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## **Corporate Social Responsibility policies and Shareholder reactions during the Great Recession**

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### **Abstract**

*This study aims to provide understanding of the relationship between firm changes in CSR policies and the reaction of shareholders through using the Great Recession as an external shock on the Northern European market. Firm and shareholder reactions to the Great Recession are examined using a quantitative approach, where stock price is used as a measure to quantify shareholder reactions. The results do not support pre-crisis CSR scores having a moderating effect on the relationship between CSR changes and stock price. Moreover, the study does not provide empirical evidence determining which CSR activities are valued highest by firms or shareholders. However, data supports that firms reduced their social policies during the Great Recession while shareholders responded positively to increases in environmental policies during the same period.*

**Tutor:** Irina Gazizova

**Keywords:** Corporate Social Responsibility, Corporate Financial Performance, ESG

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## 1. Introduction

Many economists believe that Northern European countries will enter a recession in the beginning of 2023. As late as in early September 2022, the Swedish government offered liquidity guarantees to power companies in the Northern region to counteract a financial crisis (Mukherjee 2022; Wienberg 2022). The Great Recession in 2008-2009 had the greatest negative impact on stock markets since the Great Depression in the 1930s, causing severe financial losses (Bansal, Jiang et al. 2015).

In recent years, the importance and prioritization of Corporate Social Responsibility (CSR) has become inevitable for business leaders all over the world to improve Corporate Financial Performance (CFP). Markets and external stakeholders are responding to issues that corporations precedingly did not consider to be within their area of responsibility.

Government regulations are increasingly mandating social responsibility reporting (Porter, Kramer 2006). For example, in December 2016, the Swedish Government legislated the requirement for large corporations to prepare sustainability reports, where ethical, social and environmental risks are disclosed (Företagens rapportering om hållbarhet och mångfaldspolicy 2016). The requirements for corporate sustainability reporting are continuously strengthened, and are concerning an increasing number of firms. In April 2021, the European Commission adopted a proposal for a Corporate Sustainability Reporting Directive, which would extend the sustainability reporting for European firms (European Commission 2021). The interdependence between society and corporations is therefore highly relevant (Porter, Kramer 2006).

There is a large literature in management that studies organizational decline and turnaround (Trahms, Ndofo et al. 2013). The Recession as a system level crisis is a centrally different type of organizational decline, as it entailed a collapse of the financial sector. This impaired firms' financial position, and therefore required them to prioritize the allocation of resources and thereby also their investments (Flammer, Ioannou 2021). An investigation regarding how public firms in Northern Europe acted during the Recession can thus give insights to what strategic choices, in relation to CSR policies, served as factors in firms' recovery after the crisis. The research will further provide direction in the management through the foreseen recession. The focus is on how public firms in Northern Europe adjusted their policies for key strategic resources, focusing on CSR, in response to the changed economic environment

during the Recession. Thus, this research seek to provide understanding towards the following question:

*How did public firms in Northern Europe adjust their CSR policy during the Great Recession, and what effect did the strategically adjusted CSR policies have on firms' CFP in the years following the crisis?*

## **1.1 Contribution**

While many studies in recent years have investigated the effects of CSR through several different approaches, what is prevalent in earlier research is that it almost exclusively has been conducted on the US market (Bansal, Jiang et al. 2015; DesJardine, Bansal et al. 2019; Flammer 2013; Tsai, Wu 2022). We argue that you cannot, without investigation, claim that findings in other markets simply can be translated to Northern Europe. Rather, what is expected is that attitudes among shareholders towards the importance of firms engaging in CSR activities differ between regions. By investigating the Northern European market, this study can contribute to the current literature gap with the understanding of the behavior of both Northern European firms and shareholders. That is, this study contributes to previous literature by examining the relationship between strategic adjustments in CSR policies and external CFP, through the use of stock prices, during the Recession. Hence, the analysis provides insights to whether or not increases in CSR policy is, by shareholders, viewed as a valuable strategy to prioritize during a time of financial crisis in Northern Europe.

The analysis is extended by studying the value and prioritization of individual CSR aspects during the Recession, from both a firm as well as a shareholder perspective. These types of analyses are to the best of our knowledge limited in prior research and the findings have been found to be ambiguous, with results differing significantly between markets (Cheng, Ioannou et al. 2014; Sharfman, Fernando 2008; Broadstock, Chan et al. 2021). This further indicates how findings in other markets simply cannot be translated to the Northern European market. In line with previous reasoning, we therefore argue that this study could contribute with a greater understanding of the market tested. As a result of the scarcity of research, our analysis could additionally serve as valuable to strengthen or challenge earlier findings in general.

## **1.2 Delimitation**

This thesis is delimited to public firms on the Northern European market with active headquarters in the Northern European region.<sup>1</sup> This delimitation is made as the purpose is to investigate the external response to firms' prioritization of CSR activities during the Great Recession. We claim that the market reaction to the strategic choices made during the Recession highly depends on the attitudes towards CSR and thus likely differ between regions.

The research includes observations during the period 2007-2014. This delimitation enables an investigation of firms' CSR policy and stock prices before the crisis; 2007. Further, it allows an examination of how firms strategically adjusted their CSR policy in response to the Recession; 2008-2009. Lastly, it also enables a study of the market reaction in response to these strategic decisions following the crisis; 2010-2014.

## **1.3 Disposition**

The thesis consists of six sections. The next section will review relevant research and theories that serve as the foundation to the research conducted. The third section proceeds to describe the data collection and research methodology and the fourth section proceeds to depict the results from the conducted research. In the fifth section, a discussion of the research method and results are made, followed by the last section where a conclusion of the research as well as suggested future research are presented.

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<sup>1</sup> When referring to public firms in Northern Europe, then the following countries are considered: Sweden, Finland, Norway, Denmark, Iceland, UK (England, Scotland, Wales, Northern Ireland) and Ireland.

## **2. Institutional setting, theory and literature review**

In the following section, the institutional setting, theoretical concepts and relevant research previously done in the field is introduced. It aims to provide a theoretical background to the research, and also present and clarify prior findings of the relationship between CSR and the Great Recession as well as the relationship between CSR and CFP. The literary background presented later serves as the foundation to the hypotheses presented in the last part of this section.

### **2.1 The Great Recession**

The global financial crisis in 2008-2009, called the Great Recession (hereafter called the Recession), was a result of the subprime housing market in the United States. A decline in housing prices and an increased economic uncertainty during 2007, put pressure on US banks which caused losses and eventually a reluctance to lend. The situation on the financial market escalated and as a result the large investment bank Lehman Brothers declared bankruptcy in September 2008, and the national crisis became global. The interbank rates skyrocketed and banks became hesitant to lend which in turn caused a global scarcity in liquidity (Leung 2020). It was at this point the crisis hit the European market (Szczepanski 2019).

As a result of the Recession, there was a wide economic slowdown. Before September 2008, the housing and financial sectors in the US and several European countries began to collapse. However, from September 2008, the crisis had spread to include all sectors and all countries. Market economies were affected and world trade collapsed. The real-world GDP declined with 6.5 percent (annualized) in the fourth quarter of 2008, and continued to fall in the following quarter. Thus, it was one of the most acute falls in real-world GDP since the end of the Second World War (Bems, Johnson et al. 2010).

The effects of the Recession have attracted large interest from researchers and thereby the literature of the event is rich (Flammer and Ioannou 2021; Sakunasingha, Jiraporn et al. 2018; Lins, Servaes et al. 2017). The Recession became a severe financial crisis causing the greatest negative impact on stock markets since the Great Depression in the 1930s, causing severe financial losses for firms (Bansal, Jiang et al. 2015). As a result, previous research suggests that financially constrained firms during the crisis planned larger cuts in employment-, tech- and capital spending, used more cash and to a larger extent had to finance their operations

with savings (Campello, Graham et al. 2010). Due to the inability to borrow, as a result of the crisis, a large fraction of firms reported having to reject or postpone attractive investment opportunities, evidence holding true for the US but also for Europe and Asia (Campello, Graham et al. 2010). These results are in line with Ortiz, Salas-Fumás (2021), who further expands by concluding that the aggregate demand- and risk effects are most prominent but not excluded to financially constrained firms during a financial crisis.

## **2.2 Corporate Social Responsibility**

Corporate social responsibility (CSR) is a concept that has a long and varied history. Historically, there is evidence that the concern for society had been an aspect considered among firms for centuries. However, it was not until the 1950's the concept became discussed among academics and businessmen (Carroll 1999). In 1979, Carroll presented a definition around a four-part framework that explains the several responsibilities that society expects businesses to accept and engage in, defined as: "The social responsibility of business encompasses the economic, legal, ethical and discretionary (philanthropic) expectations that society has of organizations at a given point in time." (Carroll 1979). This definition serves as the roots to the modern use of the CSR concept. Carroll later developed these four responsibilities into a pyramid, where the economic responsibilities are the building block in the bottom, followed by legal responsibilities, ethical responsibilities, with philanthropic responsibilities on the top (Carroll 1991). There was an enormous increase in interest in CSR in the European Union in the 1990s. The business community established organizations specializing in CSR, with the purpose to support businesses with expertise on the topic and to facilitate for firms to advance their CSR activities and mutual learning (Carroll, Shabana 2010).

