royzman 2001; Singh & Boon Pei Teoh 2010). Academic literature also shows that responses to negative and positive news are asymmetric: negative news has a greater impact on individuals' attitude than positive news does. In economics, theories of loss aversion and prospect theory show a somewhat similar dynamic.

Moreover, studies also show that individuals tend to overweight recent information and underweight prior data and make decisions based on their beliefs rather than proved information (Kahneman et al. 1979; De Bondt et al. 1985). Investors also tend to prize gains and losses differently. One well known theory of behavioral finance: prospect

theory made by Kahneman and Tversky (1997), shows that investors value losses and gains differently because losses cause greater emotional impact on an individual than does an equivalent amount of gain.

De Bondt and Thaler (1985) show that investors overact to firms' unexpected and dramatic announcements and investors overreact more on negative announcements than they react on positive announcements. Also Bremer and Sweeney (1997) measure similarly results: they find that in a short-run, investors overact to negative information but they do not find any evidence of overreaction to positive news.

Both the research of Galil and Gil (2011) and Norden (2008) support the previous studies about investors' overreaction. The research of Galil and Gil about credit default swaps shows that market reacts to bad news stronger (credit rating downgrades) than they react to positive news (credit rating upgrades). In the same way, Norden (2008) shows that markets react significantly to rating downgrades but not rating upgrades. Norden measures that credit rating downgrades face stronger media coverage than credit rating upgrades and the bigger the firm is, the stronger is the markets' reaction to a firm's downgrade. Galil and Gil continued Norden's findings by measuring that there is a positive correlation between media coverage and stock market reaction. (Galil & Gil 2011; Norden 2008.)

3. CORPORATE SOCIAL RESPONSIBILITY

There is a longstanding debate about firms' responsibilities towards society. In 1970, Milton Friedman argued in his New York Times essay that corporate social responsibility should not be anything else than a company's aim to maximize shareholders' profits (Freidman 1970).

However, corporate social responsibility is nowadays described as companies' voluntary acts to meet their social and environmental responsibilities (Cruz & Boehe 2010). The corporate social responsibility has become more and more meaningful for society, and companies and managers cannot anymore ignore it or its impact on firms' value (Capelle-Blancard et al. 2017).

3.1. Definition of CSR

The main argument against Friedman's (1970) opinions of corporate social responsibility has come from stakeholders' theory that is presented by Freeman (1984). The theory states that firms have networks with many constituent groups and that these stakeholders influence firms and vice versa: firms' activities affect stakeholders. This idea of relationships is the dominant paradigm in corporate social responsibility (McWilliams & Siegel 2001).

Corporate social responsibility, CSR, can be defined as companies' willingness to incorporate sustainable development into companies' strategies. It is also described as a business strategy that aims to maximize environmental and social benefits in addition to the financial value of a corporation. CSR can also seem to be actions that appear to further social good beyond financial goals and beyond what is required by the law. However, the definition of CSR is not always clear, and the definition may vary according to cultural context and geographical areas. (Sparkes & Cowton 2004; Cruz & Boehe 2010; McWilliams & Siegel 2001.)

Contrarily, if a firm is lack of care for society or environment, a firm's behaviour is corporate social irresponsible (CSI) (Lange & Washburn 2012). Basically, stocks of these kinds of firms are called sin stocks, which means that a firm of sin stocks involves in unethical business, such as tobacco, gaming or alcohol. Sin stocks represent about 5 % of the hole stocks market. (Hong & Kacperczyk 2009.)

Activities around corporate social responsibility are commonly divided into three categories: environmental, social and corporate governance activities. Environmental CSR, which plays an increasingly important role in the firm's CSR activities, include issues around sustainability and eco-friendly, "green", behavior. During recent decades, firms' environmental behavior has come under increasing analysis by the media, and the number of news articles about environmental CSR is six times higher in the 2000s that it was in the 1980s. (Flammer 2013.)

Social CSR activities are issues around a firm's business relationships and a firm's relationships with its employees. Social CSR activities consist, for instance, of employee relationships, employees' diversity and working conditions (e.g., child labor and a payroll system). (Renneboog, Ter Horst & Zhang 2011.)

Corporate governance is defined as systems by which firms are directed and controlled, and it consists of an ethical atmosphere in which all business processes are launched. Corporate governance includes issues around the board of directors, firms' executives and management. More detail, it includes, for example, salaries of management, board diversity, corruption, and a firm's tax strategy. The principles of corporate governance are commonly listed on "corporate governance code", which aim is to harmonize listed companies' corporate governance and to promote openness regarding corporate governance. (Knell 2006: 5; Finnish Corporate Governance Code 2015.)

When it comes to geographical differences around corporate social responsibility, Europe is the leader of implementing the Paris agreement that obligates keeping global warming to well below two degrees. And already, the European Union has reduced 22 % reduction of carbon emissions compared with 1990. Moreover, The European Union has settled several laws that force firms to be more ethical. KPMG's survey of corporate responsibility reporting (2017) study also shows that in Europe the rate of reporting corporate responsibility, CR, is about 77 % while in America it is about 83 %. However, five out ten countries that have the highest rates of CR information in annual reports are European countries: Norway, Sweden, UK, Denmark, and France. (Eurosif 2018; KPMG 2017.)

3.2. Growing impact of CSR

During recent decades, growing attention has been paid to companies' responsible behavior (Deng, Kang & Low 2013). The CSR has grown significantly during this

decade and nowadays more and more companies are willing to take social issues into account in their strategies (Deng et al. 2013). According to the Accenture CEO study, 93 % of the 766 CEOs that were interviewed to the study keep sustainability as a "very important" or "important" factor for their companies' future success. Over 81 % of the CEOs also said that ESG-issues have fully integrated into their companies' strategies and operations. (Accenture 2010.)

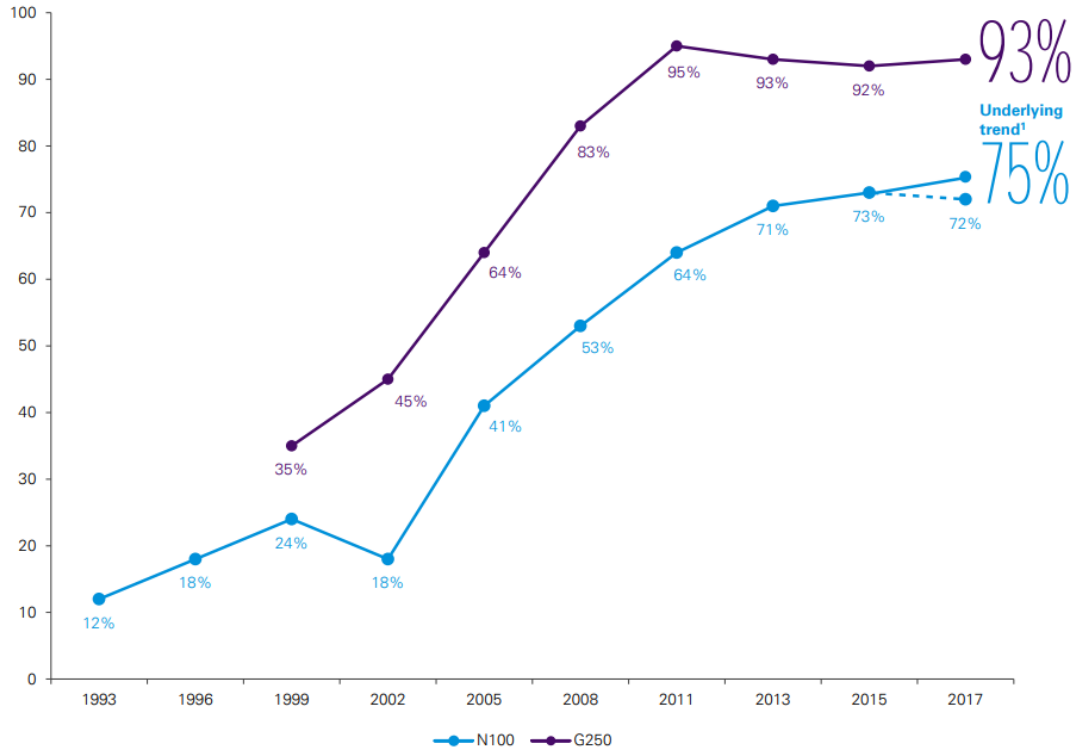


Figure 1. Growth in global corporate responsibility reporting (KPMG 2017).

The figure 1 presents the global growth of corporate responsibility reporting between 1993 and 2017. The N100 refers to a worldwide sample on 4,900 firms comprising the top 100 firms by revenue in 49 countries that are researched in the KPMG's study. The G250 consists of the world's 250 largest firms by revenue, which based on the Fortune 500 ranking in 2016. As the figure shows, within 20 years, corporate responsibility reporting has grown rapidly, and nowadays, 93 % of the world's biggest firms report their social activities. (KPMG 2017.)

The question raises whether firms are acting responsibly because they are convinced of the moral argument for being responsible or whether they are acting responsibly because it is in their self-interest to be responsible (Chandler 2014: 41-42). Well, there are many ways to consider what is the meaning of CSR for a company. From one point of view, the CSR actions are excessive actions and costs, which are carried out by on shareholders' coattails. From the other point of view, the CSR is a company's way to maximize shareholders' financial value. Therefore, there are many different motivation aspects behind firms' willingness to act responsibly. (Deng, Kang & Low 2013; Porter et al. 2006.)

One reason for the responsible behavior of firms is a legislation. Nation-level institutions affect firms' responsible behavior, and especially the political system is an important category of national business system that affects companies' responsible behavior. There are agreements and requirements based on legislation in the global market that force firms to act more responsibly. For example, in 2016, the European Union launched a directive which requires large companies in the EU to disclose social, environmental and diversity information. Therefore, big firms can no longer choose whether there are reporting about their diversity situation. (European Commission 2018; European SRI Study 2018; Ioannou & Serafreim 2012; Becchetti, Ciciretti & Kobeissi 2012.)

In addition to the legislation, investors and society also pressure firms to act more ethical. Sparkes et al. (2004) argue that one reason for the growing attention given to CSR and firms' more and more ethical actions is the increase of socially responsible investing. When institutional investors adopt socially responsible investing, it gives pressure to firms to act more responsible. (Sparkes et al. 2004.)

Firms have an external pressure to be responsible since investors are aware of social and environmental issues, and many investors want to take social issues into account. A firm that seems as an unethical operator may face challenges to attract customers, investors, and employees (Fombrun 1966). Empirical studies also show that unethical behavior may lead to financial losses through sales declines, and unethical firms may lose its network partners (Baucus & Baucus 1997; Haunschild, Sullivan & Page 2006). However, it is good to remember that the external pressure given by the investors and society varies between time, cultures and geographical area. (Flammer 2013; Cortez & al. 2012; Porter et al. 2006.)

Some of the CSR activities are more and more a norm. For example, eco-friendly behavior is nowadays more an expectation rather than a volunteer action of a firm. And

while an eco-friendly behavior is institutionalized as a norm, companies are commonly punished for not following the norm. The reason for keeping eco-friendly behavior as a norm is the increasing importance of environmental issues and protection. Nowadays, people are aware of global warming which forces also firms to be aware of their carbon footprint. (Flammer 2013; Godfrey, Merril & Hansen 2009; Özen & Küskü 2009.)

The third reason for firms' responsible activities is a better financial performance. The CSR can be a source for innovation and competitive advantage, which may lead to firms' increased sales. Studies also show that the CSR offers insurance against stakeholders' sanctions. Firms that are socially responsible face the goodwill of stakeholders, which helps firms when they are facing a negative event. In other words, stakeholders do not punish responsible firms as much as they punish irresponsible firms for the same negative action. That is why CSR could be thought to be an insurance against losses that the firm could experience after a negative event. Moreover, academic literature also shows that usually, the CSR is positively correlated to a firm's financial performance. Details about these are presented in the next subchapter, where a couple of studies about CSR and firm performance are proposed. (Porter 2006; Godfrey 2005.)

