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The Relationship between Corporate Social Responsibility and
Financial Performance in OMX Nordic 40

1st Examiner: Kaisu Puumalainen

2nd Examiner: Heli Arminen

Viljo Lindstén

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Yritysvastuu on nopeaan tahtiin kasvava ilmiö globaalissa maailmassa ja taloudessa, joka on kerännyt paljon huomiota tiukentuneen lainsäädännön ja erilaisten ilmiöiden, kuten ilmastonmuutos, finanssikriisi ja liiketoimintaskandaalit, seurauksena. Nämä syyt ovat aikaansaaneet paljon erilaisia tutkimuksia vuosikymmenten ajan siitä, miten yritysvastuu vaikuttaa taloudelliseen suoriutumiseen. Toistaiseksi tutkijat eivät ole löytäneet yhteisymmärrystä asiasta laajan tutkimustuloskirjon takia.

Tämän tutkimuksen tavoitteena oli selvittää, miten yritysvastuu vaikuttaa taloudelliseen suoriutumiseen OMX Nordic 40 –indeksissä, koska kyseistä markkinaa ei ole yritys vastuun kannalta juurikaan tutkittu. Lisäksi tässä tutkimuksessa pyrittiin löytämään syvällisempi vastaus tällä suhteelle yksittäisten yritys vastuukategorioiden avulla. Yritys vastuuaineisto koostui neljästä eri kategoriasta, ja taloudellista suoriutumista mitattiin ROA:lla, ROE:lla ja osinkotuotoilla. Neljännesvuosittaisesta datasta muodostettiin paneelidata vuosilta 2009-2017. Tämä tutkimus löysi yritys vastuun ja ROE:n ja ROA:n väliltä positiivisen yhteyden, kun yritys vastuuta käsiteltiin sekä yhtenä kokonaisuutena että yksittäisinä kategorioina. Toisaalta, yritys vastuun ja osaketuottojen välillä löydettiin tilastollisesti merkitsevä negatiivinen yhteys.

ABSTRACT

Author: Viljo Lindstén

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Associate Professor Heli Arminen

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Corporate Social Responsibility (CSR) is a rapidly growing phenomenon in the global world and economy. It has gained a lot of attention because of increased regulation and global issues such as global warming, company scandals and economic recessions. Hence, CSR and its effect on company financial performance (CFP) has been studied ever since with a great variety between researches without any consensus.

This thesis studied the nature of the relationship between CSR and CFP in OMX Nordic 40 Index during 2009-2017 because this market has not been studied before from this perspective. Moreover, this thesis deepened the analysis by examining the CSR-CFP relationship with individual CSR categories. This thesis used panel data of four different CSR categories and ROA, ROE and stock returns as CFP measure. The data sample consisted of quarterly data. Company's total assets were used as a control variable.

This thesis discovered that there is a positive relationship between CSR and ROA and ROE but no relationship with stock returns. In addition, it seemed that individual CSR categories have a positive effect on ROE and ROA, whereas the relationship was negative with stock returns, respectively.

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I started my journey in LUT in October 2013. Everything was completely new to me: a new city, a new school and new friends. Now that five years have passed in Lappeenranta University of Technology, I can only say that what a ride it has been, my friends. I would have never thought that time could fly so fast. Thank you for the most memorable moments. You made Lappeenranta my home.

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LIST OF ABBREVIATIONS

CFP	Corporate Financial Performance
COI	Organizational Change and Computerization
CSP	Corporate Social Performance
CSR	Corporate Social Responsibility
KLD	Kinder, Lyndernberg & Domini Analytics Inc.
MVA	Market Value Added
OECD	Organization for Economic Co-Operation and Development
P/B	Price to Book Value
ROA	Return on Assets
ROE	Return on Equity

1 INTRODUCTION

The corporate social responsibility (CSR) and its importance in the global economy has been growing rapidly since the second half of 20th century. Bowen (1953) published the seminal book “*Social Responsibilities of the Businessman*” and, ever since, the subject has gained a lot of attention. Due to the significant growth of the CSR, the concept has faced a great proliferation of different theories, terminologies and approaches (Garriga and Melé, 2005). Particularly, the terminology has evolved increasingly away from social responsibility towards corporate social responsibility. Especially in the European Union, the legislation has become more stringent which has led to a situation where not only big listed and unlisted companies but also public interest entities are obligated to publish their CSR information from 2017 onwards (European Union, 2014). This is due to severe scandals that have emerged among large, international companies which have suffered significantly by their social responsibilities. One of the most recent and familiar scandal was the Volkswagen Group case (Davis & Kollwe, 2016). CSR is also becoming more significant as over the past years voluntary and mandatory CSR reporting has been emerging and the phenomenon is assumed to grow in the future (Cao, Ye & Wang, 2016). Issues, such as the global warming, scarcity of resources, economic recessions and different social issues, have become challenges that not only governments but also businesses are facing. Since both play a significant role in the global transition towards a socially responsible world and economy, companies are forced to operate in a more socially responsible way. Also, the society and companies’ stakeholders have recognized the importance of social responsibility and they demand companies to be more socially responsible in their daily operations. There are only very few companies left that do not have any CSR strategy or that do not at least claim to be operating or be trying to operate in a responsible way. From the perspective of the academic literature, corporate social responsibility has faced a great deal of debate whether businesses need to include responsibility in their daily operations or if it is up to governments to assure that countries, including businesses, are acting responsibly (Porter & Kramer, 2011; Friedman, 1970). According to Porter and Kramer and their theory of shared value (2011), many companies have adopted the idea to act responsibly and be profitable at the same time.

1.2 The Research Problem and Research Questions

In overall in academic literature, the evidence on the relationship between CSR and corporate financial performance (CFP) is immense but, still, the consensus has not been established. The CSR factors that truly and significantly have an influence on CFP are relatively indistinct. Because previous studies have mainly focused on United States and Europe, the academic contribution of this paper is to present a research about Nordic stock markets which have not been studied before from the CSR-CFP relationship perspective. Answering study's research questions below should elaborate the driving factors behind the CSR-CFP relationship in OMX Nordic 40 Index. Nordic companies have engaged strongly in CSR activities in pursuit of reputation, brand awareness, competitiveness and risk management (Gjøølberg, 2010). Strand and Freeman (2015) continued that Nordic countries are routinely cited as global forerunners in CSR activities and thus global attention to CSR activities especially in Nordic countries seem to be on focus. When looking at different CSR and sustainability measures such as Dow Jones Sustainability Index (DSJI) and the Global 100 Index, Nordic companies have performed significantly well (Strand and Freeman, 2015). Nordic countries are relatively small, open economies which are highly relied on their export to global markets (Gjøølberg, 2010). Furthermore, they have achieved high level of CSR due to a joint, strong commitment to international institutions, such as the United Nations (UN) and Organization for Economic Co-Operation and Development (OECD).

This study uses different CSR categories as individual measures in order to figure out how the relationship between CSR and CFP differs. By knowing the actual factors affecting relationship between different CSR categories and CFP, this research paper will provide more comprehensive results since earlier studies have considered CSR as a whole (Griffin and Mahon, 1997; Waddock and Graves, 1997). Rowley and Berman (2000) stated that all the CSR categories and scenarios should not be handled as one because the attempt of researchers to generate aggregating or universal CSR variables yields vague results. Schreck (2011) also made a similar conclusion that one of the reasons for the inconclusive results could be that earlier studies have considered CSR categories as one set which will not take into consideration different kinds of impacts and interactions between individual CSR categories and CFP. Thus, one reason why some studies have not found any relationship between CSR-CFP could be that there are CSR categories that do not correlate with CFP.

Next, this study's main research question with sub-questions are presented. The aim of sub-questions is to thoroughly supplement and support the main problem as well as control the course of this study to discover and present more accurate results.

- *What type of relationship is there between CSR and CFP measures in OMX Nordic 40 Index?*
 - *How do the results vary with individual CSR categories?*

1.3 Definitions and Scope

This study consists of quarterly CSR and CFP data from OMX Nordic 40 Index from 2009 to 2017. OMX Nordic 40 Index was selected as study's research sample because it is fascinating to find out how CSR's effect on CFP within largely traded, big corporations can make an impact on locally and globally. This study focuses on both individual CSR categories and CSR as an aggregate measure to discover an explanation for the relationship between CSR-CFP relationship. As CFP measures, this study uses return on equity (ROE), return on assets (ROA) and stock returns, which are commonly used measures in this field (Hillman and Keim, 2001; Makni, Francoeur and Bellavance, 2009; Schreck, 2011). For data gathering of companies' CSR categories, this thesis uses CSRHub which is used as a more recent database, whereas previous studies have mostly used KLD data (Hillman and Keim, 2001; Makni et al, 2009; Pätäri et al, 2016). The CSR data covered four CSR categories which are (1) Community, (2) Environment, (3) Employees and (4) Governance. First, community is a measure of the company's social and environmental impacts. It is said that it mirrors company's citizenship, charitable giving and volunteerism. Second, environment category acts as a measurement of company's intentions to make a difference by following regulations and beyond creating own processes to decrease negative consequences to environment. Third, employee category measures the quality of employee policies and programs, employee diversity, benefits, employee welfare, training and safety. In other words, the category indicates how well the management treats its employees, educates and manages them and is aware of their rights and opportunities. Lastly, governance category includes the data covering the company's

management ethics, board and executive transparency to its stakeholders, commitment to sustainability and corporate responsibility. In this context, governance is referring to capabilities of management and the values that guide corporate direction and performance. (CSRHub, 2018)

1.4 Structure of the Research

This research paper is divided into five main chapters and their subsections. The theoretical framework of this study is visualized in Figure 1. In the first chapter, the research topic is introduced and the research problem with its sub-goals are presented. The second chapter focuses on the review of the history of the CSR literature and the earlier research studies conducted in the academic literature. The aim is to find the suitable definitions for CSR and CFP concepts. This is a relatively important matter because CSR is easily misunderstood as a concept due to its multidimensional use and evolving nature. In addition, the theoretical framework for this study as well as the research hypotheses are introduced. The third chapter concerns the empirical part of the study which includes the data description, and the explanation of the empirical methodology and the formula of the empirical models are explained. This thesis will combine two datasets, CSR related data from CSRHub and financial data from Bloomberg. The data will be analyzed with EViews statistics program. The research results will be presented in the fourth chapter which deepens the analysis and comprehension of the relationships between different CSR categories and CFP measures. In the fifth chapter, the main findings are presented and compared to earlier researches. Also, study's limitations, potential future research topics and other implications and contributions are discussed.