While research during the last decades almost exclusively supports the positive relation between CSR and CFP, there has since its emergence as a concept been a few early opponents of the idea. One of the earliest opponents, Milton Friedman, held that the one and only social responsibility of businesses is to maximize the profits of its shareholders (Friedman 1970). Other researchers (Aupperle, Carroll et al. 1985) have argued for a negative relationship between CSR and CFP. They meant that CSR engagement generated a competitive disadvantage, as firms incurred unnecessary costs which otherwise would have been avoided or could have been borne by other stakeholders (Aupperle, Carroll et al. 1985).

An early researcher supporting the positive relation between CSR and CFP is Keith Davis (1973), arguing that being socially responsible is in the long-run self-interest of the business. For businesses to preserve their institutional role and social power, ensuring a prosperous climate in which to function in the future, they must be proactive to ensure their long-term viability (Davis 1973). In the business case for corporate social responsibility, Carroll and Shabana (2010) ask whether businesses benefit tangibly from engaging in CSR policies, activities and practices. The business case was developed because of the growing interest in CSR and increased resources devoted to social responsibility, but also to counteract Friedman's (1970) contradictory argument by proving that businesses actually benefited financially from engaging in CSR activities. The consideration of the business case has significantly increased in the 2000s (Carroll, Shabana 2010). The focus of CSR theories has changed from being ethics-oriented to being performance-oriented (Lee 2008). Furthermore, the business acceptance of CSR has been a significant driver of the growth in CSR as well as the increase in social activism among corporate leaders. This increase of corporate relevance is also visible through the increased demand for transparency through sustainability reporting from stakeholders (Carroll 2021).

There are four different categories of the CSR business case, each based on a specific value creation generating benefits for the firm: (1) cost and risk reduction; (2) profit maximization and gaining competitive advantage; (3) developing reputation and legitimacy; and (4) seeking mutual benefits through synergistic value creation (Kurucz, Colbert et al. 2008). From a cost and risk reduction perspective, prioritizing stakeholder concerns reduces the risk of making decisions that stakeholders are opposing, therefore also lowering the threats to the viability of the firm. Developing these trusting relationships with stakeholders lowers the cost of the firm, thus benefiting the corporate economic interest of the business. From a competitive advantage point of view, strategically directing the engagement in CSR activities to those meeting the stakeholders' requests will convince stakeholders of the firm's superior position compared to its competitors (Kurucz, Colbert et al. 2008). When it comes to reputation and legitimacy, businesses can improve both these positions through CSR activities, showing the firm's ability to operate while signaling their social concerns by adhering to social norms and meeting demand from stakeholders (Fombrun, Shanley 1990). Lastly, from a synergistic value creation perspective, meeting stakeholders' demands opens opportunities for value creation, since it enables the firm to pursue its profitable operations with the support of its stakeholders (Carroll, Shabana 2010).

Just as there are a wide spectrum of definitions of the CSR concepts, there are also several different methods used to quantify its performance. The KLD-index covers different indicators over several areas, including community, corporate governance, diversity, employee relations, environment, human rights and product. Further, the United Nations Industrial Development Organization (2022) defines CSR as “a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders.”. The United Nations Industrial Development Organization (2022) further states CSR as the means through which firms can reach a balance of economic, environmental and social imperatives. Hence, there is resemblance between the CSR and ESG concepts. The notion of ESG, in turn, can be reformulated as three ESG factors, or pillars. The pillars represent different categories, which together constitute the final ESG score. The environmental pillar includes emissions, innovation and resource use, with key issues like product carbon footprint, biodiversity, packaging material and waste, and opportunities in renewable energy. The social pillar covers community, human rights, product responsibility and workforce, with themes like health and safety, human capital development, product safety and quality, and responsible marketing. The governance pillar includes CSR strategy, management and shareholders, with key issues like ESG reporting and transparency, management structure and compensation, shareholder rights and business ethics (Refinitiv 2022) (Appendix 1). With background to the UN definition of CSR, the ESG factors (environmental, social and governance) offer a way to quantitatively evaluate firms’ CSR performance (Capelle-Blancard, Petit 2017). Due to the conceptual proximity between ESG and CSR, ESG scores will be used as a proxy for CSR activities in the remainder of the paper.

### **2.3 Effects of CSR engagement during the Recession**

There is rich research studying the effects of and firm responses to the financial crisis in 2008. The field studying changes in CSR activities is wide and the question has been approached using several different methods, which have resulted in a not completely uniform picture. Flammer and Ioannou (2021) provides evidence showing that corporations, facing a significant increase in their cost of credit during the Recession, responded by reducing their investments in physical capital and workforce, while maintaining their investments in R&D and CSR. Flammer and Ioannou (2021) concludes that corporations following this investment strategy reached higher return on assets (ROA) and higher Tobin’s Q, and achieved stronger

performances during the post-crisis years. Their findings point towards R&D and CSR investments being instrumental for maintaining their competitive position in the market following the crisis. These findings are in line with prior literature (Cheng, Ioannou et al. 2014; Du, Bhattacharya et al. 2007; Flammer 2018) which demonstrates that higher CSR engagements yield several positive firm-level effects indicating its importance in corporate strategy. This in turn further serves as an explanation to the findings of Flammer and Ioannou (2021); that firms prioritize investments in CSR despite facing tougher economic conditions.

Further research (Sakunasingha, Jiraporn et al. 2018) finds that during the Recession, firms did not decrease their overall investments in CSR activities, but rather by dividing CSR activities into seven different categories, differences in the investment patterns appear. They (Sakunasingha, Jiraporn et al. 2018) find that firms distinctly reduce their investments in some CSR categories (community, employee, environment, human rights, and product), while they increase their investments in corporate governance and diversity, suggesting that firms prioritize some CSR components above others, however in general recognizing the importance of CSR investments. Changes in CSR engagements during the Recession have also been approached by dividing the concept into two parts; tactical and strategic CSR (Bansal, Jiang et al. 2015), where tactical CSR refer to activities which require fewer resources and are devoted to improving short-term stakeholder relationships, while strategic CSR refers to resource-demanding activities directed to long-term commitments (Bansal, Jiang et al. 2015). The study concluded that both tactical and strategic CSR were reduced as a reaction to the Recession and the results further indicate that tactical CSR declined more than strategic CSR (Bansal, Jiang et al. 2015). This pattern is explained by literature that suggests that strategic CSR practices create a larger degree of organizational resilience than tactical CSR practices (DesJardine, Bansal et al. 2019).

Consequently, one side of the picture provided by earlier research demonstrates a reluctance to reduce engagements in CSR policies despite tougher economic times (Flammer, Ioannou 2021; Sakunasingha, Jiraporn et al. 2018), suggesting that firms identify CSR activities as important resources in order to sustain competitiveness. However, other literature suggests the opposite holding true (Bansal, Jiang et al. 2015), showing that previous research does not entirely provide a uniform picture of the reaction to the Recession with regard to the prioritization of CSR activities.

## **2.4 Relationship between CSR and stock price**

An extensive amount of previous research studies the link between corporate social responsibility (CSR) and corporate financial performance (CFP), supporting a positive relationship. CSR investments has become increasingly popular, following the increasing awareness of CSR issues among investors (Renneboog, Ter Horst et al. 2008). Godfrey (2005) indicates that engaging in CSR activities, particularly philanthropic activities, generates CSR resources and trust from shareholders, which offer an “insurance-like” protection against socially irresponsible actions (Godfrey 2005). Flammer (2013) builds on these findings, arguing that a company's positive engagement with the environment generates new and competitive resources for the firm. The strengthened external pressure over time, such as environmental regulations and stakeholders’ reactions to CSR-related issues, to develop a green company means that negative corporate news will have an increasingly negative effect on the firm. However, Flammer (2013) further argues that this environmental CSR resource has decreasing marginal returns. Thus, the more positive CSR initiatives a corporation has implemented, the lower will the value and shareholders’ positive reaction be of further green developments. Flammer (2013) concludes that corporations with stronger environmental performance face a smaller stock price increase from the announcement of positive environmental CSR initiatives, and a smaller decrease from the announcement of eco-harmful behavior. Lins, Servaes et al. (2017) also finds the “insurance-like” protection for high-performing CSR firms, claiming that the benefits brought by engaging in CSR activities offset the cost of those investments when a crisis is present and the overall trust declines as a response.

Further, the research by Lins, Servaes et al. (2017) shows that high-performing CSR firms had stronger financial performance than low-performance CSR firms during the Recession 2008-2009. They argue that shareholders consider high-performing CSR firms more trustworthy during a crisis period when the general trust in companies is low, and are therefore more likely to assign a valuation premium to these firms. Prior studies have also examined the relation between CSR and stock price crash risk (Kim et. al. 2014). They find that firms’ CSR performance is negatively associated with future stock price crash risk, and that CSR performance is positively associated with financial reporting transparency. Earlier research indicates that there is a positive correlation between corporations’ financial disclosures and CSR performance (Gelb, Strawser 2001). Therefore, Kim et. al. (2014)

argues that high-performing CSR firms are more prone to exhibit a higher level of transparency and less likely to hide bad news from investors, leading to a lower future stock price crash risk. They further show that high CSR performance is especially decisive when governance mechanisms are weak, as high CSR performance reduces managers' tendency to hoard bad corporate news, and thus also lower the stock price crash risk (Kim, Li et al. 2014).