3.3. CSR and firm performance

The increasing number of researches has been trying to understand whether and how investments in stakeholder relations affect a firm's profitability and whether it costs to be green (Krüger 2015). From one point of view, CSR integration is costly and may require management to use the equity that could otherwise be used for investments in value creation instead of CSR integration activities (Harjoto & Laksmana 2018). But from the other point of view, CSR may have a positive relationship between firm performance (Deng et al. 2013).

For instance, López, Garcia, and Rodriguez (2007) examine the short-term correlation between corporate social responsibility and firm financial performance. They state that the firm's performance is negative during the first years when the new CSR strategy is applied (López et al. 2007). The negative development of firms' short-term financial performance during CSR strategy implementation is also recognized by Jeong, Jeong, Lee and Bae (2018). They find that if a firm invests in CSR just temporarily, it does not lead to any financial benefits. On the other hand, continuous work for CSR affect a firm's financial performance positively in the long run. (Jeong, Jeong, Lee & Bae 2018.)

In contrast to López's, Garcia's and Rodriguez's study, Mio and Fasan (2012) argue that CSR affects positively on short-term abnormal returns. They base their findings on positive short-term abnormal returns of CSR firms during the bankruptcy of Lehman Brothers in 2008. Their data includes 398 non-financial companies from eight different industries. (Mio & Fasan 2012.)

It is widely accepted in the literature that CSR affects positively on firm performance in a long run. For example, Shank, Manyllang, and Hill (2005) state that the markets price the socially responsible activities of a company in a ten-year period. They also find that companies with responsible image perform better than markets on average. Similarly, according to Deng's Kang's and Low's (2013) research, there is a strong positive correlation between CSR and shareholders' profit. Incorporation of social responsibility into companies' strategies improve companies' long-term profitability and effectiveness leading to increased shareholder value. (Deng et al. 2013.)

In the same way, Byun and Oh (2018) study an association between CSR activities and investors' value. They state that announced CSR activities and investors' value have a positive relationship. According to Byun and Oh, investors appreciate those CSR activities that affect locally, and activities, which are likely to bring out tangible benefits for companies' stakeholders. They also find that CSR activities are associated with a company's improved future operating performance. (Byun & Oh 2018).

Hill, Ainscough, Shank, and Manullang (2007) study also supports the view of a positive relationship between firm performance and the CSR. They examine the performance of ethical funds in the United States, Europe and Asia. The results of the study suggest that the European and American funds exceed the larger equity market in the three- and ten-year periods. Controversially, the Asian portfolio was not significantly better than its comparison market in any time-period. (Hill et al. 2007.)

Henken (2016) states that the importance of social responsibility arises in situations where a company has not invested in social responsibility. For example, in 2013, Rana Plaza factory collapsed in Bangladesh, which resulted as death of several workers. As a result, the company gained consumers' condemnation, and the company's sales and stock price fell (Henken 2016). Consequently, failures in companies' CSR can cause harm for not only the company's reputation but also the company's financial performance (Gugler & Shi 2008).

Integration of the CSR may also help a firm's access to finance. Cheng, Ioannou, and Serafeim (2014) investigate the relationship between socially responsible behavior of a company and a company's access to finance. They find that better access to finance may

be lead to decreased agency costs due to enhanced stakeholder engagement and decreased informational asymmetry due to raised transparency. They state that socially responsible behavior is linked to a significantly lower capital limitation. (Cheng et al. 2014.)

Nevertheless, the relationship between CSR and a firm's access to finance is not unanimous. Crifo, Forget, and Teyssier (2015) investigate the relationship between CSR and private equity financing. They find that socially responsible companies might not be more attractive for private equity investors than other companies. However, they see that companies that do not manage CSR are likely to experience limited access to private equity with a higher cost of capital. (Crifo et al. 2015.)

There are also many studies about the link between a firm's risk-level and the CSR. Cai, Cui, and Jo (2016) measure the relationship between corporate environmental responsibility and risk in U.S public companies between 1991 and 2012. They find that the integration of corporate ecological responsibility reduces a company's risk-level (Cai et al. 2016). Harjoto and Laksmana (2018) examine the association between CSR and risk-levels of company's management decisions. They state that companies that are focusing on the CSR must balance the interests of many stakeholders. Hence, they do not only focus on their shareholders and profit making. Excessive risk-taking may not benefit non-investing stakeholders while excessive risk avoidance may make the company less attractive from an investing stakeholder's view. (Harjoto & Laksmana 2018.)

Köbel et al. (2017) study how news articles about firms' irresponsible behavior affect firms' financial risks. By measuring an international sample of 539 firms between 2008 and 2013, they find that news articles about irresponsible behavior have a positive effect on financial risk. And especially news articles that are published in the world's leading newspapers strongly affect financial risk.

Aouadi and Marsat (2014) examine whether the ESG controversies, such as product-harm scandals that place a company under the media spotlight, affect companies market values. The data of the study includes over 4000 companies from 58 countries during 2002-2011. Surprisingly, their results show that ESG controversies are associated with higher firm value. And when they examine the effect by integrating the corporate social performance score (CSP) on the study, they find that companies that are ranked high on CSP score and are also high-attention companies have a significant positive correlation between ESG controversies and firm value. (Aouadi & Marsat 2014.) In addition to the studies about the relationship between the CSR and firms' performance, riskiness and

access to finance, Cahan, Chen, Chen and Nquyen (2015) also show that responsible companies get more positive media coverage than unethical companies.

After all, there is no unanimous answer for the question about CSR impact on firm performance, riskiness, and access to finance. However, most studies support the positive relationship between corporate responsibility and the company's financial performance.

3.4. Socially responsible investing

Unlike the traditional finance theory and EMH expects, a profit and a risk of investment are not only criterions that an investor may want to consider. Investors are also willing to take ethical and social standards into their investment making process. (Cortez, Silva & Areal 2012.)

The term *socially responsible investing* (SRI) is a term for an investment strategy that takes both financial and social criterions into account while making investment decisions (Renneboog, Ter Hors & Zhang 2011). Socially responsible investing is also called, for example, responsible investing, sustainable investing, greening and social investing (Kurtz 2005). It means that an investor pays attention to environmental, social and corporate governance issues. Its target is to maximize both financial benefit and a positive social impact (Global Sustainable Investment Review 2016).

The modern SRI based on investors' social awareness. In the same way as the CSR, the socially responsible investing (SRI) has also grown rapidly during the last two decades (Cortez & al. 2012; Renneboog et al. 2011). European SRI Study (2018) shows (Figure 2.) that an impact investing (in other words SRI) in Europe has grown rapidly during last six years.

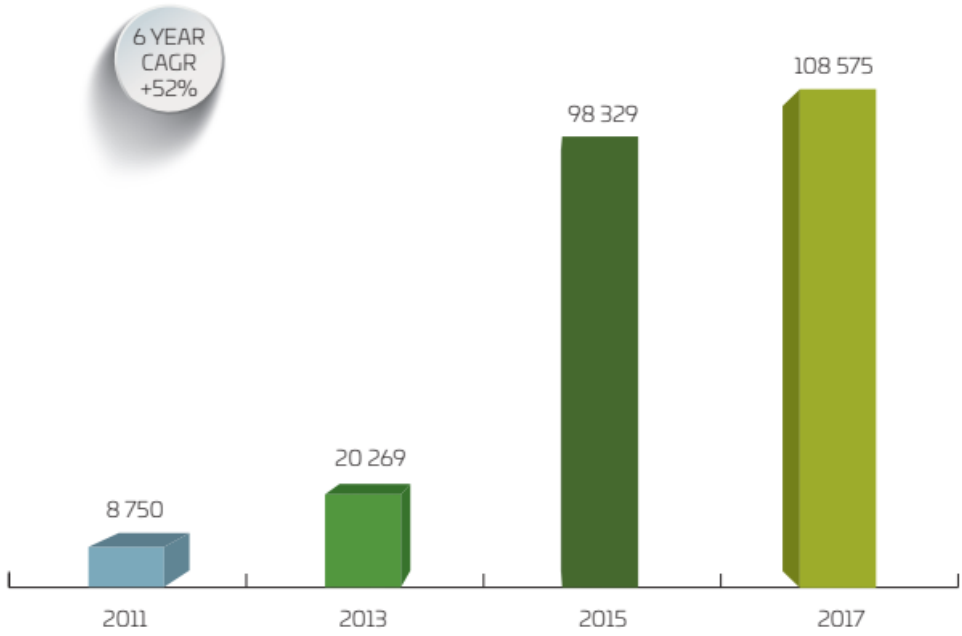


Figure 2. The growth of impact investing in Europe (European SRI Study 2018).

The Figure 2 shows that the six years compound annual growth rate of impact investing in Europe is +52 % (European SRI Study 2018). The increased awareness about issues in social responsibility may be a reason for the growth of responsible investing. For example, global warming and the Kyoto protocol have received a lot of media attention and investors are more and more aware of social and environmental impacts. (Renneboog, Ter Horst & Zhang 2008.)

Eurosif (2018) highlights that SRI is growing into the mainstream, and as mentioned in the earlier subchapter (3.2), the increasing interest in the SRI pressures companies to be more ethical. While the investors' awareness about social issues increase, it is even more important to understand that the awareness varies across countries and cultures and that investors have different values according to SRI. Hence, investors value ethical issues differently, and issues that are unethical for some investor may not be unethical for another investor. (Renneboog et al. 2011.)

One reason for the SRI becoming more mainstream, are the principles for social responsible investing that the United Nations launched in 2006. Signers of the principles promise to report their responsible investment activities annually and to follow next six principles that include, for example, integrating ESG-issues into investment process and cooperating with other investors to improve responsible investing. Signers of the

principles also engage in reporting on the companies' activities about responsible investing and companies' progression in responsible investing. (Principles for Responsible Investments 2006.)

3.4.1 SRI strategies

There are many ways for an investor to include social criterions into investment making process. Schueth (2003) lists three most common SRI strategies: *screening*, *shareholder advocacy* and *community investing*. *Screening* is an investing strategy that consists of including (positive screening) and/or excluding (negative screening) companies from portfolios according to social and/or environmental criterions. An investor that uses positive screening as their investing strategy creates an investment portfolio by choosing firms that are ranked high on CSR-scores. On the contrary, negative screening means that an investor avoids investing in unethical companies. To sum up, an investor that uses screening as a SRI strategy targets to own companies that are both profitable and socially responsible. (Schueth 2003; Colle & York 2008.)

Shareholder advocacy is an investment strategy in which an investor takes a role as an active owner of the company. An investor targets to make the firm more responsible by giving his/her opinions for the firm's governance. That includes, for example, engaging dialogue with the firm's management on issues of concerns or taking part of annual general meetings. (Schueth 2003; Sparkes & Cowton 2004.)

The third SRI strategy, *Community investing*, is a strategy that pursues to finance people in low-income, at-risk communities who have difficulties in accessing finance through conventional channels. Some of the social investors invest for example in Community Development Financial Institutions (CDFIs), which have a mission to focus on providing low-income housing and small business development financing in disadvantaged communities. (Schueth 2003.)

However, it is good to notice that following SRI strategies may not be this simple in the real world. Schueth (2003) points out that decision around socially responsible investing are never black and white. Social investors know that there are no perfect companies.