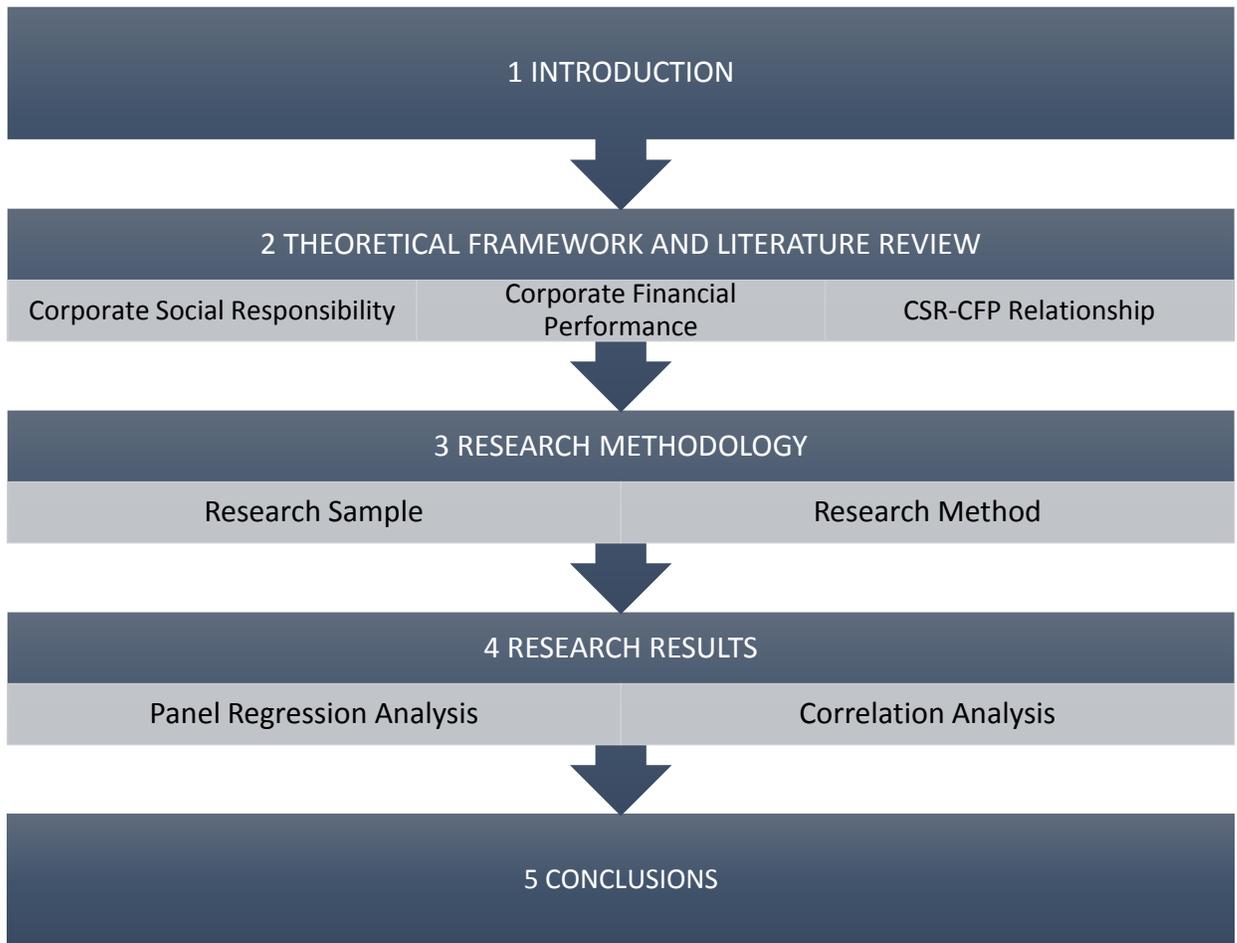


Figure 1. The structure of the study.

2 THEORETICAL BACKGROUND

This chapter consists of the most used definitions of CSR and a relevant collection and analyses of earlier studies conducted on the subject at hand. The goal is to understand the theoretical context of CSR and CFP, to present what kind of studies have been conducted in the research field hitherto and to discover if there is any significant proof of any kind of linkage between these concepts. Empirical studies about the CSP-CFP relationship have come up with partially useless outcomes for causal patterns (Uhlmann, 1985; Wood & Jones, 1995). For example, numerous studies from the previous three decades have been debating whether the linkage has been positive or not (Aupperle, Carroll and Hatfield, 1985; Orlitzky, Schmidt and Reynes, 2003; Luo and Bhattacharya, 2006; Surroca, Tribo and Waddock, 2010; Perrini, Russo, Tencati and Vurro, 2011; Cegarra-Navarro, Reverte, Gómez-Melero and Wensley, 2016). Some studies have suggested conceptual explanations for existence of the CSR-CFP linkage, although, without any significant evidence (Griffin & Mahon, 1997; McWilliams and Siegel, 2001). Waddock and Graves (1997) even stated that the main factor causing the relationship has not been studied nor found.

2.1 Corporate Social Responsibility

In order to understand the concept of CSR, it is necessary to find a suitable definition and comprehend the multidimensional synonyms of CSR. Overall in the academic literature, several terms and definitions are used throughout time. Barnard (1938) and Clark (1939) were the first ones to introduce the concept of CSR. At that time, CSR was only considered as a way of doing business that should be acknowledged. Votaw (1972) characterized promptly the concept of CSR that it means something, but not always the same thing to everybody. Dahlsrud (2008) constructed a study which analyzed the differences in the terminology that have emerged in CSR studies during the years 1980 and 2003. Research found 37 closely related definitions used in the academic literature which had five common denominators: environmental responsibility, social responsibility, economic responsibility, meeting the stakeholders' expectations and voluntarism. European Commission (2018) defined CSR as a responsibility of companies for their impacts on society. Barnett (2007) used the concept of corporate social performance (CSP) explaining the CSR: CSP is a company's overall social performance at

specific time. Barnett (2007) continued with a statement that companies make investments that accumulate into certain CSP postures, and thus these investments are companies' CSR. Wood's (1991) CSP definition is quite often used which stated that CSP is a configuration of principles of social responsibility, programs and perceivable outcomes related to company's societal relationships. CSP and CSR are highly correlating definitions with the difference that CSP is the outcome of CSR activities (Tuppura, Arminen, Pätäri and Jantunen, 2016). Nowadays among the rapidly growing number of researches, CSR is being considered as a necessity for competitive advantage. Also, CSR is perceived as a proactive strategy and an effective marketing tool to create and maintain the competitive advantage (Stroup and Newbert, 1987; Drumwright, 1994; Maignan and Ferrell, 2001).

The researches about widely used CSR definitions have come up with three major themes, which are business, ethics and stakeholder theory. According to the stakeholder theory, stakeholders are different groups, for example corporation's shareholders or employees, who have an interest in corporation's business. (Carroll, 1979, 1991; Freeman, 1984; Wood, 1991; Donaldson and Preston, 1995). Although the studies about CSR have been going on for 50 years, the concept has a rather vast usage and dimensions (Carroll, 1991). The opposing views in terms of different definitions is due to different weighing of responsibilities. Drucker's (1984) statement aligns that the economic responsibility is the basis for the CSR. In the academic literature, there has been established a unanimous opinion that CSR is based on sustainable and ethical grounds and it takes under consideration the stakeholders' expectations (Panapanaan, Linnanen, Karvonen and Vinh, 2003).

John Elkington (1997), one of the most famous and greatest authorities in the field of CSR research, defined world-famous concept called "triple bottom line thinking". According to the concept, CSR is divided into three dimensions which all concern value creation. The theory is visualized in Figure 2.