Tsai, Wu (2022) further support the positive relationship between CSR and CFP, by studying the stock returns of US firms on changes in different CSR categories, to examine whether firms can improve their CSR performance by developing more CSR practices with the objective to improve their financial performance during a crisis period. Their study shows that, overall, higher CSR performance leads to stronger financial performance. They further find that firms with the strongest improved performance in the two CSR categories environment and human rights during the crisis experience noticeably higher stock returns compared to companies with weakened performance in these two categories. The direction of the stock returns are more ambiguous regarding the category employee relations and product characteristics, where both advancement and impairment might meet higher stock returns. Tsai, Wu (2022) concludes that the relationship between CSR and CFP changes with market conditions and is contingent on the performance in particular CSR categories. This conclusion is in line with earlier research (Koh, Qian et al. 2014), who find that a firm's financial health and prioritized type of operations are decisive factors in whether CSR are generating value for the company.

Prior research has also examined the importance of the different CSR aspects. Cheng, Ioannou et al. (2014) studies how CSR performance affects a firm's ability to access finance measured by their capital constraints, on the global market. They argue that high-performing CSR firms face lower capital constraints. Their study finds that a firm's performance within the social and environmental dimensions, rather than within governance dimensions, are the decisive factors for a firm's level of capital constraint, and therefore conclude that investors to a larger extent prioritize these two issues (Cheng, Ioannou et al. 2014). Previous research has established the relation between capital constraints and a firm's future stock market performance (Lamont, Polk et al. 2001), signaling social and environmental dimensions having a larger effect on stock price than governance performance. Further research conducted on the US market shows that the capital market has a larger positive response to improvements in environmental risk management, rather than improvements in social and

governance issues, observed through firms facing a lower weighted average cost of capital (WACC) (Sharfman, Fernando 2008). They argue that the lowered WACC will lead to improved economic performance in the following periods, as the profitability will be higher for any income level.

Broadstock, Chan et al. (2021) study performance in CSR related aspects, on the Chinese market, during the financial crisis in relation to the Covid-19 pandemic. They find that governance issues are the most essential in China. Further, they find that cumulative stock returns are positively correlated with the environmental pillar score and the governance pillar score, but not with the social pillar score. A higher environmental score reduces long-term environmental risks (Sharfman, Fernando 2008), which help mitigate negative business experiences as a result of the pandemic (Broadstock, Chan et al. 2021). A higher governance score brings greater financial stability, which implies an enhanced resilience to the same negative events following the pandemic. However, high social performance, despite its positive contributions, also entails a higher engagement in retaining employees. In a crisis-period, this commitment redirects resources to maintain these social policies, rather than furlough staff to manage cost pressures (Broadstock, Chan et al. 2021).

There is thus a uniform picture of the positive relationship between CSR and CFP, where several studies support the “insurance-like” protection for high-performing CSR firms (Flammer 2013; Lins, Servaes et al. 2017). Research also shows that these high-performing CSR firms are likely to have a lower future stock price crash risk (Kim, Li et al. 2014) and an overall stronger financial performance (Tsai, Wu 2022). However, with regard to the importance of the different CSR aspects, earlier research is contradicting regarding the relative importances of the dimensions, where findings also differ between regions (Cheng, Ioannou et al. 2014; Sharfman, Fernando 2008; Broadstock, Chan et al. 2021).

## **2.5 Hypothesis development**

With background in prior literature describing the severity of the Recession, it is expected to cause shifts in firm behavior as firms have to alter their strategic direction and prioritize certain activities in order to circumvent severe financial effects as a result of the crisis. Given this, it is also expected that corporations adjust their strategic direction with regard to CSR policies during the Recession. Earlier studies regarding these adjustments are contradictory,

as some find that overall investments in CSR activities remained (Sakunasingha, Jiraporn et al. 2018), while others find that they decreased (Bansal, Jiang et al. 2015).

Earlier research conducted during the last decades strongly supports a positive relationship between CSR and CFP (Lins, Servaes et al. 2017; Kim et. al. 2014; Tsai, Wu 2022). This relationship is in this analysis treated as established by prior literature and is therefore not to be tested. Instead, the analysis originates in Godfrey's (2005) finding that high-performing CSR firms have an "insurance-like" protection against socially irresponsible actions. Flammer's (2013) elaboration of this finding suggests that corporations with strong environmental performance face a smaller stock price increase from the announcement of environmental CSR initiatives, and a smaller decrease from the announcement of eco-harmful behavior, than firms with weak environmental performance. This is further in line with findings by Lins, Servaes et al. (2017). With background from previous literature we expect to find support for the "insurance-like" protection in the Northern European market and therefore the first hypothesis is defined as:

*H1: The shareholder reaction to changes in CSR engagements during a period of financial crisis is smaller towards high-performing CSR firms than low-performing CSR firms.*

There is limited prior research studying how firms prioritize different CSR activities. Sakunasingha, Jiraporn et al. (2018) suggest that firms during the Recession, reduce their activities in all CSR categories aside from corporate governance and diversity, which increased as a response to the Recession. They (Sakunasingha, Jiraporn et al. 2018) suggest that firms view these aspects as more crucial to the strategic direction of the firm causing them to prioritize these aspects despite facing financial stressful times. The other five CSR categories which firms reduced during the Recession, the authors (Sakunasingha, Jiraporn et al. 2018) instead conclude were explained by firms considering the activities as less consequential. The research uses the KLD-index as a proxy for CSR where the diversity dimension analyzes firms' performance in regard to both workforce and management (RiskMetrics Group 2010). Therefore, by applying the diversity dimension to the ESG framework it can be interpreted as a combination of the social and governance pillars (Refinitiv 2022). Since all other KLD dimensions attributed to the social factor of ESG (community, employee, human rights and product) decreased as a result of the Recession (Sakunasingha, Jiraporn et al. 2018), we expect that the increase in diversity mainly can be

attributed to the prioritization of the governance pillar. Given that existing literature on firm behavior in this regard is slim, the second hypothesis is defined as:

*H2: Firms view governance activities as the most essential CSR activity during a period of financial crisis.*

Unexpectedly, prior literature finds that firms and shareholders have different prioritizations related to different CSR aspects. This relation could be explained by information asymmetry between firm management and shareholders, meaning that firms lack perfect information about how shareholders' attitudes and preferences differ between CSR aspects. Alternatively, it could be explained by the fact that companies have several different stakeholder interests to take into account when developing corporate strategy and allocating firm resources. That is, CSR activity interests of other stakeholders, such as customers and employees, may not be aligned with the preferences of shareholders and thus firm behavior could differ from what shareholders would prefer.

When reviewing earlier research, examining the relative importance of the different CSR aspects among shareholders, the findings are contradictory. The findings of shareholder preferences differ depending on region and circumstances examined. Cheng, Ioannou et al. (2014) study the global market and argue that shareholders to a larger extent prioritize firm performance within the environmental and social dimensions, as these factors are more essential for lowering the firm's capital constraint. Sharfman, Fernando (2008) suggests that the positive shareholder reaction for the US market is stronger towards improvements in environmental risk management, assessed through a lower WACC. Broadstock, Chan et al. (2021) instead finds that governance issues are the most essential in China. They further find that during the Covid-19 pandemic, the cumulative stock returns on the Chinese market are positively correlated with firms' environmental score and governance score, but not with the social score. However, we expect significant heterogeneity between the Northern European market and the Chinese market, and hence the third hypothesis is defined as:

*H3: Shareholders' reaction to changes in CSR engagements during a period of financial crisis is weaker towards changes in governance policy.*

### **3. Data & Methodology**

The following section is devoted to account for the sample selection process and give a detailed description of the research design. Further, the applied regression models as well as definitions of included variables are presented.

#### **3.1 Data Collection and Sample Selection**

The study will be conducted on the Northern European market, delimited to Northern European public firms, since it has been shown that public firms, to a larger extent, tend to disclose their CSR activities than private firms (Hickman 2020). Additionally, the limitation to public firms will also be key in order to match the CSR data to changes in stock prices as this data is highly accessible for public firms.

The CSR data has been collected through the Thomson Reuters database Eikon Refinitiv. Eikon Refinitiv provides one of the world's most comprehensive ESG databases with a large variation of ESG metrics covering large parts of the global market, with data going back to 2002 (Refinitiv 2022). Additionally, Eikon Refinitiv has been used to collect financial data, covering historical stock prices and relevant control variables of public firms in Northern Europe during the studied period, 2007-2014. The countries included in the study are based on the definition of Northern Europe by Eikon Refinitiv.

The ESG Score is given by a scale from 0-100 where a higher score indicates a stronger relative ESG performance and higher degree of transparency in ESG reporting (Refinitiv 2022). The ESG Score 40.97 is the median score of the sample, before the Recession (2007) and defines the threshold for the minimum score to be considered a high-performing CSR firm. The sample comprises public companies with active headquarters in Denmark, Finland, Ireland, Norway, Sweden and the UK. This restriction is made to ensure that this study focuses on public firms in Northern Europe with similar incentives to engage in CSR activities. The ESG data from Eikon is screened for firms exhibiting CSR data for 2007, to enable an investigation of CSR policy before the Recession. Since a substantial number of firms in Northern Europe lack reported ESG-scores for 2007, a significant number of firms are excluded by this constraint. The Northern European public firms presenting CSR data in 2007 are then divided into a high-performing CSR group and a low-performing CSR group based on the threshold of the firms' CSR performance in 2007. The division is thus made

pre-crisis. For the firms remaining, financial data was matched, and any firm with missing data was excluded. This constraint excluded all firms with active headquarters in Ireland. Based on this construction, the sample includes CSR data and financial performance data for the period 2007-2014. Additionally, firms within banking and insurance industries are eliminated, as these industries are characterized by regulations limiting free markets as well as expectations to receive government support during times of financial crises. The remaining companies in the dataset are divided into industries based on the global industry classification standard (GICS). To prevent potential outliers from impacting the results, outliers in the dataset are controlled for by winsorizing the continuous variables at the 1st and 99th percentile, thereby reducing the spread of the data and improving the robustness of the regressions. The exclusions give us a dataset with observations from 265 firms. The sample selection process as well as the country and industry composition of the sample can be found in Tables 1-3.