3.5. CSR and media coverage

As the importance of CSR has increased, the media coverage of CSR has also increased. Figure 3 gives evidence of the increase of CSR news in the media between 1990 and 2010. The query of news articles about CSR are collected from a database of Dow Jones Factiva, which covers more than 10,000 publications and newspapers around the world. The left scale presents the raw number of occurrences of CSR news articles and the right scale presents the raw number of CSR news divided by the number of occurrences for the word "finance". (Capelle-Blancard et al. 2017.)

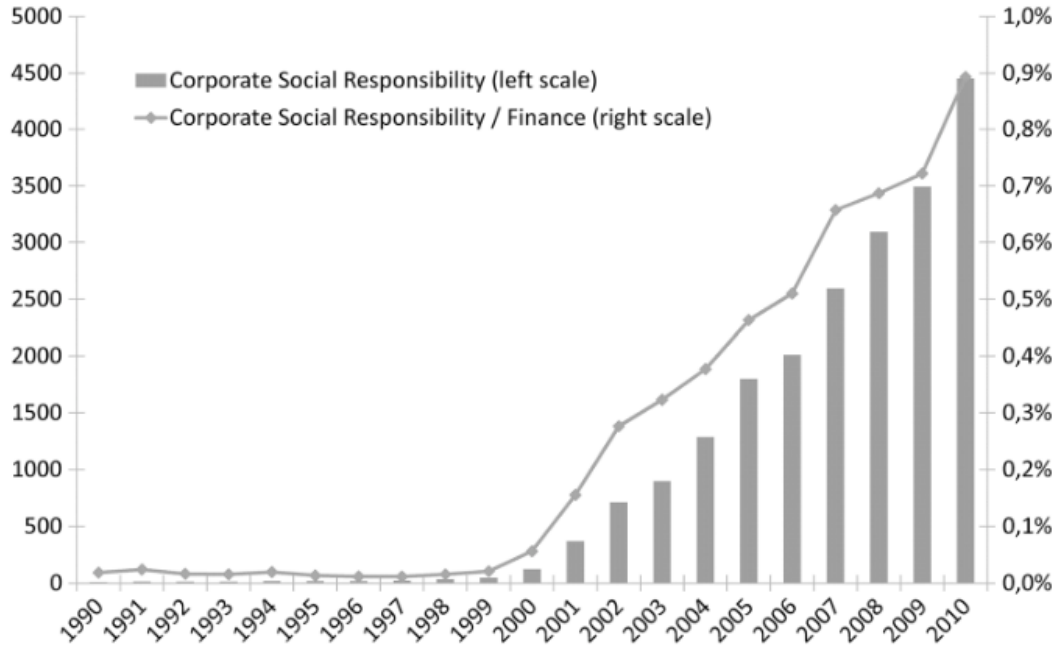


Figure 3. CSR in the news (Capelle-Blancard et al. 2017).

Therefore, the media plays a central role in the firms CSR reputation making, and thus the heightened firms' attention to CSR has not been entirely voluntary. Many firms awoke to the meaning of the CSR only after being surprised by the media. More than often, the media publishes news about firms' irresponsible activities that firms have not previously considered. Usually, firms improve their CSR after the media's and investors' pressure. (Porter et al. 2006.)

That is why it is important for firms' management to understand the role of the media when it comes to firms' reputation and CSR activities (Putrevu, McGuire, Siegel & Smith 2011). While news about a firm's positive CSR activities is commonly self-disclosed in annual report, news about a firm's CSI activities are more likely to be revealed by the media (Barnett 2014; Köbel, Busch & Jancso 2017).

In the earlier chapter (2.3), evidence about investors' reaction to news that the media has announced is given. The evidence shows that investors are more likely to give more weight to negative news than positive news. And while CSI activities are more covered by the media, it is not surprising that firms' irresponsible actions may lead stronger external reactions than information about responsible behavior, thus irresponsible related news face a much greater impact on the firm's relationship with its environment (Lange & Washburn 2012).

Investors may punish firms for their unethical activities when a news article about CSI raises doubts about the firm's future possibilities and increases risk for bad firm reputation (Aouadi & Marsat 2016). It is important that firms have good relationships with the media since it has the power to influence public opinion (Kuhen & Niessen 2012). A study shows that firms that perform well in CSR area are viewed more positively in the media, and the media spend more time analyzing and reporting news about responsible firms (Cahan, Chen, Chen & Nguyen 2015). Moreover, academic literature shows that a good reputation has strategic value for a firm and that there is a positive relationship between a firm's reputation and financial performance (Dierickx & Cool 1989; Weigelt & Camerer 1988; Roberts & Dowling 2002).

And as mentioned, a positive CSR of a firm earns a good-will of stakeholders, which lowers the impact of stakeholder sanctions towards it in response to negative events (Cheng, Ioannou & Serafreim 2014). Studies also show that locally oriented CSR news affects more on firms' value and future operating performance than socially-oriented CSR news. Locally-oriented news articles include announcements about communicates, diversity and employee relations, while socially-oriented news articles include information about a firm's environmental and human rights practices (Buyn & Oh 2018). Similarly, Russell's and Russell's research (2010) states that stakeholders are more likely to reward a firm which donates the local community rather than to distant communities.

Taken together, the impact of the CSR has grown rapidly during recent years. Investors are more and more willing to take social and environmental issues into account, and academic literature shows that usually responsible firms perform better than

irresponsible firms. And while the CSI news articles get more media coverage than the CSR news articles, it is important that firms actively manage their relationships to media and give a responsible self-image for its stakeholders.

4. PREVIOUS RESEARCH

It is interesting that although the importance of CSR and sustainability has increased in the previous years, the amount of companies' unethical behaviors and scandals has not decreased as a result (Eweje 2015). Therefore, it is even more interesting to examine the relationship between CSR and CSI announcements and a stock's value. Several previous studies have already measured whether markets reward companies for their ethical behavior and punish for their irresponsible activities.

Flammer (2013) examines the short-run relationship between announcements of news related to the environment and the price of a stock of a publicly traded company in the U.S. The data of her study is from 1980 to 2009. She finds that the price of a stock increased if a company announced to behave eco-friendly, whereas stock's price decreased if a company announced eco-harmful behavior. She also finds that the more the eco-friendly behavior is institutionalized as a norm, the smaller is the positive effect of companies' green actions, and the bigger is the negative effect of companies' eco-harmful actions. Flamer also finds that the negative impact of eco-harmful activities is stronger between the years 2000 and 2009 than it is between 1990 and 1999. This finding is consistent with the increasing impact of SRI and CSR. (Flammer 2013.)

Shane and Spicer (1983) measure whether markets react to negative environmental information that is announced by the Council on Economic Priorities (CEP) between 1970 and 1977. They find that the externally produced news about environment impacts stock prices. Those companies from which the external producer of information (CEP) announced negative environmental news faced large negative abnormal returns. Moreover, the negative association between stock prices and negative news is bigger for companies that have low pollution-control performance rankings. (Shane & Spicer 1983.)

Klassen and McLaughlin (1996) research how news about companies winning environmental awards or struggling with environmental crises affects companies' stock prices. The used data in award announcements research consists of 140 news from 1987 to 1991, and their data of environmental crisis consists of 22 news from 1989 to 1991. They find that companies that experienced environmental crises faced significant negative returns and companies that won environmental awards faced significant positive abnormal returns. (Klassen & McLaughlin 1996.)

Cordeiro and Tewari (2015) examine investors' reactions to the Newsweek green rankings in September 2009. The ranking consists of the sample of the largest 500 U.S.

firms. According to their conclusion, the correlation between a company's high ranking and a stock reaction is positive in both short-term and long-term (6-12 months). They measure that the contextual variables, such as the level of information asymmetry, firm size, and firm legitimacy, affect the significance of the reaction. They also measure that large companies benefit more from high rankings than small ones. (Cordeiro & Tewari 2015.)

Xu, Zeng, and Tam (2012) study whether listed companies' announcements of environmental pollution problems are associated with lower stock prices. Their data consists of 57 Chinese firms that are in the area with a moderate modernization level, and the largest owner of companies' stocks own less than 25 % of companies' stocks. They find that in a one-month period, companies that have announced pollution problems in media faced lower stock prices. (Xu et al. 2012.)

Nick Collett (2002) examines the UK stock market reaction to the news of companies' changes in labor. He finds that on average, the market reacts negatively to redundancy news and positively to new job announcements. The result of negative reactions to the redundancy announcement is significance between 30 days to 1 day before the announcement. However, the average cumulative abnormal returns for redundancy announcement between days +2 to +30 are negative but not statistically significant. Reaction to the new job announcement, measured by mean CARs, is positive in all event window periods (-30 to -1, 0 to 1 and 2 to 30). Thus, the reaction between 0 to 1 days is most significant with the significance level of 1 %. (Collett 2002.)

Gunthorpe (1997) measures whether the announcement of a company's illegal actions have an impact on stock prices. The announcements include both companies' news about unethical social activities and unethical corporate governance activities, such as bribery. He uses 69 news from 1988-92, and he finds that companies' unethical activities affect negatively on stock prices. In the day, a firm's unethical business practices have come public; a firm faces on average, -2.045 % cumulative abnormal returns, which is significant at 1 % level. The returns of a firm are also negative from all days from -1 to +5 but only the reaction on announcement day is statistically significant. (Gunthorpe 1997.)

Breuer, Felde, and Steininger (2017) measure whether the stock market reacts to the news of firm withdrawal from countries designated as "State Sponsors of Terrorism" by the U.S. Department of State. The sample period of the events measured is from 2003 to 2010. They find that those announcements are, on average, associated with a significant rise in firm value in the short run. In the short run, the announcement of withdrawal

from one or more countries designated as a State Sponsor of Terrorism increases firm value prior to the announcement day. The result also gives evidence that the withdrawal announcement leaks into the markets before the announcement, because firms face positive abnormal returns prior to the announcement. (Breurer et al. 2017.)

Marciukaityte, Szewczyk, Uzun, and Varma (2006) measure companies' actions and consequences after they have got caught in corporate fraud. The measured activity is either fraud in financial reporting, stakeholder fraud or regulatory violation in the United States between 1978 and 2001. They find that after the complaint of fraud companies raise the portion of outside directors on the board. In the short run (sample period of -1 to 1 days), an announcement of fraud leads -5,01 % cumulative abnormal returns, which is statistical significant at the 1 % level. Their results also show that on average, in a long-term a price of stocks of fraud companies do not significantly differ from no-fraud companies. Only financial fraud of a firm leads statistically significant negative abnormal returns in the long run (4 years with a significance level of 10 %). Moreover, the result indicates that the improvement of the internal control system of fraud companies helps companies to achieve their former reputation back. (Marciukaityte et al. 2006.)

Capelle-Blancard et al. (2017) examine the stock market reactions to announcements about ESG issues. Their data is based on approximately 33,000 ESG news of listed companies over the period 2002-2010. ESG news consists of both extreme and quite ordinary events. They state that investors reaction to negative ESG announcements is statistical significant, and that negative ESG announcements lead to cumulative abnormal returns: on the announcement day the CAAR is -0.027 %, in a 3-day event window (-1 to 1) the CAAR is -0.085 %, and in a 10-day event window the CAAR is -0.139 %. While investors seem to punish companies for unethical activities they do not award them for ethical behavior: companies' announcements about ethical do not lead to statistically significant positive results. (Capelle-Blancard et al. 2017.)