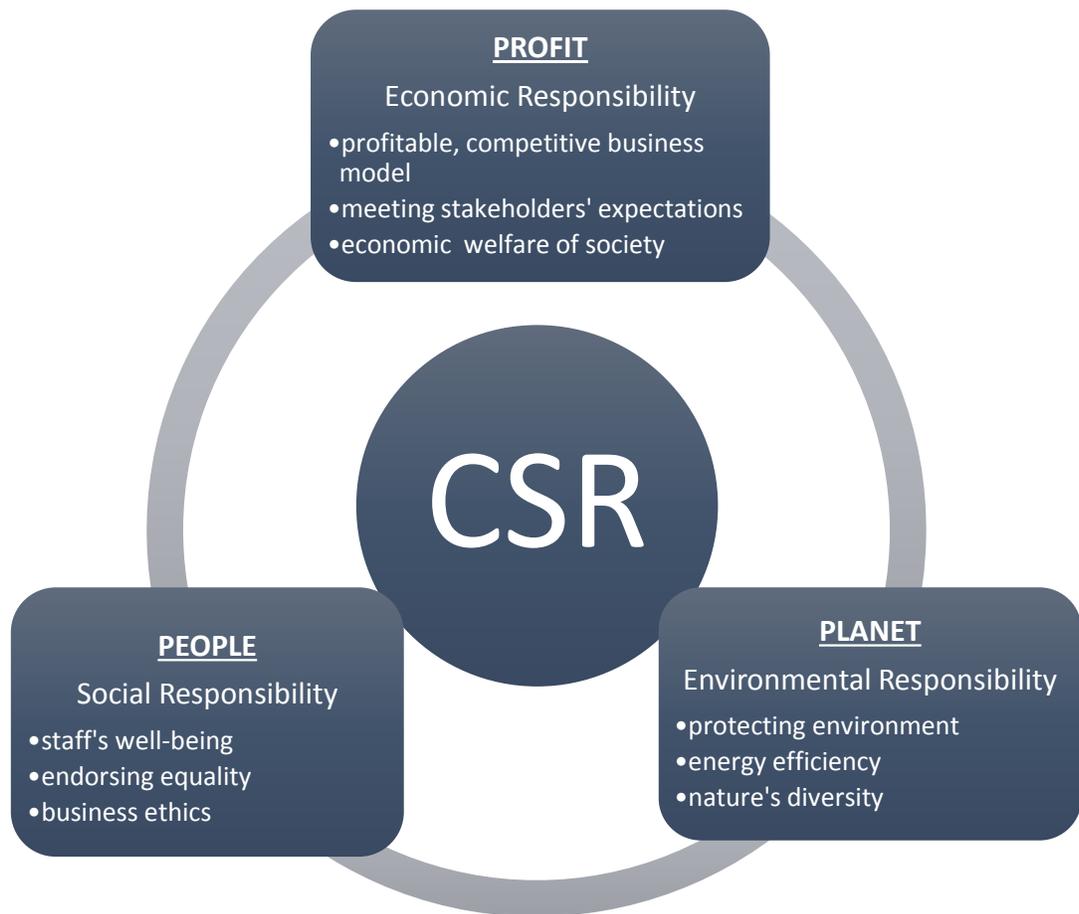


Figure 2. CSR according to Elkington's (1997) triple bottom line theory.

Economic dimension refers to the breakdown of the business added value between the company and its stakeholders. Economic dimension is based on profitability and competitive business model, capability to meet the stakeholders' expectations and improving the economic welfare of society (Viitala and Jylhä, 2003; Niskala, Pajunen and Tarna-Mani, 2013). The profitability and competitive business model are factors that act as a basis for the other dimensions. The second dimension, social responsibility, includes taking care of employees' well-being, education, endorsing equality and proper business ethics (Linnenluecke, Russel and Griffiths, 2009). The environment responsibility considers, among other things, the responsibility of environmental protection and preventing climate change, energy efficiency, waste management and recycling and ensuring the nature's diversity (Viitala and Jylhä, 2006;

Linnenluecke et al., 2009). Pava (2007) emphasized that companies have to include the three aspects of triple bottom line into their CSR.

Waddock (2004) qualified the term “corporate responsibility performance” (CRP) as a broader whole of strategies and daily practices that has had to develop to handle with relationships with company’s different stakeholders. When comparing Luo and Bhattacharya’s (2006) perspective to Waddock’s definition, the CSR is defined as companies’ activities and status related to its societal or stakeholder obligations. In other words, the difference between these two definitions is that the latter one considers the social environment separately from the stakeholders’ environment. This study refers to CSR as a combination from Drucker’s (1984) and Pava’s (2007). The definition for CSR used in this study is as follows:

Company’s economic, social and environmental responsibilities that are implemented into company’s operations and improve the stakeholder relationships and obligations towards the stakeholders.

2.1.1 Motives for CSR

Even though there have been conducted many researches about CSR during last three decades, scholars have given very little emphasis on why some companies act or do not act in a socially responsible manner in their daily operations (Campbell, 2007). This subsection introduces the motives why businesses are increasingly engaging in CSR activities. Although, a couple of contradictions are presented in the name of unbiased comparison. Aguilera, Rupp, Williams and Ganapathi (2007) discussed that organizations are almost obligated to take part in CSR activities due to individual, organizational, national and transnational actors, which are driven by instrumental, relational and moral motives. This study focuses on the organizational perspective. When considering motives affecting the organizational factor, instrumental motive concerns fundamentally shareholder interests, whereas relational motive takes into account stakeholder interests and the collective identity on a more long-term period. Lastly, the moral motive includes stewardship interests and higher order values. A similar model was introduced by Cropanzano, Byrne, Bobocel and Rupp (2001) which merged several studies and theory on

employee justice perceptions from different decades. According to Porter and Kramer's (2011) corporate shared value (CSV) theory, corporations can enhance their financial performance by acting in a responsible way which leads to better efficiency and leads to cost savings. They continued that CSV is crucial to a company's financial profitability, competitive advantage and the best interest from the point of view of wider stakeholder groups including government and non-profit organizations. According to Tuppura et al. (2016), when businesses invest in CSP, it yields cost savings, product and resource-based differentiation and more solid legitimacy and thus has a positive impact on corporate financial performance (CFP). From the viewpoint of maximizing shareholder value, engaging in CSR activities is a management's response to the demands from company's stakeholders (Menon and Menon, 1997; McWilliams and Siegel, 2001). However, this may yield different sort of managerial manipulation, such as false advertising, on account of company survival (Desmond and Crane, 2004).

In the 1970s, Milton Friedman (1970), a well-known critic and perhaps the utmost loudest objector of CSR, strongly campaigned against the CSR initiatives for many years. According to Friedman (1970), the primary responsibility for corporations to contribute for the society is to provide high quality products and services and maximize its profits. Friedman continued by stating that investing in CSR activities is a waste of resources because companies are not meant to be responsible for social related issues. The social responsibilities rely on governments' actions and thus it does not make sense for businesses to engage in social activities in a free capitalistic market environment. The only fact that should be considered while making managerial decisions is the shareholder interests. Friedman's opinion was that CSR initiatives did not only diminish the wealth of shareholders but also other stakeholders', such as employees and customers, due to higher product prices for the customers and lower compensation for employees' labor. Another opponent and critic of CSR is David Henderson whose research paper took an extreme stand in the discussion. According to Henderson (2001), the adoption of CSR initiatives is damaging for both businesses and economy. However, Henderson did not reject the possibility that responsible initiatives could have a favorable impact on its financial performance.

In spite of Friedman's conservative opinion, the motives for a company to act in a socially responsible manner are often divided into extrinsic and intrinsic motives. Demsetz and Lehn (1985) viewed the opportunity cost of CSR and argued that the relationship between company's

CSR ventures and financial value has to be non-monotonic. For example, when a company invests in CSR ventures, firm value may rise by avoiding pollution fines, reputational costs and, furthermore, it increases employees' productivity. Extrinsic motives, in other words financial motives, are usually assumed to be the major reason for a company engaging in CSR initiatives because they have had enhancing impact on companies' profitability (Orlitzky et al. 2003; Van Beurden and Gössling, 2008). Financial motives are considered to be long-term contributions of the company and there are many ways how CSR initiatives can influence on company's financial profitability. First, a company's socially responsible reputation may improve the brand image and the reputation and thus increase sales and market share by potentially gaining a competitive advantage by differentiating themselves from non-CSR competitors (Miles and Covin, 2000). Gardberg and Fombrum (2006) supported Demsetz and Lehn's (1985) opinion that contributions on CSR initiatives are considered as crucial as company's R&D and advertising investments. Good company image and reputation may not only draw potential employees but also increase trust in the employer among the current employees. Also, lower absenteeism and employee turnover rates and higher productivity are products of high work morale and positive attitude (Sims and Keon, 1997; Turban and Greening, 1996). Lougee and Wallace (2008) stated that company's voluntary engagement in CSR ventures may help a company to avoid regulation in a situation where, for example, a company expands its business into new markets. A company with a better CSR reputation does not face as often a higher rate of opposition as non-CSR companies. Frey and Jegen (2001) said that company's decision-makers should consider its incentive systems with care since the features of extrinsic motives easily obscure intrinsic motives.

Aside from extrinsic motives, intrinsic motives are more common particularly among small and medium enterprises (SMEs) than with larger companies (Hemingway and Maclagan, 2004). Intrinsic motives, also considered as non-financial motives, mean managements' personal values and beliefs, such as genuine passion for acting socially responsibly or an altruistic concern for others' well-being (Brønn and Vidaver-Cohen, 2009). Intrinsic motives are considered to be independent from a company's financial benefits. Graafland and Mazereeuw-Van der Duijn Schouten (2012) divided intrinsic motives into two types, CSR as a moral duty and CSR as "an expression of altruism". First, CSR as a moral duty is not considered as someone's true passion but instead an obligation to take actions because it is "the right thing to do" (Etzioni, 1988). In other words, one does not enjoy acting socially responsibly but feels

obligated to do so by moral duties. Second, CSR as an altruism is something that, for example, a manager thrives from. Altruism can be a contribution to the common good or helping others out of true compassion and care. Ribar and Wilhelm (2002) said that there is a line between pure and impure altruism. In case of pure altruism, a manager highly values CSR initiatives due to its positive impacts on environment and society. In case of impure altruism, a manager may expect some kind of personal reward when promoting CSR activities (Rabin, 1998). According to Barnea and Rubin (2010), this may lead to a situation where, corporate managers often have an urge to overly emphasize corporate's CSR expenditure level to a point where it does not maximize anymore the company value in order to achieve better CSR ratings. Although, one factor that both pure altruism and impure altruism have in common is that a manager has genuinely owned CSR values and took them into action for a good cause (Etzioni, 1988; Frey 1998; Rabin, 1998).