**Table 1.** Removal process

	# of firms
Total sample*	3 976
ESG data	-3664
Financial data	-18
Sector drops**	-29
<b>Total sample</b>	<b>265</b>

*\*Public firms with active headquarters in Northern Europe from 2007-2018.*

*\*\* Firms in the sector: banking and insurance.*

**Table 2.** Sample distribution by country

	# of firms
Denmark	17
Finland	19
Ireland	0
Norway	14
Sweden	37
United Kingdom	178
<b>Total sample</b>	<b>265</b>

**Table 3.** Sample distribution by industry

	# of firms
Automobiles & Components	1
Capital Goods	47
Commercial & Professional Services	14
Consumer Durables & Apparel	12
Consumer Services	11
Diversified Financials	21
Energy	16
Food & Staples Retailing	5
Food, Beverage & Tobacco	12
Health Care Equipment & Services	7
Household & Personal Products	3
Materials	24
Media & Entertainment	13
Pharmaceuticals, Biotechnology & Life Sciences	7
Real Estate	19
Retailing	12
Semiconductors & Semiconductor Equipment	1
Software & Services	6
Technology Hardware & Equipment	7
Telecommunication Services	7
Transportation	11
Utilities	9
<b>Total sample</b>	<b>265</b>

### 3.2 Methodology

The following section aims to describe the method used to test the hypotheses by thoroughly addressing the chosen research design, definition of variables and the models applied.

#### 3.2.1 Research design

To investigate the research question, a quantitative approach is used to study the behavior of firms and shareholders during the Recession through applying three different regression models. The study aims to examine the effects of strategic adjustments in CSR policies on stock prices during the Recession (2008-2009). Additionally, the study investigates firm and shareholder preferences regarding specific CSR aspects during the Recession. In line with previous research (Sakunasingha, Jiraporn et al. 2018; Flammer 2013; Lins, Servaes et al. 2017), an Ordinary Least Squares (OLS) multivariate regression analysis on an unbalanced panel dataset with fixed effects is conducted. The research is delimited to cover public firms on the Northern European market during the years 2007-2014. Further, control variables

regarding firm characteristics and performance are included in the model in order to minimize bias from other factors affecting the dependent variable (Sakunasingha, Jiraporn et al. 2018; Flammer 2013; Lins, Servaes et al. 2017).

### **3.2.2 Defining the Recession**

Despite the fact that the financial crisis officially began in the United States in 2007, the full effect of the crisis did not hit the markets until the bankruptcy of Lehman Brothers in 2008 (Leung 2020). In line with prior research in the same field (Bansal, Jiang et al. 2015; Sakunasingha, Jiraporn et al. 2018) it is assumed that the preceding Recession had little to no impact on CSR engagements during 2007. In line with this reasoning, the year 2007 is treated as the pre-crisis period, 2008 and 2009 as the Recession period and 2010-2014 as the post-crisis period. That is, for Model 1 and 3 year 2007 is used to study pre-crisis CSR performance, 2008-2009 to examine the change in CSR performance during the Recession and 2010-2014 to investigate the significance of CSR performance on stock price after the crisis. For Model 2, the Recession is instead treated as a binary variable equal to 1 for 2008 and 2009 and 0 for any other year in order to study the firm behavior with regard to CSR activities during the Recession.

### **3.2.3 Variables**

To measure how the Recession and changes in CSR policy affect CFP, stock price is used as the dependent variable for models 1 and 3, in line with prior research (Tsai, Wu 2022). The variable stock price is appropriate for this study, since market-based measures relate more closely to shareholders and financial markets, which determine CFP. To measure how the Recession affects engagements in the different CSR activities individually, the dependent variables used in Model 2 are each ESG pillar score; environmental, social and governance. The construction of the dependent variables are made with background in earlier literature (Sakunasingha, Jiraporn et al. 2018).

In Model 1, the independent variable used in the analysis is referred to as change in CSR policy. CSR policies per definition is not a quantifiable metric, rather CSR policies can be expressed by the firm's prioritization of engagements in CSR activities (Lins, Servaes et al. 2017). Due to the conceptual proximity between ESG and CSR described earlier in the paper, ESG scores will be used as a proxy for CSR policies. Employing ESG factors offers a way to

quantitatively evaluate firms' CSR performance (Capelle-Blancard, Petit 2017). As ESG scores indicate how well firms integrate ESG into their business strategies (Refinitiv 2022), this study treats, just as earlier researchers in the same field (Cheng, Ioannou et al. 2014), a higher ESG score as a higher prioritization of CSR activities and in turn a stronger CSR policy. To measure the effect on stock price of engagement in individual CSR aspects during the Recession, the independent variables used in Model 3 are the changes in each ESG pillar score; environmental, social and governance, in line with previous research (Cheng, Ioannou et al. 2014).

Further, data on a number of control variables has been collected and will be added when testing the relationship of the independent and dependent variable in the different models. The composition of the chosen control variables is determined based on prior literature (Flammer 2013; Sakunasingha, Jiraporn et al. 2018) that has established the control variables being predictors of the dependent variables; stock price, environmental score, social score and governance score. The control variables included in the models are firm size, cash holdings, leverage, ROA, Tobin's Q and investments. These variables can be viewed as proxies for firm financial health. Hence, they are likely highly relevant factors to shareholders and financial markets when evaluating firm success, and are therefore likely predictors of firms' stock prices. Further, firm financial health likely enables or limits firms' investments in CSR activities. Therefore, the control variables are also expected to be predictors of engagements in CSR aspects; environmental, social, and governance. The variable definitions can be found in Table 4.

**Table 4.** Definition of variables

<b>Variables</b>	<b>Definitions</b>
<i>Dependent variables</i>	
<i>Stock price</i>	defined by prices on the last day traded of each year
<i>E</i>	defined as the Environmental score
<i>S</i>	defined as the Social score
<i>G</i>	defined as the Governance score
<i>Independent variables</i>	
$\Delta CSR$	defined as the average CSR score of 2008-2009 minus 2007
<i>CSRHigh</i>	a binary variable yielding 1 for a high CSR score and 0 otherwise
<i>Recession</i>	a binary variable yielding 1 for 2008-2009 and 0 otherwise
$\Delta E$	defined as the mean Environmental score 2008-2009 minus 2007
$\Delta S$	defined as the mean Social score 2008-2009 minus 2007
$\Delta G$	defined as the mean Governance score 2008-2009 minus 2007
<i>Control variables</i>	
<i>Firm size</i>	defined as the logarithm of total assets
<i>Cash holdings</i>	defined as cash and equivalents/total assets
<i>Leverage</i>	defined as total debt/total assets
<i>ROA</i>	defined as EBIT/total assets
<i>Tobin's Q</i>	defined as market capitalization/total assets
<i>Investments</i>	defined as capital expenditures/total assets

### 3.2.3 Regression models

To test the different hypotheses, a fixed effects regression model including fully robust standard errors is used. Industry-fixed effects are applied in all three models, to make sure that the results are not biased by industry differences (Flammer 2013). In line with this reasoning, country-fixed effects are also applied in all models to eliminate any country-specific variation.

To test the first hypothesis, a multivariate regression analysis is constructed. In line with methods used in previous research (Flammer 2013), the firm-specific stock price for the post-crisis years is used as the dependent variable. The independent variable used is the change in CSR policy, calculated as an average of 2008 and 2009, compared with 2007, the pre-crisis observations. In line with prior research (Flammer 2013; Lins, Servaes et al. 2017), a vector of control variables that are not of interest to this study, but are found to likely influence the dependent variable, is also included. The controls added are firm size, cash

holdings, leverage, ROA, Tobin's Q and investments. Further a binary variable, describing whether or not the firm was regarded as a high CSR-performer before the Recession is included. The ESG Score 40.97 is used as the threshold for the minimum score to be considered a high-performing CSR company (Refinitiv 2022).

**Table 5.** Grouping of firms

	CSR policy	# of firms
<b>CSR High</b>	$\geq 40.97$	133
<b>CSR Low</b>	$< 40.97$	132

The following model is therefore constructed to test Hypothesis 1:

Model 1:

$$Stock\ Price_i = \beta_0 + \beta_1 \Delta CSR_i + \beta_2 CSRHigh_i + \beta_3 \Delta CSR_i \times CSRHigh_i + \gamma' \chi_i + CountryFE_i + IndustryFE_i + \varepsilon_i$$

$\chi_i$  is the vector of controls: firm size, cash holdings, leverage, ROA and Tobin's Q and investments.