Krüger (2015) investigates market reactions to companies' CSR announcements with the data of 2,116 corporate events. He states that in the short run, stockholders react significantly negatively to news about irresponsible social behavior and the reaction is especially visible for CSR news articles that are about communities and the environment. The mean CAR between -5 to +5 days around the announcement is -0.88 %, and between -10 to 10 the CAR is -1.31 %. Both CARs are statistically significant at 1 % level. Krüger also groups CSR announcements to six groups according to the subject of news articles: community, diversity, employee relations, environment, human

rights and products. Announcements of human rights (short and long event windows) and diversity (short event window) do not give any statistical significant results. However, all other four groups' events are associated with statistically significance abnormal returns both in the short run (-5 to 5 days) and in the long run (-10 to 10 days). Furthermore, stockholders also react weakly negatively to positive CSR news, but the effect is much weaker and less systematic than the reaction for irresponsible behavior. (Krüger 2015.)

Groening and Kanuri (2018) examine stock market reactions to concurrent news of the company's positive social responsibility and irresponsible behavior. Their data consists of 565 same day events regarding publicly traded firms for the years 2005-2008. They divide CSR according to its content to technical news and institutional news. Technical CSR includes news that has a greater impact on the company's value chain (e.g., employees and customers). Hence, technical CSR news articles affect more a company's future cash flows. Institutional CSR impact on institutional stakeholders (e.g., environmental and community) and those news have a greater effect on the moral capital of a company. They find that negative stock market reactions to negative CSR news can be mitigated by greater amounts of positive institutional or technical CSR news. (Groening et al. 2018.)

Cheung (2010) examines the consequences of companies' inclusion and exclusion of the Dow Jones Sustainability Index between 2002 and 2008. The consequences are examined in terms of stock returns, risk, and liquidity. He finds that the inclusions and exclusions of the Dow Jones Sustainability Index do not significantly affect companies' stock returns. Only on the day, or nearby, of the inclusion or exclusion from the index, stock returns varied significantly, but after one day from the announcement day, the effect was disappeared. (Cheung 2010.)

The previous literature is summarized in table 1. It presents the authors and CSR area of the studies. Corporate socially responsible areas are divided to CSR (positive) and CSI (negative), and these areas are also divided to environmental (E), social (S) and corporate governance (CG) categories. If an author of the study has not specified its study's ESG area, the table only shows whether the results are for the CSR or CSI sample. The table 1 also shows whether a long- or short-term effect is examined, and the main conclusion of the study.

Taken together, 10 of 13 studies provide results from the U.S., while one study measures the effect in China, one in the U.K., and one study has not specified data sample geographically. The previous literature covers sample periods from 1970 to

2010, while there is no evidence of announcements in the 21st centuries. And to sum up, almost every study measures that announcements about CSR and CSI lead to positive and negative abnormal returns.

Table 1. Summary of the previous literature.

Authors	CSR area	Geographical area	Number of events	Sample period	Short/Long	CAAR	Conclusion
Shane et al. (1983)	CSI: E	U.S.	[a]72	1970-1977	Short	[b] -3.282 %***	Negative abnormal returns for CSI
Klassen et al. (1996)	CSR: E	U.S.	140	1985-1991	Short	0.628 %**	Positive abnormal returns for CSR
	CSI: E		22	1989-1990	Short	-0.815 %*	Negative abnormal returns for CSI
Gunthorpe (1997)	CSI: S & CG	U.S.	69	1988-1992	Short	-2.045 %***	Negative abnormal returns for CSI
Collett (2002)	CSR: S	U.K.	52	1990-1999	Short	0.93 %***	Positive abnormal returns for CSR
	CSI:S		54		-Long	-3.4 %*	Negative abnormal returns for CSI
Marciukaityte et al. (2006)	CSI: CG	U.S.	276	1978-2001	Short	-5.01 %***	Negative abnormal returns for CSI in a short run
					Long	-	In a long run, abnormal returns do not exist for CSI
Cheung (2010)	CSR	U.S.	80	2002-2008	Short	M	In a short run some temporary impacts
	CSI		97		Short	M	
Flammer (2013)	CSR: E	U.S.	273	1980-2009	Short	0.84 %***	Positive abnormal returns for CSR
	CSI: E				Short	-0.65 %***	Negative abnormal returns for CSI
Xu et al. (2012)	CSI: E	China	57	2010	Short & Long	M	Weak negative abnormal returns
Cordeiro et al. (2015)	CSR: E	U.S.	[a]500	2009	Short & long	M	Positive abnormal returns for CSR.
Krüger (2015)	CSI	U.S.	1.542	2001-2007	Short	-0.88 %***	Negative abnormal returns for CSI
					Long	-1.31 %***	
	CSR		574		Short	-	Positive abnormal returns for CSR
					Long	-0.47 %*	
Breuer et al. (2017)	CSR: S	U.S.	57	2003-2010	Short	[b] 0.88 %*	Positive abnormal returns for CSR
Groening (2018)	CSR & CSI	U.S.	565	2005-2008	Short	M	Negative reactions to CSI can be mitigated by greater amounts of CSR
Capelle-Blancard et al. (2017)	CSR	Not spesified	22.391	2002-2010	Short & Long	-	Not statistically significance returns for CSR
	CSI		10.676		Short	-0.85 %***	Negative abnormal returns for CSI
					Long	-0.139 %**	

*** denotes two-tailed tets significant at p<0.01: **p<0.05; *p<0.10

[a]Data consists of one event, but the data include that number of firms

[b]Instead of CAAR, returns are standarlized abnormal returns

M: Many main results of CAAR

5. DATA

The purpose of this study is to measure the impact of news articles about corporate social responsibility and irresponsibility on firms' stock prices. To achieve this goal, the data of CSR and CSI news articles and daily stock prices of firms are collected. The details of the data are provided in the following subchapters.

5.1. Data collection

The data of news articles are collected by hand from online publications. The process consisted of using well-known publications and Google as a source. The first step of the collection process included listing the main news articles that have been on headlines recently and trying to find out the day for the announcement and an appropriate source for the news articles. After that, Financial Times is used as a source and the articles about CSR and CSI have been figured out by using several keywords, such as "*corporate social responsibility",* "*scandal*", "*ethical*", "*green*", "*pollution*" and "*gender diversity*". Furthermore, also some other popular newspapers, such as the Guardian, online platforms, and Google are used.

There are two criterions that are used to measure whether the news article is appropriate for the data of this study. The first criterion includes a demand for a source's publisher: the publisher must be a popular newspaper that has hundreds of thousands daily readers. For example, the most used source, Financial Times, has about 2 million daily readers (Financial Times 2018). The second criterion includes a demand for the significance of a news article. If the news article is not published in a well-known newspaper, the news article must consist of information that is notable, and it interests stockholders. Usually, these kinds of news articles are posted at least in a firm's web page and in some smaller sources.

In most of the articles, the CSI news articles fulfill the first criterion, and the CSR news articles fulfill the second criterion. This finding is consistent with research of Barnett (2014) and Köbel, Busch, and Jancso (2017) who state that news about firms' CSR is commonly self-disclosed in firms' annual reports and web pages, while the news about CSI is more likely to be revealed by the media. That is why it is harder to find CSR news articles from well-known newspapers.

Together the news articles are collected from 22 sources. Financial Times represents about 53 % of the sources and Forbes about 19 % of sources. The third most used source is The Guardian, which represents about 8 % of sources used. Table 2 represents in more detail the sources of the news.

Table 2. Sources of the news articles.

Source	CSR news articles	CSI news articles	All news articles	Proportion
BankTrack	-	1	1	0.50 %
BBC	2	6	8	3.96 %
CSRwire	2	-	2	0.99 %
Dailymail	-	3	3	1.49 %
DW	-	1	1	0.50 %
Financial Times	53	55	108	53.47 %
Forbes	38	-	38	18.81 %
GoodElectronics	-	1	1	0.50 %
HS	-	1	1	0.50 %
Independent	-	2	2	0.99 %
Kauppalehti	-	1	1	0.50 %
New York Times	-	3	3	1.49 %
One Green Planet	1	-	1	0.50 %
RFI	-	1	1	0.50 %
Shippingwatch	-	1	1	0.50 %
Talouselämä	-	1	1	0.50 %
The Guardian	-	17	17	8.42 %
The Telegraph	-	1	1	0.50 %
The Times	-	1	1	0.50 %
The Washington Post	2	-	2	0.99 %
Thomson Reuters	6	1	7	3.47 %
Yle Uutiset	-	1	1	0.50 %
All	104	98	202	100.00 %

Taken together, both for the CSR and the CSI news articles Financial Times is the most often used source. The second most used source for CSR news articles is Forbes. And most of the news articles that are collected from Forbes are news about CSR rankings,

such as “The world’s most sustainable companies 2016” or “The 10 Most Diverse Companies of 2018”.

5.2. Data description

The data employed in this study include 202 news about firms’ responsible and non-responsible behavior altogether. 104 news are considered as “positive CSR news”, which means that the news articles include information about firms’ responsible behavior. Similarly, 98 news are considered as “negative CSR news”. Negative CSR news include information about the unethical behavior of firms.

The news articles are divided into three different groups according to their content: environment, social and corporate governance. The news groups are presented in the table 3 below.

Table 3. News divided into groups according to their contents.

Group	CSR news articles	CSI news articles	All	Proportion
Environment	60	21	81	40.10 %
Corporate Governance	24	15	39	19.31 %
Social	20	62	82	40.59 %

The group “Environment” consists of news that handles information about sustainable or non-sustainable behavior. 60 positive and 21 negative news about the environment is used in the study. For instance, the news articles that cover information about global warming, animal rights or pollution reduction are in the “Environment” group.

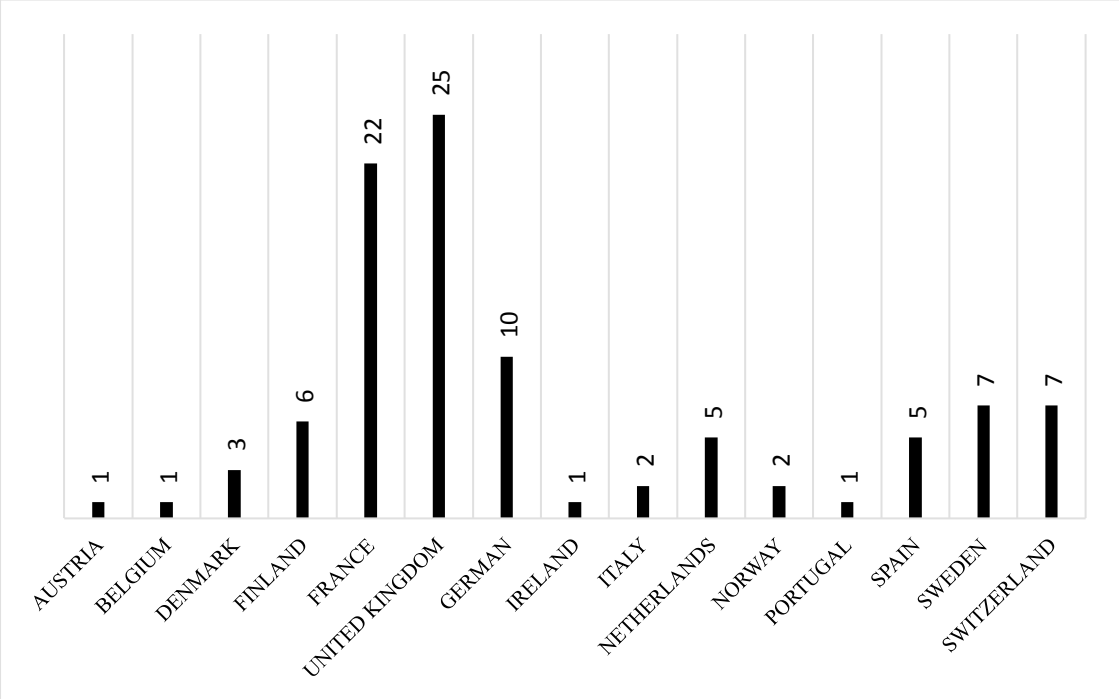
The news handling issues around by firms’ management practices belong to the group “Corporate governance”. Group “Corporate governance” includes, for example, information about corruption, gender diversity of management and suspicions of fraud made by a firm’s executives. This group consists of 39 news altogether: 24 of them are positive, and 15 of them are negative.