2.1.2 Effects of Individual CSR Categories

The value of different CSR strategies has received a lot of attention due to varying results (Margolis and Walsh, 2003; Orlitzky et al., 2003). It can be said that CSR has an ambiguous and a quite complex relationship with CFP. The uncertainty on this matter has shifted the researchers' focus on effects of different CSR categories. Cavaco and Crifo (2013) raised a possible matter called "a quantity-quality trade-off" explaining the absence of consensus in their research. In their context, quality refers to effect of the isolated individual CSR categories, whereas quantity respectively refers to the interactions between CSR categories. Barnett and Solomon (2006) conducted a research with conclusions that both the intensity and the types of company's social screening have different impacts on CFP. In addition, Brammer and Millington (2008) found out that some of CSR categories are positively correlated with CFP, others are not. Therefore, there is a real need to investigate the possible varying impacts of different CSR categories on CFP (Barcos, Barroso, Surroca and Tribo, 2013).

The issue of how different CSR categories are related to CFP is far from solved. Earlier researches that have studied different effects of CSR on CFP emphasized the contingency between different CSR categories (Brammer and Pavelin, 2006; Barcos et al., 2013). In order to comprehend the inherently multidimensional CSR-CFP relationship, one should first examine CSR categories' isolated and aggregated effects on CFP. Delmas and Pekovic (2013)

focused on how environmental practices' affect CFP. Their finding was that there is a positive relationship, whereas Filbeck and Gorman's (2004) and Barla's (2007) similar studies indicated negative and non-significant relationships. Huselid (1994) and Gimenez, Sierra and Rodon (2012) studied how contributions to human resources affect CFP. Huselid (1994) concluded the research that there is a potential positive relationship, whereas Gimenez et al. (2012) found a negative relationship. Earlier researchers focusing on customer and supplier category have also had mixed results. Yeung (2008) stated that when a company contributes to its supplier management it reduces its operational costs and improves on-time shipments which both lead to a better customer satisfaction and thus better CFP. On the contrary, Reitzig and Wagner (2010) said that investments in customer and supplier relationship may lead to situation where a company suffers the consequences of potential costs of non-learning, which could ultimately affect the company's CFP.

When analysing aggregated construct of CSR, earlier studies have come up with inconsistent outcomes (Waddock and Graves, 1997; Surroca, Tribo and Waddock, 2010). Crifo, Diaye and Pekovic (2016) said that using an aggregation as a CSR category may yield generalizable comparison between companies on the level of CSR inside a company, even if a CSR aggregation blurred the effects of individual CSR categories.

Fluctuating research results and absence of consensus may be due to the interaction between CSR categories. Interaction of CSR categories refers to complementarity and substitutability effects between the categories. According to Athey and Stern (1998), two different CSR categories can be both positively correlated and substitutable. Ichniowski, Shaw and Prennushi (1997) defined complementary effect as a situation where more than one CSR categories together have a bigger magnitude on CFP than with only one category. Based on definition, Whittington, Pettigrew, Peck, Fenton and Canyon (1999) concluded that companies are likely to assemble CSR categories together since the financial benefits may be greater, which is called synergistic effect. Substitutability effect is the opposite of complementary effect. Substitutability effect refers to a situation where different CSR categories have different impacts individually, even though the better CFP is the mutual objective.

As noted, inconclusive results between CSR and CFP have shifted the literature towards studying CSR as individual categories or dimensions. Berman, Wicks and Jones (1999) found

out that CSR categories may individually have a different effect on accounting-based and market-based CFP measures. Brammer and Millington (2008) studied CSR categories effect on accounting-based measures. They proposed that there is a positive relationship because high involvement in CSR enhances profitability with reduced operational costs and higher profits. Russo and Fouts' (1997) finding was that company's good environmental performance enhanced CFP measured by ROA.

Hillman and Keim (2001) and Kacperczyk (2009) studied how CSR categories affect market-based measures. Both researches showed that CSR categories influence differently. Hillman and Keim found a positive relationship with only community category, whereas Kacperczyk identified a positive relationship between environment, diversity and community and CFP. Various researchers have based their findings of relationship between CSR categories and CFP on resource-based view (RBV) (McWilliams and Siegel, 2001; McWilliams, Siegel and Wright, 2006; Hull and Rothenberg, 2008). According to theory, company's heterogeneous and intangible resources, such as qualified job seekers, company reputation and positive consumer evaluations, yield competitive advantage by investors' high expectations (Sen and Bhattacharya, 2001; Backhaus, Stone and Heiner, 2002; Brammer and Millington, 2005).

Crifo et al.'s (2016) research examined French companies and their individual CSR categories' impact on CFP instead of examining CSR as an aggregation. On the contrary to earlier studies, they used as CSR categories green practices, human resource practices and customer and supplier relations. They did not cover human rights, community or corporate governance in their study. The secondary CSR data used in the research consisted of over 10.000 public sector companies was received from Organizational Change and Computerization (COI) survey which provides quantitative data of CSR related management practices. Chatterji, Levine and Toffel (2009) stated that secondary data is in a way better than KLD Data and Vigeo because secondary data is more transparent. As a CFP measure, they used company's profit per employee as an alternative to earlier studies. Crifo et al's (2016) conclusions were that CSR categories individually affect CFP positively. Also, findings indicate that that managerial decision-making when choosing company's CSR categories should be based on category's compatibility on company's strategy.

2.1.3 Measuring CSR

A commonly accepted and used measurement method for CSR has not yet been developed among the scholars. The major limitation for analysing the relationship between CSR and any other variable is the multidimensional definition of CSR and, thus, it makes the CSR assessment and measuring processes complex. Also, determining not only which variables to take under consideration and which are not that relevant, but also to a what degree to emphasize those variables (Setó-Pamies, 2015).

In general, CSR expenditures are added in other financial accounts which causes the problem that separating company's CSR investment costs from other expenses have turned out to be a highly difficult task. In addition, the accounting methodologies are somewhat different between countries and companies. McWilliams and Siegel's (2001) study concluded that the differences in accounting methods causes that CSR spending measures are in general biased downward. More recent studies, such as McGuire, Dow and Argheyd (2003); Mattingly and Bernan (2006); Strike, Gao and Bansal (2006); Nelling and Webb (2008); Barnea and Rubin (2010) and Pătări et al. (2012) used measures that the impartial CSR agencies provide to tackle the issue.

Different kind of data has been used to measure CSR and closely related CSP. Post (1991) was the first one to introduce the four measurement strategies of CSR: CSP disclosures; CSP reputation ratings; social audits, CSP processes and observable outcomes and managerial CSP principles and values. First, CSP disclosure measurement takes into account of different reports for stakeholders, for example content analysis of annual report. According to Wolfe (1991), the main objective of a content analysis is to make conclusions about company's social performance based on by comparing units of text against particular CSP themes. The second strategy utilizes the reputational indices. Moskowitz (1972, 1975) used so called "tripartite ratings", such as outstanding, honorable mention and worst, for labeling companies' CSP performance (Cochran and Wood, 1984; Sturdivant and Ginter, 1977). Also, Fortune magazine ratings of a company's rating for responsibility to the community and environment is an equivalent measurement (Conine and Madden, 1987; McGuire et al., 1988; Fombrun and Shanley, 1990). Social audits are basically systematic assessments of a company's objective CSP behaviors conducted by third-party. For example, Community service, environmental programs as well as corporate philanthropy can be considered as social audits. The fourth

strategy, managerial CSP principles and values, evaluates company's organizational culture. Aupperle (1984) developed a so-called study, "forced-choice", based on Carroll's (1979) CSR construct, which considered economic, legal, ethical and discretionary responsibilities as its elements. According to Carroll, the last three dimensions form "the concern for society" (Orlitzky et al., 2003).

Most of the previous studies have used Kinder, Lydenberg, Domini (KLD) Analytics Inc. data as a CSR measurement. KLD Analytics Inc. is a social research firm that has historically gathered annual U.S. corporations' responsibility data in 12 different categories. KLD Ratings data represents both stakeholder concerns and issues on S&P 500 Index (Waddock, 2004). Also, the ratings are represented as dichotomous variables that will only receive values (1) or (0) (Schreck, 2011). The high volume of KLD data use in CSP operationalizing in academic researches is due to the nature of data not being significantly correlated with Fortune reputation data (Szwajkowski and Figlewicz, 1999), which indicates that corporate's fiscal position is not statistically significantly influenced by KLD ratings (Mattingly and Berman, 2006).

Mattingly and Berman (2006) discovered that CSR categories' strengths and weaknesses should be considered as individuals, opposing to other studies, such as Sharfman (2006). This is due to company's positive and negative operations are both empirically and conceptually distinct (Mattingly and Berman, 2006). Pätäri et al. (2012) had similar approach to Mattingly and Berman's study, where CSR strengths and concerns were taken into account as individual measures.