To test the second hypothesis, a multivariate regression analysis is constructed. In line with the method used in earlier research (Sakunasingha, Jiraporn et al. 2018), each ESG pillar score is used as the dependent variable, testing the effect of the Recession on each ESG pillar score individually. The independent variable applied in the model is *Recession*, a binary variable taking on value 1 for the Recession years 2008 and 2009 and 0 for any other year (Sakunasingha, Jiraporn et al. 2018). Additionally, the same vector of controls and fixed effects as in Model 1 is included (Sakunasingha, Jiraporn et al. 2018; Flammer 2013; Lins, Servaes et al. 2017). Given this, the following model is set up in order to test Hypothesis 2:

Model 2:

$$\begin{aligned} E_{it} &= \beta_0 + \beta_1 Recession_i + \gamma' \chi_{it} + CountryFE_t + IndustryFE_{it} + \varepsilon_{it} \\ S_{it} &= \beta_0 + \beta_1 Recession_i + \gamma' \chi_{it} + CountryFE_t + IndustryFE_{it} + \varepsilon_{it} \\ G_{it} &= \beta_0 + \beta_1 Recession_i + \gamma' \chi_{it} + CountryFE_t + IndustryFE_{it} + \varepsilon_{it} \end{aligned}$$

$\chi_i$  is the vector of controls: firm size, cash holdings, leverage, ROA, Tobin's Q and investments.

Just as previous models, the third hypothesis is tested through a multivariate regression analysis. In line with the method used in prior research (Flammer 2013), the firm-specific stock price for the post-crisis years is used as the dependent variable. The independent variable applied is the change in the different ESG pillars, calculated as an average of 2008 and 2009, compared with 2007. Further, the same vector of control variables and fixed effects is used as in previous models (Flammer 2013; Lins, Servaes et al. 2017). Therefore, the following model is constructed to test Hypothesis 3:

Model 3:

$$Stock\ Price_i = \beta_0 + \beta_1 \Delta E_i + \beta_2 \Delta S_i + \beta_3 \Delta G_i + \gamma' \chi_i + CountryFE_i + IndustryFE_i + \varepsilon_i$$

$\chi_i$  is the vector of controls: firm size, cash holdings, leverage, ROA and Tobin's Q and investments.

## **4. Results**

In this section, the main results from the empirical study are presented. Firstly, the descriptive statistics of the data is introduced and secondly, the results from the three regression models are given.

### **4.1 Descriptive statistics**

In this section, the summary statistics and the correlation matrices of the data samples used are presented.

#### **4.1.1 Summary statistics**

Table 6 and 7 shows the descriptive statistics of the continuous variables in the regression models: the number of firms, mean, median, upper and lower quarter percentile, and lastly minimum and maximum value. The continuous variables are winsorized at the 1st and 99th percentile of their distribution to prevent outliers from affecting the results.

The data in Table 6 shows that there on average have been improvements in the different environmental, social and governance policies during the Recession. The mean change of the environmental pillar tested in Model 3 has been the greatest (9.59), followed by the social pillar tested in Model 3 (5.81), the broader change in CSR tested in Model 1 (5.61), and lastly the governance pillar (0.44), also tested in Model 3. The range of values with regard to the changes in the environmental, social and governance aspects are large. For example, the firm with the largest decrease in the governance score decreased by 31.63, and the firm with the largest increase in governance score increased by 32.47. This indicates that there is a large variation between firms.

With regard to Model 1 and 3, the mean of the variable stock price is 11.25, which indicates that the firms in the sample had an average stock price of \$11.25 in 2010. The 25 percentile value of \$4.45 and the 75 percentile value of \$18.49 shows the variation between the firms in the sample. Focusing on Model 2 and Table 7, the values presented show that firms on average had slightly higher governance scores (51.02) during the studied period 2007-2014, compared to social (50.29) and environmental (49.71) scores. The control variables included for firm characteristics and performance found in Table 6 and Table 7 are of comparable

magnitude as found in prior research (Lins, Servaes et al. 2017; Sakunasingha, Jiraporn et al. 2018; Flammer 2013).

**Table 6.** Summary statistics Model 1 & Model 3

<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>P25</b>	<b>P75</b>	<b>Min</b>	<b>Max</b>
<i>Dependent variables</i>							
<i>Stock price*</i>	265	11.25	8.45	4.45	18.49	0.00	25.04
<i>Independent variables</i>							
$\Delta CSR$	265	5.61	6.32	-1.42	10.96	-11.73	24.36
$\Delta E$	265	9.59	8.27	0.02	16.34	-16.20	32.74
$\Delta S$	265	5.81	4.81	-2.88	12.20	-17.88	27.50
$\Delta G$	265	0.44	0.42	-9.82	11.65	-31.63	32.47
<i>Control variables</i>							
<i>Firm size*</i>	265	22.10	22.08	21.12	22.95	19.29	24.87
<i>Cash holdings*</i>	265	0.03	0.02	0.00	0.07	0.00	0.07
<i>Leverage*</i>	265	0.22	0.21	0.11	0.32	0.00	0.53
<i>ROA*</i>	265	0.10	0.08	0.05	0.15	-0.04	0.21
<i>Tobin's Q*</i>	265	0.92	0.75	0.48	1.43	0.00	1.85
<i>Investments*</i>	265	-0.04	-0.03	-0.05	-0.01	-0.09	0.00

\*Describes summary statistics for observations in 2010

**Table 7.** Summary statistics Model 2

<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>P25</b>	<b>P75</b>	<b>Min</b>	<b>Max</b>
<i>Dependent variables</i>							
<i>E*</i>	2 120	49.71	51.87	29.93	71.10	0.00	97.12
<i>S*</i>	2 120	50.29	50.58	32.32	68.74	0.00	96.46
<i>G*</i>	2 120	51.02	51.85	33.95	68.30	1.77	99.04
<i>Control variables</i>							
<i>Firm size*</i>	2 120	22.13	22.07	21.14	23.02	19.29	24.86
<i>Cash holdings*</i>	2 120	0.03	0.02	0.00	0.06	0.00	0.08
<i>Leverage*</i>	2 120	0.24	0.23	0.11	0.34	0.00	0.56
<i>ROA*</i>	2 120	0.10	0.09	0.05	0.14	-0.04	0.21
<i>Tobin's Q*</i>	2 120	0.88	0.74	0.42	1.29	0.00	1.87
<i>Investments*</i>	2 120	-0.04	-0.03	-0.06	-0.02	-0.10	0.00

\*Describes summary statistics for observations 2007-2014

#### 4.1.2 Correlation matrix

The bivariate correlation coefficients are further studied to analyze the regression variables' relation to each other and examine whether there are problems with multicollinearity in the datasets. In Table 8, the correlation coefficients of the variables used in Model 1 and 3 are presented, while the coefficients for variables in Model 2 are presented in Table 9.

The second column of Table 8 shows that there is substantial correlation with 1 percent significance between  $\Delta\text{CSR}$  and  $\Delta\text{E}$ ,  $\Delta\text{S}$ ,  $\Delta\text{G}$  respectively. However, as  $\Delta\text{CSR}$  are an independent variable in Model 1, while  $\Delta\text{E}$ ,  $\Delta\text{S}$  and  $\Delta\text{G}$  are independent variables in Model 3, the correlation between these variables is not a problem. Further, studying the correlation between  $\Delta\text{E}$ ,  $\Delta\text{S}$  and  $\Delta\text{G}$  in Model 3, the third column of Table 8 shows that there is no significant correlation among these independent variables. To strengthen the conclusion regarding correlation among the independent variables, a VIF-test is conducted. The test results ensure that there is no multicollinearity among the main explanatory variables in Model 1 and 3 presented in Table 8.

Studying the control variables used in the models, it is likely that they will significantly correlate with each other, as they are all measures of firm financial health. A high correlation between independent variables could indicate a problem with multicollinearity in the data. To ensure that this problem is not present in any of the models, the correlation matrices have been complemented with performing VIF tests for all models. Looking at Table 8, one can conclude that the results are consistent with the expectations. Several control variables are significantly correlated with each other, where the highest observed correlation is between ROA and Tobin's Q (0.67). Similar results are found when testing the correlation in Model 2 presented in Table 9. The significant correlation between the control variables in this model could likewise indicate issues with multicollinearity in the data. The VIF tests conducted for all tested models returns no values above 5, a level indicating moderate correlation between independent variables. Thus, no model presents any problems with multicollinearity.