The group “Social” consists of news articles that have a social aspect. For example, new articles that handle suspicions about tax paradises, child labor or bad workforce

conditions belong to the group" Social" and altogether the group consists of 20 positive news and 62 negative news.

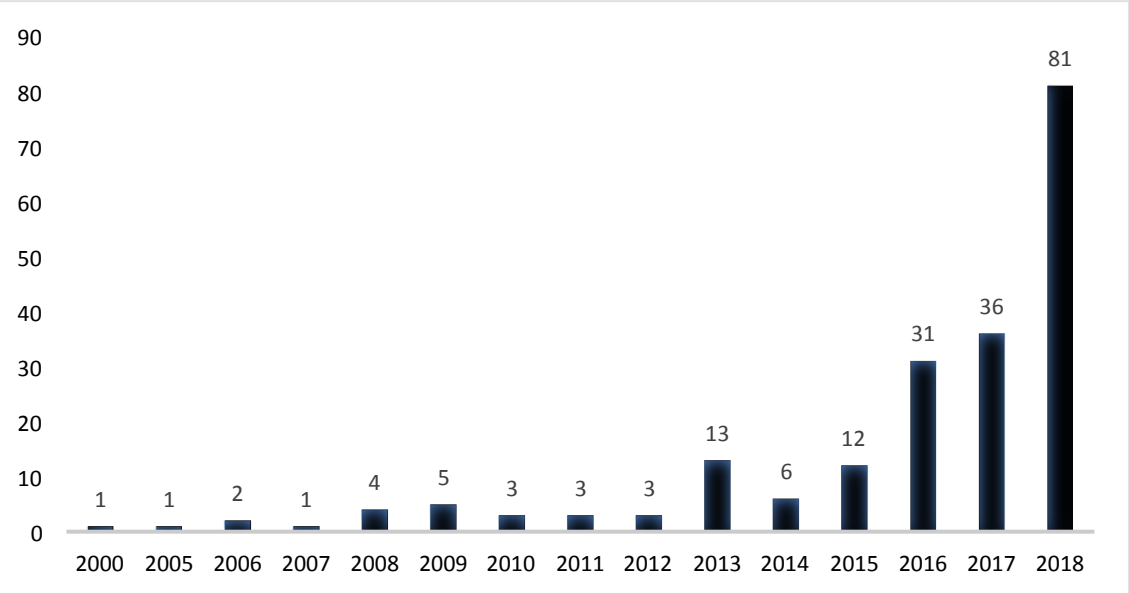
All the news articles consider information about European companies, and altogether the data include news about 98 European companies. Therefore, some of the companies belonging to the data, face more than one CSR announcement. Together the data consists of companies from 15 European countries, and the share of each country is shown in table 4.

Table 4. Companies grouped by countries.



The news articles are published between 2000 and 2018 with focus on latter part of timespan. Together there are only 23 of news articles that are published before 2013. Table 5 represents the number of news published in each year.

Table 5. News articles grouped by articles publishing year.



To give more detail description of the data, the news articles are also grouped based on industry groups. Each industry group is represented in table 6. Together the data includes news about companies from ten different industries, Financial being the biggest industry group. There are 25 positive and 37 negative news about companies operating in the financial sector. This group includes companies such as Danske Bank A/S, Barclays PLC, and Deutsche Bank AG. (Bloomberg 2018.)

Second and the third biggest industry groups are Cyclical Consumer and Non-cyclical Consumer. Cyclical companies, such as Adidas AG, are sensitive to the business cycles while non-cyclical companies are not affected by the variation of business cycles. The consumer (non-cyclical) group includes for example news about pharmaceutical companies or companies that produce consumer goods. (Bloomberg 2018.)

The least represented industry groups are Basic Materials, Technology and Diversified. There is only one article about Koninklijke DSM NV in Basic Materials, and the technology group consist of two news about two companies: Amadeus IT Group SA and Dassault Systems SA. Diversified industry group consists of two news about Industrivärden AB-B SHS. (Bloomberg 2018.)

The other industry groups are Communications, Energy, Industrial, and Utilities. Communications, which include companies that provide a range of services, including telecommunications, publishing and media services, consists of 15 news. There are nine news about the Energy group which consist of companies such as Royal Dutch Shell

PLC-A SHS and Total SA. 15 of news belong to the Industrial group, where companies such as Siemens AG-REG and Outotec Oyj are investigated. Utility group has seven news, and that group include news about companies such as Veolia Environment and Centira PLC. (Bloomberg 2018.)

Table 6. Number of news articles by industry group.

Industry Group	CSR news articles	CSI news articles	All	Proportion
Basic Materials	1	1	2	0.99 %
Communications	10	5	15	7.43 %
Consumer, Cyclical	20	28	48	23.76 %
Consumer, Non-cyclical	29	11	40	19.80 %
Diversified	-	2	2	0.99 %
Energy	4	5	9	4.46 %
Financial	25	37	62	30.69 %
Industrial	8	7	15	7.43 %
Technology	2	-	2	0.99 %
Utilities	5	2	7	3.47 %

Finally, the statistic of the firm-level variables is presented in the table 7. The sample of firms' that have faced CSI events consists of 54 different publicly listed companies, and sample of CSR firms includes 71 different publicly listed companies. The data of firms' firm-level variables are collected from Bloomberg on 25.12.2018. The table presents data sample's mean value, median value, standard deviation (*SD*) and number of firms (*N*).

Employees show the number of people employed by the company, which is based on the number of full-time equivalents. For almost every firm in the sample, the number of employees is based on the last quarter interim report. The median sample of CSI firm has approximately 77,900 employees, and the median sample of CSR firm has approximately 56,900 employees.

Market cap is the firms' market capitalizations in euros on 25.12.2018. For firms that present their market capitalizations in other currencies than euros, the market cap is changed to euro values with euro course on 26.12.2018. For the CSI firms, the market cap is on average 41 billion euros, and the median of the sample is approximately 22

billion euros. For the CSR firms, the mean market cap is about 40 billion euros, and the median of the sample is about 24 billion euros. *Assets* describe firms' total assets, which are also changed for euros, and *Book leverage* is total liabilities scaled by total assets.

S&P issuer credit rating is the median S&P domestic long-term issuer credit rating on 25th December 2018. Letter ratings are transformer into numerical ones as follows: 9=AAA, 8=AA, 7=A, 6=BBB, 5=BB, 4=B, 3=CCC, 2=CC, 1=C and 0=D. The mean credit rating for the CSI firms' sample is 6.64, and for CSR firms sample it is 6.66. However, only 39/54 of CSI firms and 51/71 of CSR firms have the data of S&P issuer credit ratings.

Table 7. Summary statistics.

CSI firms

	Mean	Median	SD	N
Employees	10.819	77.856	115.375	54
Market cap	41,218.50	21,874.77	50,966.99	54
Assets	361,223.81	68,911.14	574,454.56	54
Book leverage	0.69	0.70	0.22	54
S&P issuer credit rating	6.64	7.00	0.77	39

CSR firms

	Mean	Median	SD	N
Employees	84.498	56.888	96.530	71
Market cap	40,270.05	23,672.71	47,267.18	71
Assets	212,813.05	30,374.21	482,324.07	71
Book leverage	0.66	0.65	0.19	71
S&P issuer credit rating	6.66	7.00	0.78	51

The data of firms' stocks prices and the data of the market return (STOXX Europe 600 Index) is collected from Bloomberg. To measure the daily returns of the index and stocks, logarithmic returns are used. Because the first event has been announced on 19.11.2000, the sued stocks' and index's data is from 22.7.2000. The final event in the sample is published 28.11.2018. Hence the stocks' and index's data ends 28.11.2018.

6. METHODOLOGY

To measure the immediate stock markets effect, an event study methodology is used. The methodology is commonly used to examine the impact of a specific event on the value of a firm, and the idea of the method is to determine whether abnormal returns are associated with an announcement or an event. (MacKinlay 1997; McWilliams & Siegel 1997.)

The roots of the event study methodology are in James Dolley's study (1933), where the method is used to measure the impact of stock splits on stock returns. The method has been used widely in finance to examine stockholders' reaction to all kinds of unexpected announcements. The method has become popular because it gives a real view of a firm's value compared to accounting-based methodologies, where manipulation risks are present. (McWilliams et al. 1997; Benston 1985.)

The underpinning of the event study methodology is the efficient market hypothesis (Fama et al. 1969). If the market is efficient, stock prices should reflect all available information, and thus a stock price should reflect a discounted value of a firm's future cash flows. Therefore, the event study methodology should determine the financial impact of CSR and CSI news articles on firm value. (McWilliams et al. 1997; Benston 1985; Fama 1969.)

6.1. Steps for implementing event study

In this study, the process of an event study methodology follows the guidelines made by Campbell, Lo and MacKinlay (1997: 151-152). Moreover, an analysis made by McWilliams and Siegel (1997) and study of Brown Warner (1980) are also used in the process. The steps for implementing an event study are as follows (Campbell et al. 1997: 151-152):

1. Define an event and event windows
2. Justify criterions for firms' selection
3. Define a method to measure abnormal and normal returns
4. Justify an estimation period
5. Calculate abnormal returns and test a statistical significance of the results
6. Present empirical results

7. Make conclusions

In the first section, the event is defined, and the event windows are chosen. The event is an announcement that brings new information to the market (McWilliams et al. 1979). In this study, the event is a news article that announces new information about a firm's CSR or CSI activities. The more detail subscription of the events and criterions adopting the news article is described in the previous chapter (4.).

The event window is the period over which the effect of stock price changes is studied (MacKinlay 1997). Four different event windows are used in this study: two short-term event windows and two long-term event windows. To examine investors' reaction in the short-run, the event window periods -1 to 1 and -5 to 5 days around the announcement are used. These event window periods are similar to event windows used by Capelle-Blancard et al. (2017) in their study about stock market reaction to ESG news. Long event windows -10 to 10 days and -20 to 20 days follow the study of Xu et al. (2012) who examine investors' reaction to environmental news in China. The event windows include time prior to the announcement since a leakage of information about corporate social responsible behavior and actions is likely (Flammer 2013).

The second step in the event study is to justify the criterions for firms' selections (Campbell et al. 1997: 152). In this study, the criterion of firms involved based on the demand that a firm has announced CSR or CSI news. More detail, firms that are measured in this study, include firms from ten different industries, and only publicly listed European firms are selected - more information about the firms in chapter 4.

The third step involves defining the method for calculating normal (in other words, expected return), and abnormal returns. Normal return is a stock's return that could be expected if an announcement did not take place, and abnormal return (AR) is the actual return of stock minus the normal return of a stock over the event window. The abnormal returns are assumed to reflect the stock market's reaction to the arrival of new information. Calculating of abnormal returns is done as stated below. (MacKinlay 1997; McWilliams et al. 1997; Campbell et al. 1997.)

(4) $$AR_{it} = R_{it} - E\,(R_{it}),$$

AR describes a stock's *i* abnormal returns at the time *t* and *R* is a stock's actual return, and *E* is a stock's expected return (McWilliams et al. 1997). More detailed description of the formulas' parameters is presented in the chapters 5.1.1 and 5.1.2.