This study uses CSRHub for gathering CSR data because it is considered as, according to Hughey and Sulkowski (2012), the most comprehensive database for this kind of occasion due to various reasons. First, CSRHub uses 125 different sources for CSR data gathering. Second, CSRHub's patent system attempts to reduce bias and inconsistency by converting qualitative surveys into numerical, yet non-dichotomous, data and normalizing to adjust for detected biases. Instead of using KLD ratings, CSRHub is the world's largest sustainability intelligence database and the database offers transparent ratings and rankings of over 18,000 companies from 133 countries and it is driven by 556 industry-leading CSR and ESG (Environment, Social, Governance) data source. CSRHub's ratings and tools are helpful not only for benchmarking and evaluating company sustainability, but also for understanding industry trends. CSRHub

gathers CSR data from various sources and calculates company's CSR ratings on a scale of 0 to 100. CSRHub uses four main CSR categories to define company's overall CSR score; Community, Employees, Environment and Governance. The main categories are also divided into more specific sub-categories but in this research only the main categories are considered. (CSRHub, 2018)

2.2 Corporate Financial Performance

Understanding the CFP as a concept is not as complicated as the CSR. The terminology is more stable and the main differences in the definition are due to different ways of measuring financial performance (Griffin and Mahon, 1997). Venkatraman and Ramanujam (1986) supported by Price and Mueller (1986) defined financial performance as a company's financial viability and the ability to achieve its economic goals. In other words, financial performance is the outcome of any company's operations that have succeeded in creating cash flows or maintaining it on a stable level. CFP is commonly measured with three different methods: market-based, accounting-based or perceptual measures (Orlitzky et al., 2003). Each indicator has its positive and negative attributes, which are presented in this subsection. Accounting-based and market-based measures reflect CFP's two-dimensionality: short-term financial profitability and long-term market evaluation of future financial profitability (Cochran and Wood, 1984; McGuire, Sundgren and Schneeweis, 1988; Luo & Battacharaya, 2006). Perceptual measures are received by survey respondents who have provided their estimations about corporation's financial position (Conine and Madden, 1987; Wartick 1988). This study focuses solely on accounting-based measures and market-based measures, so the strengths and weaknesses of perceptual measures are excluded from this study. From this study's perspective, it is necessary to involve both accounting-based and market-based measures in pursuit of more thorough results and comparison how results vary with different CFP measures in OMX Nordic 40 Index.

First, accounting-based measures, such as return on equity (ROE) and return on assets (ROA), reflect company's short-term financial profitability. Accounting-based measures represent the company's internal efficiency and policy implementing. In other words, they represent the extent to which a management has allocated its equity during a given fiscal year and whether the management's decision-making capabilities have succeeded in value creation or not

(Cochran and Wood, 1984; Hull and Rothenberg, 2008). ROE and ROA are highly used variables in CSR-CFP researches (Kang, Lee and Huh, 2010). Some researchers prefer market-based measures over accounting-based measures because of several advantages. First, accounting-based measures are more prone to managerial manipulation and there is some variation with different accounting methods between not only corporations but also different industries and countries, which on the other hand makes them a subject to ambiguity and bias (Uhlman, 1985). Second, according to Luo and Bhattacharya (2006), accounting-based measures rely on historical data with little prediction of corporation's future financial status.

Market-based measures, for example stock prices and Tobin's Q, reflect how investors value companies and their capability to generate profit in the future (Uhlman, 1985). Rappaport (1992) advocated market-based measures instead of accounting-based measures due to their ability to indicate company's future value and income streams. Also, when it comes to considering company's intangible assets, market-based measures are more adequate than accounting-based measures, although, there are different opinions about intangible assets between scholars. Some consider them as essential to the competitiveness and even survival of today's companies, while others consider intangible assets as a waste of company's resources (Jiao, 2010). However, it is not sufficient to use solely investors' evaluations as a base for company's decision-making due to many constituencies the companies face (Pfeffer and Salancik, 1978). Market-based measures can be collected from the markets and are determined by the valuation of the stock or companies' financial performance, whereas accounting-based measures are available from companies' financial statements (Cochran and Wood, 1984). The most significant advantage of market-based indicators is their dynamic nature. They are more prone to changes in CSR ratings than accounting-based indicators (Al-Tuwaijri, Christensen and Hughes, 2004).

2.3 The Theoretical Relationship between Corporate Social Responsibility and Financial Performance

The keen interest in the CSR-CFP relationship among the scholars blossomed in the late 1960s, and during the 1970s, there had already been published 19 academic researches concerning the topic according to Margolis and Walsh (2003). They highlighted two studies

which were more influential than the others: Moskowitz' (1972) *Choosing Socially Responsible Stocks* and Bagdon and Marlin's (1972) article *Is Pollution Profitable?*. In the 1990s, the topic of CSR was still trending increasingly with 68 studies conducted but the exponential growth in the field occurred in the new millennium (Margolis and Walsh, 2003). For example, according to Thomson Reuters (2017), there have been published almost 1000 articles during the current millennium. It can be said that CSR is more of a mainstream phenomenon instead of just a trend or a niche nowadays. One of the reasons that can be held accountable for leading to the rapid growth of researches is contradictory research results among the scholars. There are studies which have not only found positive relationship (Preston and O'Bannon, 1997; Margolis and Walsh, 2003; Orlitzky et al., 2003; Allouche and Laroche, 2005; Beurden and Gossling, 2008; Peloza, 2009; Endrikat, Guenther and Hoppe, 2014; Wang, Tong, Takeuchi and George, 2016), negative relationship (López, Garcia and Rodriguez, 2007; Hirigoyen and Poulain-Rehm, 2015) and statistically insignificant (McWilliams and Siegel, 2000; Makni et al., 2007; Aras, Aybar and Kutlu, 2010) but also non-linear relationship (Barnett and Salomon, 2012; Lu, Wang and Lee, 2013) between companies' CSR and financial performance.

A number of empirical studies indicate that there is a positive relationship between CSR-CFP. Furthermore, according to several meta-analyses, investments in CSR seem to have a beneficial influence on CFP (Dixon-Fowler, Slater, Johnson, Ellstrand and Romi, 2013; Margolis and Walsh, 2003; Orlitzky et al., 2003) due to an increased customer satisfaction (Lev, Petrovits and Radhakrishnan, 2010), lower cost of capital (El Ghoul, Geudhami, Kwok and Mishra, 2011) and many other practices that decrease companies' daily operational costs or increase profits (Carroll and Shabana, 2010). Apart from earlier researches, there has not been established an academic consensus about the nature of the linkage between CSR-CFP. One major reason for the divided opinions is that there are too many contingency factors affecting the relationship. Studies, such as Surroca, Tribó and Waddock's (2010), question the positive relationship that earlier empirical studies have found out. Surroca et al. (2010) noted that not taking into consideration the mediating role of intangible assets, the earlier studies' contributions are somewhat flawed. The attributes of the intangible assets, for example innovativeness and reputation, seem to have the utmost significant role in between the CSR-CFP relationship. In other words, companies with superior intangible assets and that are implementing CSR in their strategy have better financial performance. Furthermore, Orlitzky et al. (2003) amplifies that the most important mediator between CSR-CFP is the reputation.

Preston and O'Bannon (1997) assembled together six hypotheses concerning the possible causal relationship between the CSR-CFP linkage, which should be either positive, neutral or negative. The hypotheses are (1) social impact, (2) slack resources, (3) trade-off theory, (4) managerial opportunism, (5) positive synergy and (6) negative synergy. In addition, Preston and O'Bannon stated that the relationship could also be bidirectional, where CSR influences on CFP or other way around, also known as reverse causality. This study focuses only on CSR's impact on financial performance.

2.3.1 Social Impact

Some proponents of the stakeholder theory believe that CSR meeting the demands of various stakeholders of a company will lead to a more beneficial CFP and vice versa. Cornell and Shapiro (1987) debated that not meeting the expectations of stakeholder obligations will cause fear in the markets, which in turn will result in higher expenses and/or lost potential profit opportunities because of company's increased risk premium. Based on their analysis, focusing on the claims of major stakeholders, such as customers, employees and shareholders, improves the reputation of the business and thus the financial performance. This is called the social impact, which alludes a lead-lag relationship between CSR and CFP. The external reputation, which can be either favorable or unfavorable, develops first and then the financial performance follows. However, there have not been conducted quantitative empirical studies of this hypothesis that would have yielded supportive results (McGuire, Sundgren and Schneeweis, 1988; Preston, Sapienza and Miller, 1991). Nonetheless, this hypothesis will be retained since, when considering the case Volkswagen Group, there seems to be some sort of ground for the claim that disappointing stakeholders may result in a weaker financial performance (Davis and Kollwe, 2016).

2.3.2 Slack Resources

There is a possibility that CSR and CFP are positively associated, even though the causality direction is specifically from financial to social performance. Companies are in pursuit of following and maintaining the normative rules of good corporate citizenship. Occasionally they fail to do so due to slack resources, or in a common language, available funds. The hypothesis

origins from studies conducted by Uhlman (1985), Waddock and Graves (1997) and Preston and O'Bannon (1997). For example, a good fiscal year enhances a company's capacity to invest in social performance projects subsequently. In other words, good financial performance yields better CSR ratings. McGuire et al. (1988) found a strong positive relationship from earlier studies where financial performance was concerned as the leading variable. The availability of slack resources, such as profits from earlier fiscal years and values and goals of management, affected significantly the level of community service undertaken by corporations. Whereas, Campbell's (2007) proposition based on his analysis was that a company with a relatively weak CFP is less likely to act according to CSR principles.

2.3.3 Trade-Off

The trade-off theory presumes that there are negative effects of CSR on financial performance. According to the theory, socially responsible actions will in the end yield more costs than profits while reducing shareholder wealth due to its costliness and few beneficial options (Waddock and Graves, 1997). Trade-off theory mirrors Friedman's (1970) findings and is supported by results by Vance (1975) that companies with significant contributions on CSR experience declining stock prices compared to the market average (Preston and O'Bannon, 1997). According to Jensen (2001), social welfare is maximized when every company maximizes its total value. Hence, there seems to be a trade-off between maximizing shareholder value and social welfare because it is impossible for business to maximize more than one dimension. Although, Mitchell, Agle and Wood (1997) and Ogden and Watson (1999) discovered a possibility where profits do not exclude taking stakeholders' interests under consideration. On the contrary, CSR could contribute to maximizing shareholder value in certain circumstances.