**Table 8.** Correlation matrix Model 1 & Model 3

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) <i>Stock Price</i>	1.00										
(2) $\Delta CSR$	0.04	1.00									
(3) $\Delta E$	0.04	0.55***	1.00								
(4) $\Delta S$	0.09	0.58***	0.07	1.00							
(5) $\Delta G$	-0.10	0.71***	0.11*	0.07	1.00						
(6) <i>Firm Size</i>	0.18***	-0.05	-0.13**	0.03	-0.06	1.00					
(7) <i>Cash Hold.</i>	-0.09	0.03	0.02	-0.01	-0.03	0.05	1.00				
(8) <i>Leverage</i>	-0.08*	0.01	-0.05	0.14**	-0.07	0.10	-0.12**	1.00			
(9) <i>ROA</i>	0.13**	-0.05	-0.09	0.00	-0.03	-0.20***	-0.01	-0.12*	1.00		
(10) <i>Tobin's Q</i>	0.16**	-0.04	-0.04	0.02	-0.08	-0.39***	-0.09	-0.30***	0.67***	1.00	
(11) <i>Investment</i>	-0.13**	0.12	0.08	-0.09	-0.21***	-0.11*	-0.02	0.06	-0.17***	-0.12*	1.00

\*\*\*p<0.01, \*\*p<0.05, \*p<0.1

**Table 9.** Correlation matrix Model 2

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) <i>E</i>	1.00								
(2) <i>S</i>	0.70***	1.00							
(3) <i>G</i>	0.29***	0.30***	1.00						
(4) <i>Firm Size</i>	0.55***	0.54***	0.31***	1.00					
(5) <i>Cash Hold.</i>	-0.07***	-0.07***	0.02	-0.10***	1.00				
(6) <i>Leverage</i>	0.11***	0.15***	-0.05**	0.11***	-0.16***	1.00			
(7) <i>ROA</i>	-0.10***	-0.05**	0.02	-0.24***	0.08***	-0.10***	1.00		
(8) <i>Tobin's Q</i>	-0.09***	-0.09***	-0.05**	-0.25***	0.07***	-0.13***	0.81***	1.00	
(9) <i>Investment</i>	0.06***	-0.01	-0.07***	0.01	-0.09***	0.00	-0.08***	-0.03	1.00

\*\*\*p<0.01, \*\*p<0.05, \*p<0.1

## 4.2 Regression results

In the following section, the results from the regression models are presented. First, the results connected to Hypothesis 1 are presented, investigating how changes in CSR policy during the Recession affected CFP after the crisis. Secondly, we investigate the engagements in specific CSR aspects during the Recession connected to Hypothesis 2. Lastly, Hypothesis 3 is tested, examining how changes in the different CSR aspects influence CFP.

### 4.2.1 The relationship between changes in CSR and CFP

Table 10 describes the regression results for Model 1, used to test Hypothesis 1. The relationship between the independent variable  $\Delta CSR$ , which describes the average change in CSR policy during the Recession, is regressed on stock price data for the years 2010-2014 separately. Further, a binary variable is included to indicate whether the firm was a

high-performing CSR firm before the Recession. All regressions additionally include a vector of controls, as well as country- and industry-fixed effects to alleviate bias in the model. Further, all regressions contain robust standard errors to control for potential heteroskedasticity.

The regression results show that the coefficient for the change in CSR policy for high-performing CSR firms is negative in 2010 (-0.010) and 2014 (-0.018) and positive for 2011-2013. The estimates for all years are insignificant. This implies that the model does not identify a significant relationship between changes in CSR policy for high-performing CSR firms and stock prices after the Recession; 2010-2014. Due to the insignificant relationship, one cannot rely on either the sign or the magnitude of the estimates. The same lack of significant relationship is found between changes in CSR policy for low-performing CSR firms and stock prices after the Recession; 2010-2014. Estimates are positive for 2010-2012 and negative for 2013-2014, but all estimates are insignificant and can therefore not be interpreted as reliable.

The explanatory power of the regressions are between 22-32 percent (adjusted R-squared), which is quite low for a regression model in general. However, earlier research studying equivalent variables show a similar pattern of low adjusted R-squared values, where the explanatory power can be as low as 5 percent in some cases (Lins, Servaes et al. 2017; Tsai, Wu 2022; Flammer 2013). This pattern in prior research is coherent with our regressions, indicating that the dependent variable has an inherent degree of unexplainable variation, which in turn indicates that a low degree of explanatory power is to be expected.

**Table 10.** Regression results for Hypothesis 1

	<i>Stock price</i>				
	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>
$\Delta CSR$	0.039	0.030	0.020	-0.002	-0.032
<i>CSRHigh</i>	-1.000	-1.195	-1.834	-2.412	-1.975
$\Delta CSR * CSRHigh$	-0.049	-0.020	0.023	0.028	0.014
<i>Firm size</i>	2.295***	2.185***	2.754***	3.317***	3.035***
<i>Cash holdings</i>	-11.368	-6.183	-9.416	-13.257	-38.376
<i>Leverage</i>	2.822	5.792*	5.556	4.780	4.272
<i>ROA</i>	15.298	0.314	10.132	9.981	42.049**
<i>Tobin's Q</i>	4.705***	6.733***	5.615***	6.116***	3.202*
<i>Investments</i>	-59.390**	-37.531**	-50.433**	-36.341	-35.209
<i>Constant</i>	-38.176***	-41.118***	-50.345***	-51.049***	-48.865***
<i>GICS Industry fixed effect</i>	YES	YES	YES	YES	YES
<i>Country fixed effect</i>	YES	YES	YES	YES	YES
<i>N</i>	265	265	265	265	265
<i>R-squared</i>	0.411	0.380	0.368	0.320	0.326
<i>Adjusted R-squared</i>	0.323	0.288	0.275	0.219	0.226

\*\*\*p&lt;0.01, \*\*p&lt;0.05, \*p&lt;0.1

NOTE! Estimates for group CSRHigh are given by  $\Delta CSR + \Delta CSR * CSRHigh$  and estimates for group CSRLow are given by  $\Delta CSR$ .

#### 4.2.2 Engagement in CSR aspects during the Recession

The regression results in Table 11 describes the results for Model 2 and serves to answer Hypothesis 2. The aim is to describe firm behavior during the Recession years, 2008 and 2009, with regard to engagements in the different CSR aspects; environmental, social and governance. The binary variable Recession is regressed on each E, S and G score separately. As in previous regressions, a vector of control variables as well as country- and industry-fixed effects are included to reduce bias in the regressions. The regressions are run with robust standard errors to control for potential heteroskedasticity.

The regression outputs show that the coefficient for Recession regressed on the environmental score is negative (-1.44), with a p-value of 0.15. This means that the estimate can not be said to be significant when using 0.10 as the threshold for significance. This in turn suggests that the data does not find support for a significant relationship between the Recession years and changes in firms' environmental policy. The coefficient for Recession regressed on the social score is negative (-2.810) and significant at a 1 percent level. The

significant estimate indicates that there is a significant relationship between the Recession years and firms reducing their social policy. Lastly, the coefficient for Recession regressed on governance score is negative (-1.184), with a p-value of 0.25. Therefore, data does not find support for a significant relationship between the Recession years and changes in firms' governance policy. As a result of the insignificant estimate, one cannot rely on either the sign or the magnitude of the estimates to describe the relationship.

The explanatory power of the first two regressions are approximately 0.40 (adjusted R-squared). Comparable low explanatory powers can be found in prior literature testing similar variables (Sakunasingha, Jiraporn et al. 2018). We can therefore expect that there are many omitted variables in the models that are determinants of environmental and social scores. The third regression has a substantially lower explanatory power (0.151) than the previous two regressions, indicating that other factors apart from the financial position of firms are more accurate determinants of governance scores.

**Table 11.** Regression results for Hypothesis 2

	<i>Dependent variable</i>		
	<i>E</i>	<i>S</i>	<i>G</i>
<i>Recession</i>	-1.444	-2.810***	-1.184
<i>Firm size</i>	11.169***	9.189***	4.734***
<i>Cash holdings</i>	28.714*	36.674***	50.412
<i>Leverage</i>	2.882	8.863***	-10.965***
<i>ROA</i>	21.895**	35.961***	9.514
<i>Tobin's Q</i>	2.174*	2.259**	-0.798
<i>Investments</i>	10.922	5.066	-0.076
<i>Constant</i>	-207.27***	-193.86***	-77.654***
<i>GICS Industry fixed effect</i>	YES	YES	YES
<i>Country fixed effect</i>	YES	YES	YES
<i>N</i>	2 120	2 120	2 120
<i>R-squared</i>	0.436	0.426	0.164
<i>Adjusted R-squared</i>	0.427	0.417	0.151

\*\*\*p<0.01, \*\*p<0.05, \*p<0.1

### 4.2.3 The relationship between changes in CSR aspects and CFP

Hypothesis 3 is tested through regressing Model 3 and the results can be found in Table 12. The relationship between the independent variables  $\Delta E$ ,  $\Delta S$  and  $\Delta G$ , describing the average change in the different CSR aspects, is regressed on stock price data for the years 2010-2014 separately. As in previous regressions, a vector of controls as well as country- and industry-fixed effects is included to reduce bias in the regressions. The regressions are run with robust standard errors to control for potential heteroskedasticity.

The regression outputs show that the coefficients for the change in environmental policy is positive for all years regressed, 2010-2014. The estimates are significant at a 5 percent level in 2012 and at a 10 percent level for all other years. The significant coefficients indicate that there is a positive relationship between increases in environmental policy during the Recession and a higher stock price in the post-crisis period. The magnitude of the relationship is relatively constant over the years following the Recession, varying between 0.059 and 0.097. The coefficient for the change in social policy is negative for 2014 and positive for all other years (2010-2013). The estimates are not significant at any level for any year, which indicates that the data does not support a significant relationship between changes in social policy and stock price. Lastly, the coefficients for the change in governance policy is negative for all regressed years (2010-2014), but are not significant at any level. That is, we do not find support for a significant relationship between changes in governance policy and stock price. Due to the insignificant estimates of the two explanatory variables  $\Delta S$  and  $\Delta G$ , we cannot rely on either the sign or the magnitude of the estimates to establish a relationship with stock price.