In the fourth part of the event study, an estimation period is justified. An estimation period includes the trading days that are used to estimate the normal returns of each asset, and it starts and ends before the event (Campbell et al. 1997: 152). Academic literature does not have a consensus about the appropriate length of estimation period, but it usually is from 90 days up to 250 days (MacKinlay 1997). For example, Xu et al. use estimation period of 90 days, and the period starts 120 days before an event and ends 30 before the event while Krüger (2015) uses estimation period of 250 days ending 50 days before the event. In this study, the estimation period is 90 days: it starts 120 days prior to the event and ends 30 days prior to the event. The estimation window and event windows are visualized in the figure 4.

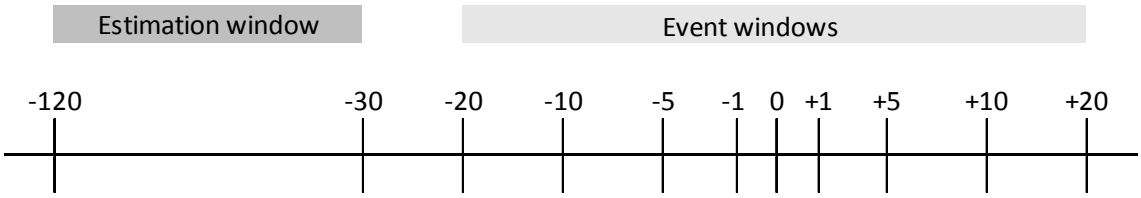


Figure 4. Estimation window and event windows.

After justifying the estimation period, abnormal returns are counted, and the significance of the returns is computed. Significant results mean that the abnormal returns are statistically significantly different from zero, and thus the null hypothesis can be rejected. There are several test statistics that can be adopted, and in this study Adjusted Patell Z-test is used which is proposed by Kolari and Pynnönen (2010). Adjusted Patell Z-test is a test statistic that modifies the well-known t-statistic of Boehmer, Musumeci and, Poulsen (1991). The most commonly used significance levels, 0.10 (10 %), 0.05 (5 %) and 0.01 (1 %), are also used in this study. The smaller the significance level is, the more significant a result is. (Bromiley et al. 1988; Brown et al. 1980; Campbell 1997: 168-172).

6.1.1. Measuring normal return

There are a couple of models for measuring stocks' expected returns, and those models can be grouped into two categories: statistical and economical models. Statistical models follow statistical assumptions concerning the behavior of stock's returns and they do not depend on any economic arguments. Popular statistical models are the CAMP and the APT, which are presented in the chapter two. In addition to the statistical assumptions, economic models are also based on assumptions about investors' behavior. A constant-mean-return model and a market model, which is used in this study, are examples of economic models. (Brown et al. 1985; Campbell 1997: 154-156.)

The market model is widely accepted in event studies. It follows the formula of CAMP, which is described in the theoretical part of the thesis, and it assumes a stable linear relation between the market return and a stock return. The formula of the model is as presented below. (MacKinlay 1997.)

(5) $$R_{it} = \alpha_i + \beta_i R_m + \varepsilon_{it}$$

R_{it} is a stock's i expected return (normal return) at the time t, and R_m is the market's return over a specific period. Parameter α_i describe a market portfolio's risk-free return and β_i measures sensitivity between a stock and market return. ε_{it} is the zero-mean disturbance term. (MacKinlay 1997.)

6.1.2. Measuring abnormal returns

When the expected returns of stocks are measured, the daily abnormal returns of each stock can be calculated. As mentioned, the abnormal return (AR) of a stock is the difference between the stock's actual return and expected return (R_{it}). The patterns of the abnormal returns are shown in formula 5. (Campbell 1997: 157-158; MacKinlay 1997.)

If there are many firms in the sample, the daily average abnormal returns (AAR) for all firms will be measured. The formula for calculating the daily average abnormal returns is presented in formula 6, where AAR_t presents stocks' average abnormal returns, AR_{it}

presents stock's i abnormal returns at the time t, and N presents the number of stocks. (Campbell 1997: 157-158; MacKinlay 1997.)

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

To examine the whole impact of an announcement on a stock, the cumulative abnormal returns (CAR) are calculated. The CAR is the sum of a stock's abnormal returns over the event window period. The formula of CAR is as follows. (Campbell 1997: 157-158; MacKinlay 1997.)

(7) $$CAR_{(t2,t1)} = \sum_{t=t1}^{t2} AR_{it,}$$

In the formula, t2 and t1 denote the beginning and the end of event window. Furthermore, to examine the cumulative average abnormal returns (CAAR) for all stocks, the formula is as follows:

(8) $$CAAR_{(t2,t1)} = \frac{1}{N} \sum_{i=1}^{N} CAR_{it}(t_1,t_2)$$

, where CAR_{it} denotes each stock's cumulative abnormal returns over the event window period. (Campbell 1997: 157-158; MacKinlay 1997.)

To sum up, the cumulative average abnormal returns measure the effect of announcements on stocks' values. If the abnormal returns are statistically significant, the conclusion is that announcements affect stock returns. (Campbell 1997: 157-158; MacKinlay 1997.)

6.2. Problems with event studies

There are problems, which should be considered when conducting event studies. The first problem is about choosing the right announcement date. Especially, when the announcements are collected from newspapers, it is not clear when the information has first time become public. Typically, using longer event windows solves this problem.

That is why, in this study, the cumulative abnormal returns are calculated for three event window periods, and each of the periods begins prior to the event. (MacKinlay 1997.)

The second problem is related to long-term event studies. Firstly, the long-term event window violates the assumption of the EMH (Bromiley et al. 1988). And secondly, the long-term event window may break the correctness of the results because there is a significant probability that the window period includes other relevant announcements that may affect a company's stock's price. Especially big firms may have many relevant announcements during the event window period. Thus, the effect of the particular announcement could be hard to examine. (McWilliam & Siegel 1997.)

However, there are still some advantages of long-term event studies. First, stocks do not always incorporate new information immediately. Sometimes it takes some time for investors to measure whether the new information influences a firm's future cash flows. Second, the full impact of the new information could be realized after months or years after the new information becomes public. In this study, it is reasonable to assume that information is flowing slowly for investors and investors may process the information for a while. Thus, the effect of announcement about corporate social responsibility behavior may be reflected on stock prices in the long run rather than in the short run. (Bromiley et al. 1988.)

7. EMPIRICAL ANALYSIS

The results of the empirical study are presented in the following section. In the first part of the empirical analysis, the whole sample of CSI and CSR news announcements is tested. After that, the news articles are divided into three categories according to the topic of news, and the investors' reactions to the different areas (environmental, social and corporate governance) of the CSI and CSR are shown. The third part presents whether investors' valuation of CSI announcements varies between different industries. And finally, in the last part, the empirical analysis shows whether investors react differently to the CSI announcements that include information about activities that are against the law versus news announcements that are not illegal, but still against the cultural norms.

To test the hypotheses 1 and 2, the CSR news and the CSI news are settled apart. Table 8 presents the cumulative average abnormal returns for four different event windows: -20 to 20, -10 to 10, -5 to 5, and -1 to 1. The CSR sample consists of 104 announcements, and the CSI sample has 98 announcements.

Table 8. Impact of CSR and CSI news on a firm's market value.

	CSR news	CSI news
$CAAR_{[-1;+1]}$	0.000	-0.005
Adjusted Patell Z	-0.228	-2.119**
$CAAR_{[-5;+5]}$	0.001	-0.014
Adjusted Patell Z	-0.128	-2.785***
$CAAR_{[-10;10]}$	0.005	-0.018
Adjusted Patell Z	0.441	-1.956
$CAAR_{[-20;20]}$	0.002	-0.026
Adjusted Patell Z	-0.310	-1.004
Nb. Obs	104	98

*** Statistical significance at the 1 % level

** Statistical significance at the 5 % level

* Statistical significance at the 10 % level

According to the empirical results, the cumulative average abnormal returns surrounding the CSR events are zero or close to zero. This finding of CSR events is

consistent with hypotheses 2 and with previous studies (Capelle-Blancard et al. 2017; Krüger 2015): investors do not award firms for firms' socially responsible activities.

Similarly, the research about CSI events gives similar results as previous studies (e.g., Klassen et al. 1996; Gunthorpe 1997). The CSI news articles face negative cumulative abnormal returns in every event period. However, the CAAR is statistical significant in the -1 to 1 and -5 to 5 periods. It means that firms that announce unethical behavior face about one % lower returns in the period that starts five days prior the event and ends five days after. Therefore, the CAAR results reject the null hypothesis and support the hypotheses 1. And inconsistent with earlier studies and hypotheses 3, the effect of CSI events is significant in the short event period but disappears in the long period.

The average abnormal returns for the whole CSI and CSR news article sample in the 11-day time window (-5 to 5) are presented in table 9. In the announcement day, both samples face negative returns, but neither of the results is statistically significant. However, two days after the publication of CSI news, firms are facing a statistically significant decrease in their stock price. And in the same way, as in the table of CAARs for the CSR announcements, investors do not award firms for their responsible activities.

Table 9. AARs for CSR and CSI news in the 11-day window.

	AAR		AAR	
Day	CSR news	Adjusted Patell Z	CSI news	Adjusted Patell Z
-5	-0.0015	-1.4011	-0.001	-0.6683
-4	0.0001	-0.411	0.001	0.5997
-3	0.0022	1.174	-0.002	-1.0184
-2	0.0007	1.2313	0.000	-0.4746
-1	0.0001	0.1728	-0.001	-0.897
0	-0.0001	-0.557	-0.003	-1.4775
1	-0.0003	0.0012	-0.001	-0.7843
2	0.0019	1.3872	-0.003	-1.6737*
3	-0.0011	-0.9912	-0.001	-0.2087
4	-0.0007	-1.1081	-0.002	-1.5632
5	0.0001	0.0878	-0.001	0.2009
Nb. Obs	104		98	

*** Statistical significance at the 1 % level

** Statistical significance at the 5 % level

* Statistical significance at the 10 % level

Figure 5 shows the daily cumulative average abnormal returns over a 21-day time window (-10 to 10) around the announcement of irresponsible or responsible behavior. Figure clearly illustrates the sharp decline in stock prices for firms that were targets of CSI publications. Meanwhile, the impact of CSR announcements on stock returns is only weakly positive.

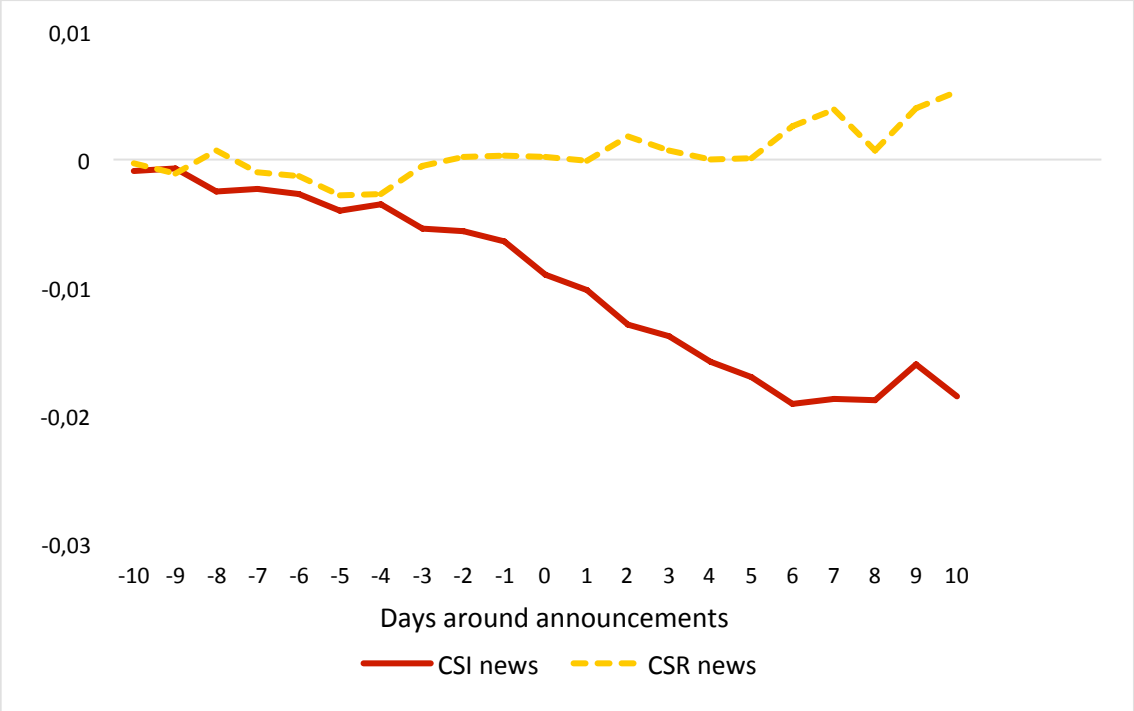


Figure 5. Cumulative abnormal returns around CSR and CSI announcements.