2.3.4 Managerial Opportunism

The fourth hypothesis, managerial opportunism, states that the pursuit of individual managerial goals, such as compensation schemes for short-term profit and stock price behavior, at the expense of stakeholders may have a negative effect on the CSR-CFP relationship (Preston and O'Bannon, 1997). The controversy is called the agency theory, which the managerial opportunism theory is based on (Jensen and Meckling, 1976; Ross, 1973). Corporate managers' pursuit of own welfare and private goals on the account of both shareholders and

stakeholders is often debated (Weidenbaum and Vogt, 1987; Williamson, 1967, 1985). Alkhafaji's study (1989) supported by Posner and Schmidt (1992) stated that top managers in corporate decision-making consider own interests as a first choice. According to the hypothesis, when corporate's financial performance is on a steady level, managers are more prone to "cash in" by saving from social investments and take advantage of the possibility to increase own personal gains. Contrariwise, disappointing financial statements may be justified by engaging in conspicuous socially responsible initiatives (Preston and O'Bannon, 1997; Barnea and Rubin, 2010).

Managerial opportunism goes hand-in-hand with the theory of Friedman's (1970) shareholder value maximization, in which, in his opinion, it is strictly forbidden to invest in CSR ventures. Trying to achieve personal goals should never be the main goal, whereas the main driver in managerial decision-making ought to be company's value maximization. Jensen (2001) proposed a more suitable concept called "enlightened value maximization" for satisfying the interests of company's stakeholders as well as value maximization for shareholders, which concurrently focuses on value-seeking as the long-term objective. (Garriga and Melé, 2004)

2.3.5 Positive Synergy

The fifth hypothesis is positive synergy theory, which is also referred as virtuous circle (Preston and O'Bannon, 1997). In other words, company's CSR actions foster improved fiscal position and thus yield more resources which are available to be reinvested in CSR ventures (Hillman and Keim, 2001; Allouche and Laroche, 2005; Nelling and Webb, 2008). To be more specific, the relationship in positive synergy is, as the name implies, positive but it can also be contemporary at the same time (Waddock and Graves, 1997; Orlitzky et al., 2003; Wu, 2006). Yet, Preston and O'Bannon (1997) stated that the time-pattern of the interaction of CSR and CFP, whether positive or negative, is not possible to recognize from statistical data. The hypothesis can be considered as a hybrid which includes both social impact and slack resources hypotheses. It is essential from this thesis' point of view that positive synergy is taken into consideration because this study uses company's size as a control variable. If total assets have a statistically significant positive relationship with CFP, it means that the bigger the company, the bigger the chance that a company has slack resources to be invested in CSR ventures.

2.3.6 Negative Synergy

The final hypothesis is negative synergy, which is an opposite of positive synergy, also known as a vicious circle. According to the hypothesis, higher levels of CSR decrease CFP and hence limit the socially responsible ventures (Makni, Francoeur and Bellavance, 2008). There are not any major studies conducted about the hypothesis, even though there have occurred some negative findings (Moore and Robinson, 2002; Makni et al., 2008). Moore and Robinson's (2002) study focused on the United Kingdom (UK) supermarket industry which concluded that the improved CSR caused a decline in turnover growth. In turn, Makni et al. (2008) studied Canadian markets. Their findings supported the trade-off theory and negative synergy hypothesis. Their finding was that not only the environmental dimension of CSR had a negative linkage with CFP but also weak financial positions yielded limited CSR investments in the Canadian markets.

2.4 Previous Studies

This chapter reviews the previous and most relevant studies conducted in the field of CSR-CFP. Also, the different CSR measurement styles are presented. There are many CSR databases available that offer different kinds of CSR data, so it is essential to introduce the most used databases and know their positive and negative attributes in order to comprehend better why some researches may have yielded insignificant and biased results and also which database is suitable for this study.

Since Bowen (1953) presented the topic for the first time, CSR has been studied widely and it is connected in many ways to company's financial profitability (Lankoski, 2008). Corporation's social responsibility and certain brand image, reputation, status and customer satisfaction that comes with it may yield increase in income and cost-savings (Orlitzky, 2003). Halme and Laurila (2009) said that company's new ventures and contributions on CSR might enhance operational efficiency and internal learning, reduce risks and improve innovation. Although, financial contributions on CSR ventures may cause additional costs and thus reduce profitability (Jaffe, Peterson, Portney and Stavins, 1995).

Preston and O'Bannon (1997) conducted a study, which included 67 big U.S. companies from 1982 to 1992. As a CSR measurement, they utilized Fortune Magazine ratings, which they reflected to companies' ROA, ROE and ROI numbers. They discovered a positive correlation between CSR-CFP. Waddock and Graves' (1997) research, concerning 469 U.S. corporations from timespan 1989 to 1991, had similar results to Preston and O'Bannon's study. Waddock and Graves had developed their own CSR index based on KLD rating scale and as financial performance measures they used ROA, ROE, return on sales (ROS) and return on stocks. Waddock and Graves included company's size and the industry as control variables into their model. McWilliams and Siegel (2000) concluded their research with finding that there is not a statistically significant relationship between CSR and CFP. They commented on previous studies and their flawed results. The reason was that the previous studies excluded essential variables, such as research and development (R&D) investments, that affect CFP significantly.

Pätäri et al. (2012) conducted a research that was congruent with majority of similar researches. They focused only on the global energy industry whether DJSI companies have outperformed the companies that are not listed in sustainability indexes from the point of view of CSR-CFP relationship within the global energy industry. Their main findings were that sustainability-driven companies were better at generating profits and controlling costs than conventional energy companies. Also, market values pointed out similar results. The revolutionizing finding in their study was that conventional energy companies seemed to be reaching the same financial performance level as the sustainability-driven companies.

Barnett and Salomon (2012) had a different perspective than other scholars. The main hypothesis was that the CSR-CFP relationship is rather nonlinear than positive or negative. The surprising result was that the relationship was U-shaped. If a company did only nominally invest in CSR ventures, it outperformed another company that was on average level in CSR investments. Even a company that contributed highly on its CSR ventures outperformed the average one. In other words, CSR ventures only stack up additional costs and reduce profits if a company did not contribute enough and genuinely. A sufficient contribution and passion for CSR yielded economic benefits, such as lower financing and transaction costs and it offered new potentially profitable markets.

Lu et al. (2013) studied how the CSR affected financial performance in the U.S. semiconductor industry during 2004 and 2008. The findings were that those companies that invested in CSR ventures underperformed the companies that did not allocate resources on CSR in the short-run. In a longer period, contributions on CSR ventures had become profitable. Lu et al. analyzed that the ventures had realized into company's competitive advantage because the company's CSR had been integrated onto its daily operations. Another major finding was that during economic recession, socially responsible companies financially outperformed non-CSR companies.

Hirigoyen and Poulain-Rehm (2015) concluded their research with negative CSR-CFP relationship. Their finding was that the companies that contributed on CSR ventures suffered from lower profits and dividends to their shareholders. The longer the company invested in CSR ventures, the worse its financial performance became. Makni et al.'s (2009) results supported Hirigoyen and Poulain-Rehm's finding because there is a conflict between CSR and maximizing shareholders' wealth. Investing in CSR ventures often exceeds the company's economic benefits.

Lin, Yang and Liou (2009) stated in their research focused on CSR-CFP linkage in Taiwan that on a short time period the positive impact of CSR on CFP is not as prominent as what could be achieved on the long-term, even if consumers' behavior fluctuated anomalously. Aras et al. (2010) and Huang (2010) did not receive statistically significant results either. Aras et al. (2010) studied Istanbul stock markets during 2005 and 2007, whereas Huang mainly focused on Taiwanese markets with 297 IT companies from 2006 till 2007. On the other hand, Oh and Park (2015) found a positive relationship between CSR and CFP in their study. They studied 295 Korean companies from 2004 to 2010. They emphasized how essential the industry was for the CSR-CFP relationship in their conclusions. Their research focused on the financial performance in the long run.

It can be said that there is a great variety of results between the different studies. The lack of generalizable results and the idiosyncratic methods used in different studies make comparison between studies challenging. Hence, the significance of comparability between studies has been emphasized. The variation between studies can be easily explained with the multidimensional concepts of CSR and CFP and the complexity of how to properly measure

these two. Also, different researches have utilized different variables, measures, empirical methods and time periods that have yielded very different outcomes. In order to make the result comparison more convenient, the main researches are gathered in Table 1 below. (Griffin and Mahon, 1997; Graafland, Eiffinger and Smid, 2004; Perrini et al., 2011)

Table 1. Summary of relevant researches studying CSR-CFP relationships.