The explanatory power of the regressions vary between 22-33 percent (adjusted R-squared) for the observed years. In line with the previous reasoning, these outcomes are consistent with what can be observed in earlier research (Broadstock, Chan et al. 2021; Lins, Servaes et al. 2017) and is therefore expected. Nonetheless, a low adjusted R-squared indicates a low explanatory power in describing the variation in the dependent variable. Hence, there are likely many factors not included in the models that are determinants of stock prices.

**Table 12.** Regression results for Hypothesis 3

	<i>Stock price</i>				
	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>
$\Delta E$	0.072*	0.059*	0.090**	0.097*	0.091*
$\Delta S$	0.023	0.021	0.014	0.014	-0.006
$\Delta G$	-0.033	-0.022	-0.028	-0.043	-0.055
<i>Firm size</i>	2.078***	1.944***	2.448***	2.875***	2.684***
<i>Cash holdings</i>	-15.613	-8.373	-11.627	-11.283	-43.583*
<i>Leverage</i>	2.499	5.299*	5.131	4.093	3.977
<i>ROA</i>	17.249*	2.391	13.349	11.432	40.111**
<i>Tobin's Q</i>	4.516***	6.452***	5.283***	5.751***	3.191**
<i>Investments</i>	-54.792**	-35.461**	-48.613**	-34.687	-33.265
<i>Constant</i>	-33.244***	-35.701***	-43.474***	-40.867***	-41.027***
<i>GICS Industry fixed effect</i>	YES	YES	YES	YES	YES
<i>Country fixed effect</i>	YES	YES	YES	YES	YES
<i>N</i>	265	265	265	265	265
<i>R-squared</i>	0.418	0.383	0.374	0.324	0.334
<i>Adjusted R-squared</i>	0.331	0.292	0.282	0.224	0.235

\*\*\*p&lt;0.01, \*\*p&lt;0.05, \*p&lt;0.1

## **5. Discussion**

In the following sections, a discussion regarding the research method and the research findings are approached.

### **5.1 Research method**

This part addresses justifications and potential limitations of the sample selection process and the regression models used when conducting the research.

#### **5.1.1 Sample selection**

The sample consists of public firms with active headquarters in Denmark, Finland, Ireland, Norway, Sweden and the UK during the period 2007-2014. The study was delimited to firms in the Northern European region as defined by Eikon Refinitiv, to prevent the sample from significant variation in incentives to engage in CSR activities, which reasonably exists among geographical regions. As discussed in section 3.1, the sample is limited by data availability.

We have previously established that the requirements for CSR reporting today differ significantly from back in 2007, causing a consequential number of firms being excluded from the sample since they did not disclose their CSR performance in 2007. This constraint in the sampling process implies that the sample cannot be said to be entirely random. Instead, it is likely that only CSR aware firms reported their CSR performance in 2007, since there was no requirement for firms to disclose CSR performance in their financial reports at that time. The sample could therefore be biased through a lack of representation of CSR unaware firms.

Another thing to note is the weight of UK firms in the sample. The use of the geographical region as defined by Eikon Refinitiv has implied the exclusion of other European countries such as Germany and the Netherlands. Based on the severe constraint with CSR disclosure in 2007 described above, UK firms comprise approximately 67 percent of the sample. As it is reasonable to assume that the countries in the Northern European region are not identical, the strong weight of UK firms in the sample should be noted.

#### **5.1.2 Regression models**

In order to fully be able to rely on the results presented from Model 1, 2 and 3, a prerequisite is that the six assumptions (Appendix 2) for the Ordinary Least Squares (OLS) method, are fulfilled. In reality, some of these assumptions are likely to be violated, and so also in these

models, but measures can be taken to eliminate as much bias as possible in the models. Firstly, all data including continuous variables have been winsorized at the 1st and 99th percentile, to mitigate for any extreme outliers. This measure reduces the spread of the data, in order to remedy potential issues with non-normality and heteroscedasticity in the data. Further, to account for remaining heteroscedasticity in the data, all models include fully robust standard errors. Secondly, the independent and control variables were checked for potential multicollinearity through testing their correlation and conducting VIF-tests for highly correlated variables. The threshold of a VIF lower than 10 was used to ensure no problem with multicollinearity. Thirdly, a vector of controls have been included in the model to minimize bias from other factors affecting the dependent variable. Lastly, through the lagged nature of the models, studying the effect of changes in CSR policies during the Recession on stock prices in the post-crisis period, it is likely that there are no problems with simultaneity. However, the quite low explanatory power (adjusted R-squared) of all models indicate that there are variables which explains the variation in the dependent variables that are left out of the models. This suggests the models being subject to omitted variable bias, causing problems with claiming exogenous estimates. The several unobserved factors, being predictors of stock price, included in the error term makes the independent variables endogenous. The issue with endogeneity and the potential bias of the models are therefore important to be aware of when interpreting the results.

## **5.2 Analysis of results**

In the following section, the results from the regression models are analyzed and potential explanations for the results are discussed. The three models are analyzed individually, starting with how changes in CSR policy during the Recession affected CFP after the crisis. Secondly, an analysis of the engagements in different CSR aspects during the Recession is conducted. Lastly, a discussion regarding how changes in the different CSR aspects influence CFP is approached.

### **5.2.1 The relationship between changes in CSR and CFP**

Based on the results from Model 1, we cannot confirm the effects CSR policy changes had on firms' stock prices in Northern Europe in the years following the Recession. The empirical results present an insignificant relationship between stock price and changes in CSR policy

for both high-performing and low-performing CSR firms for all years studied. There might be several alternative explanations for these outcomes, which this section aims to discuss.

The insignificant results of Model 1 suggest that we cannot not accept the first hypothesis. There is therefore not support to conclude that shareholders' reaction to changes in CSR engagements are smaller towards high-performing CSR firms compared to low-performing CSR firms during a period of financial crisis, in line with the "insurance-like" protection against socially irresponsible actions for high-performing firms found by Godfrey (2005) and further developed by Flammer (2013). We can neither confirm the implications of changes in CSR policy during a time of crisis in terms of improved financial performance. Unlike prior research conducted on the US market (Lins, Servaes et al., 2017; Tsai, Wu, 2022; Flammer 2013), the relationship between high-performing CSR firms and stock returns during the Recession is insignificant in this study on the Northern European market. However, in line with Lins, Servaes et al. (2017), the explanatory power of the model is low (adjusted R-square between 22-33 percent), despite the inclusion of the five control variables.

A first explanation for the insignificant results would therefore be the heterogeneity in the importance of CSR between different markets before the Great Recession 2008-2009. Research on CSR conducted in 2004 and 2005 examining elements of CSR in different areas of the world shows regional differences (Welford 2005). In terms of the accountability aspect of CSR, reporting on social responsibility and sustainable development is less common in the US compared to Europe. Furthermore, two-way stakeholder communication are also more developed and of greater importance in Europe compared to other geographical areas during the examined period (Welford 2005). These differences can in turn be explained by the variation in capitalism between on one hand the US and the UK as liberal market economies, and on the other hand several Northern European countries as coordinated market economies. The framework 'Varieties of Capitalism' developed by Hall and Soskice (2001) emphasizes the importance of institutional complementarities in the development of the different nations (Hall, Soskice 2001). The US and the UK as liberal market economies rely to a larger degree on market relations to coordinate endeavors in both the financial and industrial areas. The remaining countries in the sample as coordinated market economies, on the other hand,

coordinate the same endeavors through strategic interaction with the support of institutions, thus reflecting a higher degree of non-market coordination (Hall, Soskice 2001). This variation in capitalism therefore reinforces the underlying cultural differences between earlier research conducted on the US market (Lins, Servaes et al., 2017; Tsai, Wu, 2022; Flammer, 2013) and this study on the Northern European market. An investigation conducted in 2008 (Danko, Goldberg et al. 2008) showed that European governments, compared to the US, to a greater extent pressured firms to commit to CSR and perform a socially active role. European corporations view CSR implicitly as a result of this, compared to US firms viewing it explicitly and as a voluntary corporate action (Danko, Goldberg et al. 2008). It is therefore likely that firms in countries in Northern Europe to a greater extent had developed relations between corporations and society, and hence stronger governmental pressure to assume a socially responsible role, in the years before the Recession. These factors in turn likely caused smaller changes in CSR policy among Northern European firms compared to firms in other financial markets, which in turn would mitigate the effects on stock price.

Developing the rationale above, a second explanation to the insignificant results is related to shareholders' perception of high-performing CSR firms as more trustworthy during a time of crisis when the general trust in companies declines, in line with Lins, Servaes et al. (2017). With regard to the previous explanation, it is likely that shareholders consider a greater number of firms as stable and reliable in this study, based on Northern Europe. The fact that reporting on social responsibility is more common and two-way stakeholder dialogue is of greater importance in Europe compared to the US before the Recession (Welford 2005), and also the implicit view of CSR (Danko, Goldberg et al. 2008), are likely factors that strengthens firms' CSR performance overall in European countries. Therefore, because of the generally smaller differences in terms of CSR performance among firms in Northern Europe, it is likely that shareholders consider the firms more equally in terms of trust, resulting in changes having a smaller effect on stock prices. This effect is further strengthened by the sample selection process, where the lack of disclosure of CSR performance among several firms in 2007 may bias the sample towards more high-performing CSR firms in line with the reasoning in 5.1.1.