The table 10 shows how the topic, in other words, ESG-area, of the news article affects results. The news articles of CSR and CSI are categorized into three groups according to the topic of the news article. The topics are social, environmental and corporate governance. The environmental news consists of 81 articles: 21 articles about harmful environmental activities and 60 articles about green activities. The sample of social news has 62 CSI news and 20 CSR news, and the sample of news about corporate governance includes 15 CSI articles and 24 CSR articles.

Table 10. Impact of CSI and CSR news on firms' market value - grouped by ESG-area.

	Environmental		Social		Corporate Governance	
	CSR	CSI	CSR	CSI	CSR	CSI
$CAAR_{[-1;+1]}$	-0.0003	-0.011	-0.0001	0.000	-0.0009	0.0012
Adjusted Patell Z	-0.1967	-2.0628**	-0.2464	-0.0758	0.1191	0.0702
$CAAR_{[-5;+5]}$	0.007	-0.027	-0.0093	-0.0012	-0.0048	-0.0055
Adjusted Patell Z	0.753	-2.806***	-0.9368	0.0472	-0.6656	-0.2508
$CAAR_{[-10;10]}$	0.0117	-0.036	-0.0135	-0.0032	0.0044	-0.0051
Adjusted Patell Z	0.8055	-2.346***	-0.6561	0.4572	0.1225	-0.4216
$CAAR_{[-20;20]}$	0.0158	-0.034	-0.0369	-0.0109	0.0016	-0.0186
Adjusted Patell Z	0.7593	-1.732*	-1.609	0.7194	-0.1119	-0.0927
Nb. Obs	60	21	20	62	24	15

*** Statistical significance at the 1 % level

** Statistical significance at the 5 % level

* Statistical significance at the 10 % level

Table 10 shows that investors value only negative environmental news. The cumulative average abnormal return is between -1.1 % to -3.6 % around the events. The results are statistically significant at the 1 % level in a 3-day time window (-1 to 1) and 21-day time window (-10 to 10). Therefore, in this empirical test, both short run and long run tests are valid, and this finding supports the findings of Flammer (2013). The returns surrounding environmental CSR news are weakly positive in -5 to 5, -10 to 10 and -20 to 20 time-windows, but on the contrary to Flammer, the environmental CSR news does not lead statistically significant positive results.

The table 10 also shows that the positive news about social issues and corporate governance lead weakly negative returns in the short run, while in the long run news about positive corporate governance announcement leads weakly positive results. Moreover, it is surprising that neither the CSR news articles nor CSI news articles that announce information about firms' social or corporate governance activities affect stock prices significantly. The cumulative average abnormal returns for both CSI groups are weakly negative but do not offer any statistically significant results. This finding of CSI news is illustrated in the figure 6.

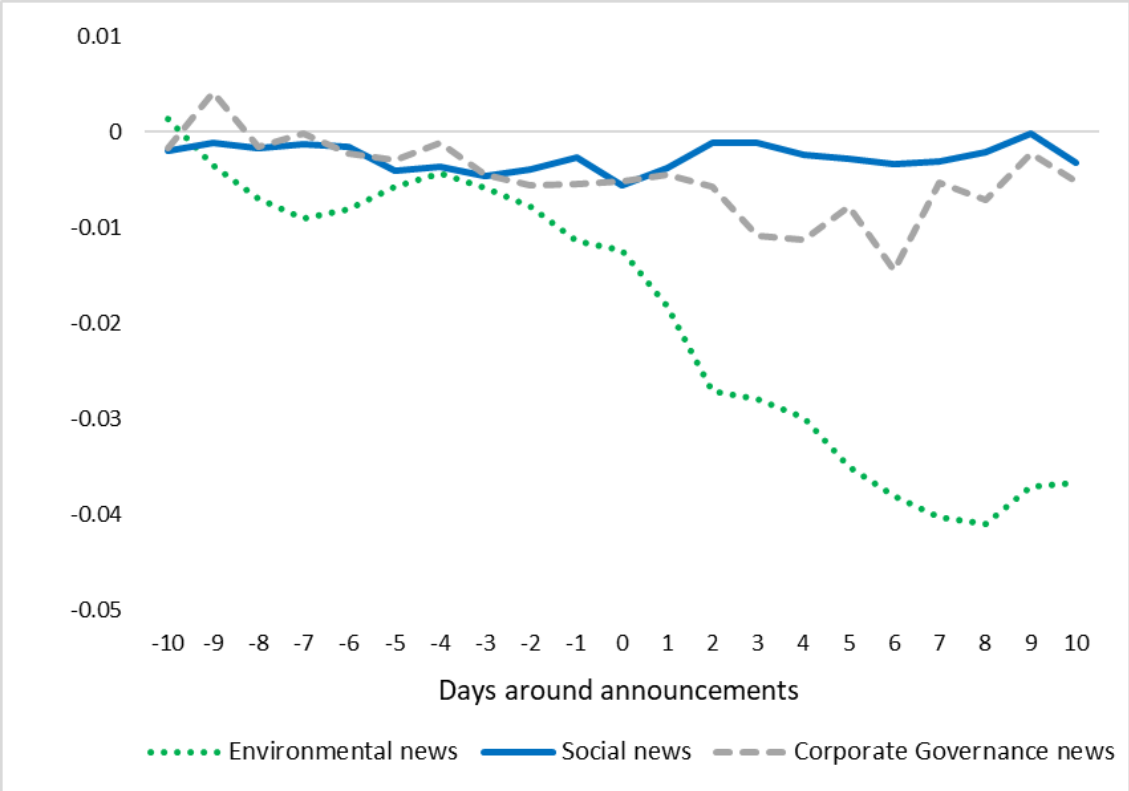


Figure 6. CARs around CSI announcement: grouped by the topic.

The majority of CSI news announces information about firms operating in a financial business or consumer business. 37 of 98 (38 %) of CSI news articles are about financial firms, and 39/98 (40 %) are about firms that produce consumer commodities. The consumer business can be divided into cyclical and non-cyclical groups, but in this section, both groups are measured in the same sample. Since, other industry groups consist of only less than ten firms, only the samples of financial firms' announcement and consumer firms' announcement are examined to see whether markets reaction to CSI news varies between those two industries. Firms that do not operate in financial business or consumer business belongs to the group "other industries".

The results of industrial differences are presented in the table 10. For the financial firms, the cumulative average of abnormal return is negative in every period, but the results are statistically significant only in the 21-day time-window. For the firms that operate in the consumer business, the negative CAARs are statistically significant at the 1 % level in a short period (-1 to 1 and -5 to 5) but in the long run, there are no statistically significant results.

Table 11. Impact of CSI news on firms' market value - grouped by industry.

	Financial	Consumer	Other industries
	CSI	CSI	CSI
$CAAR_{[-1;+1]}$	-0.005	-0.010	0.004
Adjusted Patell Z	-0.914	-2.350***	-0.056
$CAAR_{[-5;+5]}$	-0.022	-0.023	0.014
Adjusted Patell Z	-1.601	-2.933***	0.505
$CAAR_{[-10;10]}$	-0.032	-0.020	0.032
Adjusted Patell Z	-1.876**	-1.516	1.007
$CAAR_{[-20;20]}$	-0.042	-0.043	0.031
Adjusted Patell Z	-1.176	-0.585	0.249
Nb. Obs	37	39	22

*** Statistical significance at the 1 % level

** Statistical significance at the 5 % level

* Statistical significance at the 10 % level

In the last part of the empirical study, it is measured whether negative CSI news about firms acting against the law or firms facing legal sanctions has an impact on firms' stock prices. Altogether 36 out of 98 CSI news articles include information about actions against the law. For example, reports that announce that a firm has cheated in emission test, laundered money, avoided taxes or made a bribery fraud are activities that are against the law, and therefore they will lead to legal sanctions if the media announcement is true. The sample of CSI news about activities against the law also includes news articles, which inform that a firm is under investigation. However, news articles that consider illegal activities made by a director of a firm is not included in the sample if the action does not lead to legal sanctions that a firm should pay.

The sample of CSI news articles consists of 62 news articles. This group includes articles about activities against cultural norms, which do not lead to legal sanctions but can lead to reputation harm. News about firms employing child labor in countries where that is not forbidden and news about racisms are examples of CSI news that are not against legislation but are against the cultural norms. Table 12 shows the results of this part of empirical study.

Table 12. Impact of CSI news on firms' market value - grouped by news against cultural norms and news against legislation.

	News against cultural norms	News against legislation
$CAAR_{[-1;+1]}$	0.003	-0.012
Adjusted Patell Z	1.011	-2.978***
$CAAR_{[-5;+5]}$	-0.002	-0.035
Adjusted Patell Z	0.239	-2.106**
$CAAR_{[-10;10]}$	-0.004	-0.030
Adjusted Patell Z	0.968	-2.793***
$CAAR_{[-20;20]}$	-0.013	-0.035
Adjusted Patell Z	1.097	-2.106**
Nb. Obs	62	38

*** Statistical significance at the 1 % level

** Statistical significance at the 5 % level

* Statistical significance at the 10 % level

The table 12 shows that CSI news that does not include information about activities against the law, do not lead any statistically significant decrease in a stock price. And surprisingly, the stock price weakly increases in the publication day. However, this finding is neither statistically significance.

The CSI news articles informing about activities against the law lead to statistically significant cumulative abnormal returns in every event window-periods. In the 3-day window-period surrounding the announcement, the stock prices decrease on average 1.2 % and the finding is statistical significant at the 1 % level. And in the 11-day window-period, the decreases in the stocks' values are 3.5 %. In the long run (21-day and 41-day window-periods), the cumulative average abnormal return in 41-days is 3.5 %. These results are presented in figure 7, where AL is illustrating the sample of news against the law, and CAN is illustrating the sample of news against cultural norms.