Author(s)	Year	Measure of CSR	Measure of CFP	Findings
Preston and O'Bannon	1997	Fortune Magazine's ratings	ROA, ROE, return on investments (ROI)	Positive relationship
Waddock and Graves	1997	Own measurement based on KLD ratings	ROA, ROE, ROS	Positive relationship
McWilliams and Siegel	2001	KLD ratings	Profit before taxes	No relationship
López et al.	2007	DJSI Index	Profit before taxes, change in turnover, ROA, ROE, debt costs	Negative relationship
Makni et al.	2009	Canadien Social Investment Database	ROA, ROE, stock returns	No relationship with CSR Overall / Negative relationship with Environment
Aras et al.	2010	Own measurement based on CSR reports analysis	ROA, ROE, ROS	No relationship
Patari et al.	2012	DSJI Index	Growth in net sales and increase in personnel, operating profit margin, return on invested capital (ROIC), ROA	Cost control, profit generation better and market values were better among companies in DSJI Index. Conventional energy companies catching up sustainability-driven companies
Barnett and Salomon	2012	KLD ratings	Net profit	Non-linear relationship
Lu et al.	2013	KLD ratings	Different efficiency measures	Non-linear relationship
Oh and Park	2015	KEJI Index	ROA, ROIC, growth in turnover	Positive relationship
Hirigoyen and Poulain-Rehm	2015	Vigeo Database	ROA, ROE, price/book value (P/B)	Negative relationship

In pursuit of more comparable studies, there have been conducted a great deal of meta-analyses which have proven valuable when individual researches have yielded inconclusive and mixed results (Damanpour, 1991; Datta, Pinches and Narayanan, 1992; Gooding and Wagner, 1985; Schwenk, 1989; Hedges, 1987; Hunt, 1997; Rosenthal and DiMatteo, 2001; Schmidt, 1992). A meta-analysis is a research method, a tool, which highlights relevant aspects or trends from research samples (Metsämuuronen, 2009).

The very first CSR-CFP meta-analyses were conducted by Aldag and Bartol (1978), Arlow and Gannon (1982) and Uhlman (1985) but the results did not indicate any statistically significant relationship between CSR and CFP. Uhlmann (1985) criticized the lack of theories and research methods used in the meta-analyses. Moreover, Uhlman (1985) stated that not only were the measurement methods not defined specific enough but also the methods were inappropriate.

Griffin and Mahon (1997) conducted a meta-analysis, which included both a literature review spectrum from 62 different meta-analyses and empirical part from seven chemical industry companies. The results were astonishing with statistically significant results. Nonetheless, there were some researches with negative correlation. One of the main goals was to solve what kind of impacts certain measures had on CSR-CFP relationship. The results showed either a positive or a negative relationship between CSR and CFP depending on the used measure. Roman, Hayibor and Agle (1999) tried to correct the errors that Griffin and Mahon (1997) had done in their meta-analysis. With the same literature reviews and data sample, Roman et al. (1999) stated that the number of researches with negative correlation is significantly smaller than what Griffin and Mahon had discovered.

Margolis and Walsh (2003) discovered mainly a positive relationship but also very little evidence of a negative relationship between CSR and CFP in their meta-analysis, consisting 95 studies from 1972 to 2002. The majority of studies indicated that the financial performance was dependent on CSR, although there were some studies that did not indicate any relationship between CSR and CFP. Pelozo's (2009) meta-analysis processed 128 studies from 1972 and 2008 and the results were quite similar to Margolish and Walsh with 59 % of studies that had a positive relationship, 14 % with a negative relationship and 27 % that did not show any significant relationship between CSR and CFP.

Orlitzky et al.'s (2003) meta-analysis, which included 52 studies from 1972 to 1997, is held as one of the most significant researches in the field of CSR-CFP studies that has simplified the academic debate concerning the field. They noticed that there was a positive relationship between CSR and CFP with a reasonable certainty. Orlitzky et al.'s (2003) study was followed by numerous researches with similar results, such as Brammer and Millington (2004), Allouche and Laroche (2005), Barnett and Salomon (2006), Wu (2006), Lev et al. (2010) and Doh, Howton, Howton and Siegel (2010).

Both Allouche and Larouche (2005) and van Beurden and Gössling (2008) discovered a positive relationship in their meta-analyses. Van Beurden and Gössling (2008) continued their discovery that studies concerning CSR-CFP should be conducted by industries and, also, the size of the company should be considered. Companies operating in different industries face different social and environmental obstacles that may yield differing results (van Beurden and Gössling, 2008).

Ali, Muhammad, Rafeh and Rabia (2012) conducted a literature review concerning 70 studies, which studied the CSR-CFP relationship with both accounting-based and market-based measures. Their finding was that majority (77.8 %) of studies that used accounting-based measures found positive relationship. Only 28 % of studies with stock returns as a market-based measures found positive relationship, whereas every study that used P/B ratio or Tobin's Q found positive relationship.

Lately, scholars have focused on interpreting the causality of CSR and CFP, the moderating role of different factors and the impact of different methodologies. Horváthová (2010) studied the moderating factors affecting the relationship between company's environmental rating and financial performance. Horváthová concluded that a research should cover a sufficiently long time period because it takes quite some time before company's environmental responsibilities begin to yield profit and enhance its financial performance in order to achieve a positive CSR-CFP relationship.

Endrikat et al.'s (2014) noteworthy research included 149 studies. The indication was that CSR-CFP relationship is positive and bidirectional and, also, that results were highly dependent on the measures and methods that were utilized. Wang, Dou and Jia's (2016) research combined

results from 42 different studies and they had similar results to Endrikat et al. (2014). The CSR-CFP relationship was statistically significant and positive. Another noticeable discovery was that CSR had more impact on company's financial performance than vice versa, based on results, company's CSR-CFP relationship is weaker in developing countries than what it is for a company that operates in industrialized countries (Wang et al., 2016).

Table 2. The summary of relevant meta-analyses.

Author(s)	Year	Results
Aldag and Bartol	1978	No relationship
Arlow and Gannon	1982	No relationship
Uhlman	1985	No relationship
Griffin and Mahon	1997	Weak positive relationship
Roman et al.	1999	Positive relationship
Margolis and Walsh	2003	Positive relationship
Orlitzky et al.	2003	Positive relationship
Allouche and Laroche	2005	Positive relationship
van Beurden and Gössling	2008	Positive relationship
Peloza	2009	Positive relationship
Ali et al.	2012	Positive yet different results depending on CFP measure
Endrikat et al.	2014	Positive relationship
Wang et al.	2016	Significantly positive relationship

As can be seen from Table 2, studies conducted by using meta-analyses have provided varying and quite contradictory results. Although, the consensus among the scholars is steering towards positive CSR-CFP relationship and it seems that results indicating positive relationship is establishing themselves as a mainstream.

2.5 Hypotheses Development

This chapter introduces the research hypotheses based on previous studies and academic literature concerning the subject. The first hypothesis concerns the overall CSR-CFP relationship, which is assumed to be positive and substantial to company's financial performance according to majority of researches:

H₁: CSR has a positive effect on CFP in OMX Nordic 40 Index.

The CSR-CFP relationship is also studied with individual CSR categories because the relationship may vary with different variables. The relationship is also assumed to be positive with individual CSR categories as this study's main hypothesis. It is crucial to study the relationship with individual CSR categories because according to earlier research results the relationship between different CSR categories and CFP is mixed. In addition, previous literature concerning the categories and the measures are assorted.

H₂: Community rating has a positive effect on CFP in OMX Nordic 40 Index.

H₃: Employees rating has a positive effect on CFP in OMX Nordic 40 Index.

H₄: Environment rating has a positive effect on CFP in OMX Nordic 40 Index.

H₅: Governance rating has a positive effect on CFP in OMX Nordic 40 Index.

These hypotheses act as a foundation for this study's empirical part. As mentioned earlier in the literature review, there may be categories that do not have any relationship or causality with the CFP measures.

3 RESEARCH METHODOLOGY

In this chapter, the data used and the chosen variables are introduced and described. The data collection methods are shortly presented. The descriptive analysis sub-section indicates how the data has changed during this study's time period. The research methodology is explained thoroughly and explained why the chosen method is suitable for this study.

3.1 Data Description

The empirical part of the research is done using panel data set from OMX Nordic 40 Index, which includes the most traded stocks from among Finnish, Swedish, Norwegian and Danish companies. The time period for the panel data is from 2009 to 2017. Panel data includes both a cross-sectional and a time series dimension, where all cross-section units are observed during the whole time period (Baltagi, 2011). Panel data set was constructed because of several advantages. According to Baltagi (2011), panel data model is more efficient than pooling cross-sections since the observation of one individual for several periods reduces the variance compared to repeated random selections of individuals. Hence, panel data allows more degrees of freedom and more accurate estimation model. Also, panel data considers individual heterogeneity which means that variables change over time and across entities. Lastly, the method diminishes collinearity between the variables due to the added variability from cross-sections.

3.1.1 Data Collection

This study's sample consists of OMX Nordic 40 Index companies. The Nordic companies were selected for the focus group of this study because most of the studies about CSR-CFP relationship target mainly U.S. companies. Despite the increasing number of CSR related studies conducted on European companies, there are very few of researches about Nordic companies, hence there is a research gap. Also, due to the active statistic reporting done in Nordics, it can be expected that companies have relatively accurate and thorough information concerning their CSR and financial data. The data varies greatly from the point of view of companies' total assets, which can be seen from Table 3. The biggest company's total assets

accounts for over 720 million Euros, whereas the smallest one has 190 million Euros. Because of the variance of the sample, it can be presumed that size variable can be therefore studied without bias.