### **5.2.2 Engagement in CSR aspects during the Recession**

In order to provide a more complete picture of the behaviors with regard to CSR during a time of financial crisis, the shareholder reaction needs to be complemented by an analysis of the firm behavior during, in this study, the Recession. As previously established, earlier research studying how firms prioritize different CSR activities is limited. While some researchers have approached the question by dividing CSR activities into two parts; tactical and strategic CSR (Bansal, Jiang et al. 2015; DesJardine, Bansal et al. 2019), research studying firm prioritization of different types of CSR activities separately is scarce.

Sakunasingha, Jiraporn et al. (2018), who studied this relationship suggest that firms, during the Recession, reduce their activities in all CSR categories aside from corporate governance and diversity, in which engagement increased as a response to the Recession.

Through Model 2, the relationship between the Recession and engagements in specific CSR aspects was examined. As presented in section 4.2.2, we find a highly significant relationship between the Recession years and a reduced engagement in social activities, where a year of Recession was associated with a 2.8 lower social score. The estimate of the environmental score is further negative with a 15 percent significance. Lastly, the estimate for engagements in governance activities during the Recession is negative but insignificant. This means that we cannot confirm a significant relationship between the Recession and all CSR aspects. This leads us to not being able to fully confirm or question prior findings by Sakunasingha, Jiraporn et al. (2018). Instead, we conclude that the results support the previous findings with regard to investments in social activities during the Recession. That is, during financially constrained times, data indicate that firms do not prioritize investments in social activities as part of their strategic choices to manage the crisis. The indications of the engagement in environmental activities in the study is further in line with Sakunasingha, Jiraporn et al. (2018), but these estimates should be analyzed with caution as the relationship only is significant at a 15 percent level.

Unlike Sakunasingha, Jiraporn et al. (2018), the relationship between the Recession and the governance score is highly insignificant, and despite the inclusion of several control variables, the explanatory power of the tested model is very low (15.1 percent). Given this,

the empirical evidence does not provide support for validating the finding of Sakunasingha, Jiraporn et al. (2018) or for accepting the second hypothesis. That is, the empirical analysis cannot conclude that firms view governance activities as the most essential CSR activity during a period of financial crisis. The findings, despite not providing complete empirical support for the hypothesis, does provide insights with regard to the prioritization of CSR aspects in Northern European firms during financially stressful times.

### **5.2.3 The relationship between changes in CSR aspects and CFP**

Model 3 aimed to examine the unexpected finding in earlier literature that firms and shareholders have different prioritizations with regard to engagements in different CSR aspects, a continuation of Model 2. As presented in section 4.2.3, there is a significant and positive relationship between increases in environmental policy during the Recession and a higher stock price in the years following the Recession. A one unit increase in environmental policy is associated with a higher stock price with a value in the range of \$0.059 and \$0.097. This result therefore indicates that shareholders react positively towards improvements in firms' environmental performance, which supports the findings by Sharfman, Fernando (2008), arguing that shareholders have a stronger positive reaction towards advancements in environmental risk management assessed through a lower WACC. The findings with regard to the importance of environmental performance are further consistent with the findings of Broadstock, Chan et al. (2021). However, because of the insignificant results when examining changes in social and governance policy, we cannot confirm that changes within all CSR aspects have a significant effect on stock price. Hence, the empirical results do not provide sufficient evidence to accept the third hypothesis, or fully confirm the findings by Sharfman, Fernando (2008), studying the US market and Cheng, Ioannou et al. (2014), studying the global market. The empirical findings of the study can therefore not conclude that the shareholder reaction to changes in CSR engagements during a period of financial crisis is weaker towards changes in governance policy. Instead, we can conclude that the results support the study by Sharfman, Fernando (2008) with regard to the shareholders' positive responses towards improvements in firms' environmental policies in Northern Europe.

A possible explanation for this positive relationship between increases in environmental policy and stock price could be related to the fact that engagement within the environmental and social dimensions to a greater extent than governance activities reduces the firm's level of capital constraint, a finding by Cheng, Ioannou et al. (2014) presented in section 2.4. Therefore, firms with higher environmental and social performance face greater prospects to obtain financing (Cheng, Ioannou et al. 2014). However, during times of financial crises, findings by La Rosa, Liberatore et al. (2018) indicate that lenders disregard firms' social performance as a decisive factor for its access to financing. Instead, it is likely that shareholders during the Recession found environmental policy as a crucial factor in the valuation of a firm. If shareholders believe that strong environmental performance provides more certainty in the firm's capacity and earnings during a financial crisis, as a result of their lower risk to face financing problems, they are likely to assign a valuation premium to firms showing improvements in this dimension.

## 6. Conclusion

The conducted study aims to provide understanding of the relationship between changes in firms' CSR engagements and the reaction of shareholders, through using the Recession as an external shock, causing shifts in firm and shareholder behaviors. In order to provide a complete picture of the effect of the Recession, both adjustments in firm behavior as well as shareholder reactions are examined. The research question is investigated using a quantitative approach, using three linear regression models to test the relationship between (1) changes in CSR policies and CFP, (2) the Recession and engagements in specific CSR activities and (3) changes in specific CSR aspects and CFP.

Unlike prior research studying the US market (Lins, Servaes et al., 2017; Tsai, Wu, 2022; Flammer 2013), we do not find empirical support for the first hypothesis, that pre-crisis CSR scores have a moderating effect on the relationship between changes in CSR policies during the Recession and stock prices in the post-crisis years. The insignificant result can be the outcome of several different factors. Two factors were identified and described in this paper, where the first one is the heterogeneous attitudes towards CSR between different markets during the studied period. Research found that the accountability aspect of CSR was less common in the US compared to Europe before the Recession (Welford 2005), where the differences can be explained by their varieties in capitalism and economic institutions (Hall, Soskice 2001). The differences are further reinforced by the higher pressure from European governments to commit to CSR than from US governments (Danko, Goldberg et al. 2008). The second factor addresses the differences in shareholder perceptions between financial markets. Since European firms likely have a higher commitment towards CSR, it is also likely that shareholders consider a greater number of firms as stable and reliable in this study. Hence, we do not identify the “insurance-like” protection for high performing CSR firms in the Northern European market.

When investigating the firm behavior with regard to engagements in specific CSR activities, the second model finds support for firms reducing their social policy during the Recession, and also weak empirical support for firms decreasing their environmental policies. These results are in line with earlier research (Sakunasingha, Jiraporn et al. 2018). However, the results do not support the second hypothesis, since the estimate for changes in governance

policies is highly insignificant. That is, we cannot conclude whether firms view governance activities as the most essential CSR activity during a period of financial crisis.

When examining the shareholder attitude towards changes in specific CSR aspects, the result significantly describes that shareholders react positively towards improvements in firms' environmental performance. This result therefore supports findings in previous literature (Sharfman, Fernando 2008). Despite this, due to the insignificant relationship between stock price and changes in social and governance policies, the third hypothesis cannot be accepted. We cannot conclude that shareholder reaction to changes in CSR engagements during a period of financial crisis is weaker towards changes in governance policy.

This research is of interest for firms today, since the study can provide firms with a greater understanding of how shareholders react to changes in CSR engagement during a time of financial crisis. Such insights are of particular importance at present, when economies all over the world head towards more uncertain times, likely causing firms to adjust their strategic direction going forward. The findings of the research are therefore of relevance for firms in Northern Europe, as it has been established that firm behavior and shareholder reaction with regard to CSR engagements differ between financial markets.

## **6.1 Suggested future research**

The Great Recession as a natural experiment enabled us to study changes in firms' strategic direction to endure and recover from financially difficult times. At present, many economists project several nations to enter a recession in the near future, among those several Northern European countries. The increased relevance of the CSR concept, established by prior literature, together with the risks of a new deep recession in Northern Europe, provides an opportunity to investigate similar behaviors in a more current setting. The introduction of compulsory CSR reporting since the time of the Recession would eliminate the potential bias of samples in future research, a bias apparent in this study. Additionally, we identify a research gap when it comes to studying the importance of specific CSR aspects, where the field is rich with papers approaching the CSR concept as a whole, but where addressing nuances to the concept is missing. Future research should address this research gap by recognizing that the reaction to CSR engagements likely differ between different types of engagements, linking to the findings of Sakunasingha, Jiraporn et al. (2018).

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## Appendix

### Appendix 1. CSR Score Parameters (Refinitiv 2022)

Pillars	Categories	Themes
<i>Environmental</i>	Emission	Emissions Waste Biodiversity Environmental management systems
	Innovation	Product innovation Green revenue, R&D and CapEx
	Resource use	Water Energy Sustainable packaging Environmental supply chain
<i>Social</i>	Community	Community
	Human rights	Human rights
	Product responsibility	Responsible marketing Product quality Data privacy
	Workforce	Diversity and inclusion Career development and training Working conditions Health and safety
<i>Governance</i>	CSR strategy	CSR strategy ESG reporting and transparency
	Management	Structure Compensation
	Shareholders	Shareholder rights Takeover defenses

### Appendix 2. Assumptions OLS multiple regressors model (Stock & Watson, 2019)

<i>Assumption</i>	
1	<i>Linearity:</i> The regression model is linear in the coefficients and the error term
2	<i>No endogeneity:</i> All independent variables are uncorrelated with the error term
3	<i>Normality of data:</i> The error term has a population mean of zero
4	<i>Homoscedasticity:</i> Constant variance of error term, large outliers are unlikely
5	<i>No autocorrelation:</i> Observations of the error term are uncorrelated with each other
6	<i>No multicollinearity</i> of the independent- and control variables