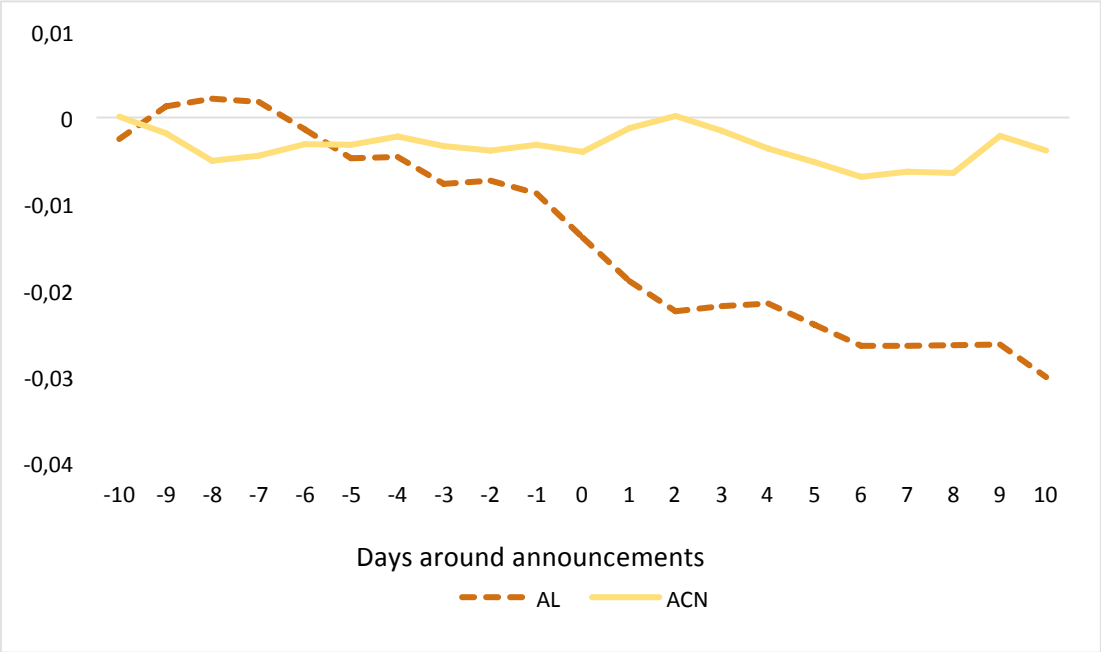


Figure 7. Cumulative abnormal returns around CSI announcements.

Figure 7 shows the weakly negative reaction for the CSI news articles including information activities that are not against the law. The figure also shows the cumulative average abnormal returns for CSI news articles that include news about activities against the legislation. The stock price starts to decrease approximately six days before the publication, and the decrease in the stock's value is strongest between zero to six days after the event.

Taken together, inconsistent with the previous studies, investors react negatively on firms' announcements about irresponsible corporate activities. Some of the earlier studies (e.g., Krüger 2015 and Klassen et al. 1996) find statistically significant results for news about corporate social responsibility, but this study does not give similar results about CRS news. Therefore, this study comes to the same conclusion as Capelle-Blancard et al. (2017): investors punish firms for their irresponsible activities but do not reward firm for their responsible actions. The empirical study gives similar results when grouping the CSR news articles into smaller groups according to their topics (environment, social or corporate governance).

When measuring the whole sample of the CSI news articles, the short-term market reaction (-1 to 1 day and -5 to 5 days) is statistically significant. Firms that announce irresponsible activities face a decline in their stock price in the short run, and the effect is the strongest two days after the announcement. In a long run, the stock price

continues to decrease, but the decrease is not statistically significant. This finding is consistent with the study made by Marciukaityte et al. (2006).

However, when grouping announcements into three categories according to the topic of the news article, also long-term effects are found. Investors do not react to CSR news about corporate governance, social issues, or green activities, but they do punish firms that announce news about irresponsible corporate behavior that considers the environment. The decrease in the stock price is statistically significant in every event window-period.

When testing, whether investors react differently according to the industry, the sample is divided into three groups: financial, consumer and other industries. In -10 to 10 day-window period, investors react statistically significantly to the CSI news articles that announce information about financial firms. News articles that inform irresponsible activities about firms operating in the consumer industry, the negative cumulative average abnormal returns are statistically significant in the short run. However, the sample of other industries does not give any statistically significant results.

And finally, when measuring the effect of illegal activities reported in CSI news, the results show that investors react statistically significantly to the news articles that include information about activities against the law while investors do not punish firms that act unethically if their action is not against the law. The reaction to the illegal CSI activities is statistically significant in every day-windows.

8. CONCLUSIONS

The purpose of this study was to examine whether investors react to news regarding firms' responsible (CSR) or irresponsible (CSI) activities. The motivation for the study is the rapid growth of corporate social responsibility hence more and more investors are willing to take social issues into account when investing. Therefore, it is interesting to find, whether investors punish firms for announcements about their unethical behavior or irresponsible operations. Furthermore, it is also interesting to explore, whether investors reward firms for responsible activities or ethical behavior.

Previous studies show strong evidence about investors' reaction to the CSR and CSI news. A lot of research has been done in the U.S. markets while the studies about markets reaction in Europe are infrequent. To give new evidence about investors' reactions, the data sample consists of only European firms and their media announcements. Many of the previous studies show that in the short run, investors react negatively to the CSI announcement and some of the reviews also show that the effect also exists in a long run. However, while the reaction to CSI news is quite unanimous, the conclusion about the impact of CSR announcements is unclear. Some of the studies show that investors also react to the CSR news, while some of the studies do not agree with that finding.

The data in this study includes altogether 202 news articles about firms' CSR and CSI activities: 104 of the articles are about responsible activities, and 98 of the articles are about irresponsible activities. The articles are announced between years 2000 and 2018, and 22 of different sources are used to collect the data by hand. Every announcement in the sample includes information about European publicly listed company, and altogether 98 different firms exist in the sample. Therefore, some of the firms belong both to the sample of CSR news articles and to the sample of CSI news articles.

The hypotheses one states that news about CSR and CSI affect the stock prices while the hypotheses null states that news about CSR and CSI do not affect stock prices. The findings that are presented in the empirical section reject the null hypotheses: investors do react to announcements about CSR and CSI. However, the reaction to the CSR announcement is not statistically significant, which supports the hypotheses two: the news about firms' negative CSR has more significant effect on stock prices than positive CSR news.

The findings of investors' inconsistent reaction to the CSR and CSI are consistent with the previous study of Capelle-Blancard et al. (2017). Meanwhile, the results give

conflicting evidence about investors' rationality and the efficient market hypotheses: Fama (1970) states that rational investors value assets based on an asset's fundamental value, which is an asset's net present value of its future cash flow, and the efficient market hypothesis assumes that assets' prices change only because of the release of new information. Therefore, the findings of investors' reaction to CSI news and CSR news are inconsistent. While investors punish firms for their irresponsible activities, they do not reward firms for their responsible activities. It means that investors do not believe that the CSR announcement would lead a firm's better financial performance in the future although some previous studies (e.g., Deng et al. 2013 and Shank et al. 2005) suggest that.

However, the results of investors' reaction to CSR news supports the ideas of the negativity bias – humans give more weight to negative events than they give to positive events. The non-reaction to CSR news may also be affected by media coverage. For example, Norden (2008) finds that firms' positive events get fewer media coverage than negative events, which in this case, may affect the reaction.

The reaction to the whole sample of CSI news announcements is statistically significant in a short-run. At the 3-day window-period around the publication of the CSI news, the cumulative average abnormal return (CAAR) is -0.5 %, and in the 11-day window-period, the cumulative average abnormal return is -1.4 %. In the long run, which consists of 21 and 41 window-periods, the CAAR of the stocks is negative, but not statistically significant. This finding supports the hypotheses three, which assumes that the effect of the announcements exists in the short-term but disappears in the long term.

The result also shows that investors respond differently to the CSI news about environmental issues than they respond to news about irresponsible social activities or issues around unethical corporate governance activities. The CAARs surrounding announcements about environmentally irresponsible activities are statistically significant in each time-window. Therefore, in environmental cases investors' negative reaction exists in the short and long run. But surprisingly, investors do not react statistically significantly neither to CSI or CSR news about social activities or corporate governance. Investors do not either award firms for their positive environmental news. The finding of investors negative reaction to environmental news are consistent with Flammer's (2013) conclusions, but the results of positive environmental news give different pieces of evidence than Flammer's study: investors react weakly positive to environmental CSR news in an 11, 21 and 41 day-windows, but none of the results are statistically significant.

When grouping the announcements based on industries, the results show that in the short run, investors punish firms operating in the consumer business for their CSI news. In a 3 and 11 day-windows the CAARs are – 1 % and – 2.3 %, while in the long run, the stock prices continue to decrease, but the results are not statistically significant. On the other hand, investors punish financial firms on a long run: the CAAR is -3.2 % in a 21 day-window and the result is statistically significant at the 5 % level. Unexpectedly, the investors' reaction to announcements about firms operating in other industries' CSI announcements is weakly positive. However, this result is not statistically significant.

This finding of investors' reaction to CSI news about financial and consumer business firms could be explained by the investors' knowledge of firms' daily activities. Buyn et al. (2018) measure that locally-oriented news articles have a stronger impact on stock prices than socially-oriented news. Therefore, investors may understand more deeply how the firm's action affects its performance, and how the announcement will affect firm's future cash flows. In the same way, it can be assumed that on average investors have a stronger understanding of the financial and consumer industry than other industries, because these industries are normally closer to individual customers than B2B-customers. However, this explanation is just a raw guess, and future research is needed to measure why investors' reactions to CSI announcements vary between industries.

The results of this study also show that investors' response to the CSI announcements varies according to the illegalness of the activities of a firm. The news announcements that consists of information about activities that are not illegal, but still against the cultural norms, do not lead statistically significant results. On the contrary, the news articles that include information about illegal activities leading to financial penalties decrease stock prices in the short and long run. In the short run (-1 to 1 and -5 to 5 event windows) the CAARs surrounding the announcement of illegal activities are – 1.2 % and – 3.5 %. In the long run, the CAAR is -3 % in 21 day-window and -3.5 % in a 41 day-window. All the results are statistically significant at 1 or 5 % level.

This finding supports the idea of investors' valuation stocks according to firms' future cash flows. While the academic literature does not give any unanimous consensus about the relationship between a firm's financial performance and social responsibility, it is hard for an investor to examine whether the CSI news affects a firm's future profit making. Hence the illegal CSI activities normally lead to penalties; investors know that the firm's financial profit-making condition is weaker after the CSI announcement than before. Therefore, it is understandable that investors react stronger to CSI

announcements about illegal actions than they react to announcements about legal activities against the cultural norms with no financial penalties.

Taken together, investors react to the announcement about corporate social irresponsibility (CSI) but they do not react to the announcement about corporate social responsibility (CSR). When testing the whole sample of the CSI announcements, investors' negative reaction exists in the short run, but the significant reaction disappears in the long run. When grouping the CSI news articles according to different criterions, the study shows that investors' negative reaction exists especially when the news articles include negative information about firms' environmental activities. The effect on stock prices also varies between industries, and the illegalness of news also affect investors' reactions.

Many further dimensions could be explored to improve this research. Majority of the previous studies show that the CSR announcement does not affect firms' stock prices, while almost every previous study finds that the CSI announcement leads to lower stock prices. However, usually the CSR announcement faces less media coverage than the CSI announcements, which is one of the possible reasons why investors do not react to CSR news. Therefore, it would be interesting to examine whether the significance of the reaction to CSR and CSI varies if both announcements would get provably the same media coverage.

Other topic for future study would be to measure more deeply how investors value the CSR and CSI announcement between different industries. This study gives small evidence about consumer and financial industries, but as mentioned, more studies are needed to find strong evidence about industrial differences. Moreover, it would be also interesting to find the reasons for industrial differences – Do the investors value stocks of industries differently or does the media play a central role in the coverage of different industries' announcements?

Majority of previous studies show evidence form the U.S. while this study focuses on European markets. There is already some evidence from Asia, but none of the studies focuses on country-specific differences. That is why future research could measure whether the reactions vary between different geographical areas. That would give interesting evidence about the impact of corporate social responsibility in different markets, and how the valuation varies between investors.

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