This study applies only the four main CSR categories and self-constructed aggregate CSR category, which is a calculated mean score from Community, Employees, Environment and Governance categories for every quarter. CSRHub data consists of each category with a score from 0 to 100, whereas KLD data involves dichotomous data for strengths and weaknesses of CSR. Thus, CSRHub data is a better fit for examining causality and impacts of the CSR-CFP since it does not need any modification. Companies with partial CSR ratings are excluded from the empirical sample. First, Community category is a measure of the company's social and environmental impacts in the area they are operating in. The category evaluates the level of company's involvement and effectiveness within both local and global community. The category also measures the company's commitment and effectiveness in aspects such as citizenship, volunteerism, charitable giving, environmental and social impacts of products and services, human rights record, supply chain treatment and the sustainability of products, processes and technologies. Community category is divided into Community Development & Philanthropy, Human Rights & Supply Chain and Product subcategories. Second, Employees category measures the quality of management initiatives, policies and programs that enhance employees being at work, such as disclosure of policies, labor relations and rights, employee training, comprehensive benefits, employee health and safety policies. The category also includes robust diversity programs and training, strong labor codes and demonstrated safety management systems. The main category is divided into Compensation & Benefits, Diversity & Labor Rights and Training; Safety and Health subcategories. (CSRHub, 2018)

Third, the Environment category is a measure of company's intentions to genuinely make difference by following regulations and developing own processes to decrease negative consequences and increasing positive impact to environment. The category includes data about corporate environmental performance, compliance with environmental regulations and the impact on the Earth's ecosystems. This category encourages corporations to get involved in such as, energy-efficient processes, development of renewable energy and pollution prevention programs. Ultimately, these actions get the company stakeholders engaged in environmental improvement. Energy & Climate Change, Environment Policy & Reporting and

Resource Management are the three subcategories. Lastly, the Governance category refers to management structure and the company values that guide company's direction. It focuses on up to what extent the management is devoted to sustainability and CSR at all levels, such as leadership ethics, management's transparency and stakeholder treatment. In order to receive more thorough information about governance ratings, the main category can be investigated from the perspective of Board, Leadership Ethics and Transparency and Reporting subcategories. (CSRHub, 2018)

3.1.2 Descriptive Statistics

This subsection introduces the quarterly data that is utilized in the empirical part. The time period for the evolution of different variables is from March 31st 2009 to September 30th 2017. First, the independent variables are presented graphically with the evolution of CSR categories in Figure 3. Accounting-based dependent variables ROE and ROA shown in Figure 4 and market-based variable stock returns in Figure 5. The control variable, total assets, is visualized in Figure 6. Lastly, all variables with their descriptive statistics are assembled together in Table 3.

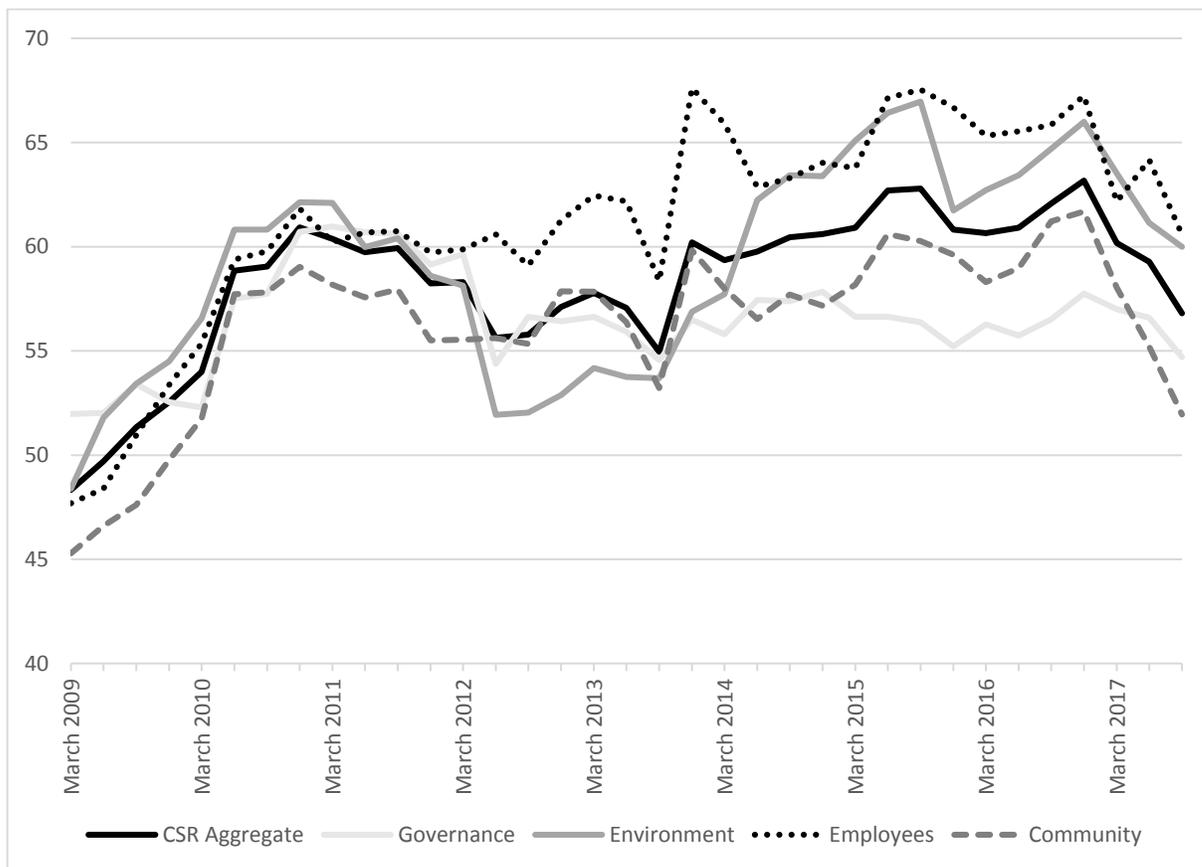


Figure 3. The evolution of CSR categories in OMX Nordic 40 Index.

Figure 3 describes how the CSR ratings' quarterly values have changed. It can be seen that all the variables have increased during the time period. In March 2009, categories' starting points were between 45-53, whereas in September 2017, the dispersion was with values between 53 and 62. Hence, the variance of CSR variables has grown during the time period. The Employees category has increased the most during the time period from 47 to 62, which is the highest end value. Furthermore, it has the highest rating 67 of all variables in March 2014. Despite of couple of noticeable declines in CSR ratings in March 2012 and in the late 2013, the CSR trend and ratings have been steadily rising during a longer time period according to Figure 3. The Governance category has the lowest spread between its open and end values, circa 52 and 55. Also, ratings of the Governance category have fluctuated very moderately during the time period without any significant rises or dips.

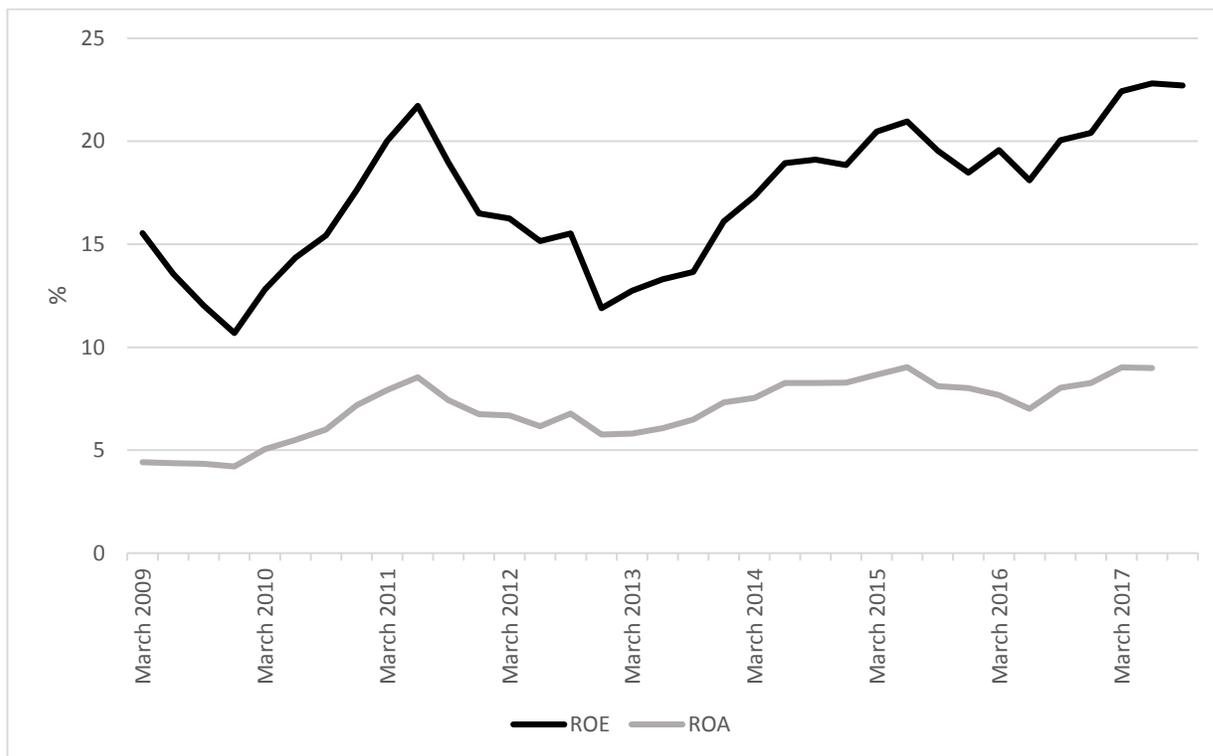


Figure 4. The evolution of ROE and ROA in OMX Nordic 40.

Figure 4 visualizes how the study's dependent variables as an average of all companies have progressed. The left vertical axis indicates the ROE and ROA ratios. Starting value of ROE was circa 17 % and ending value was almost 22 %, whereas ROA's same values were just below 5 % and a little over 7 %, respectively. On a quarterly basis, both accounting-based variables have grown. It can be said that ROE has been more volatile than ROA and it has experienced ups and downs the whole time period. The movements of these two variables are somewhat similar, even though ROA has not nearly fluctuated as much as ROE. In the Q3 2012, the difference between ROE and ROA was the smallest during the time period: the spread was under 10 %.

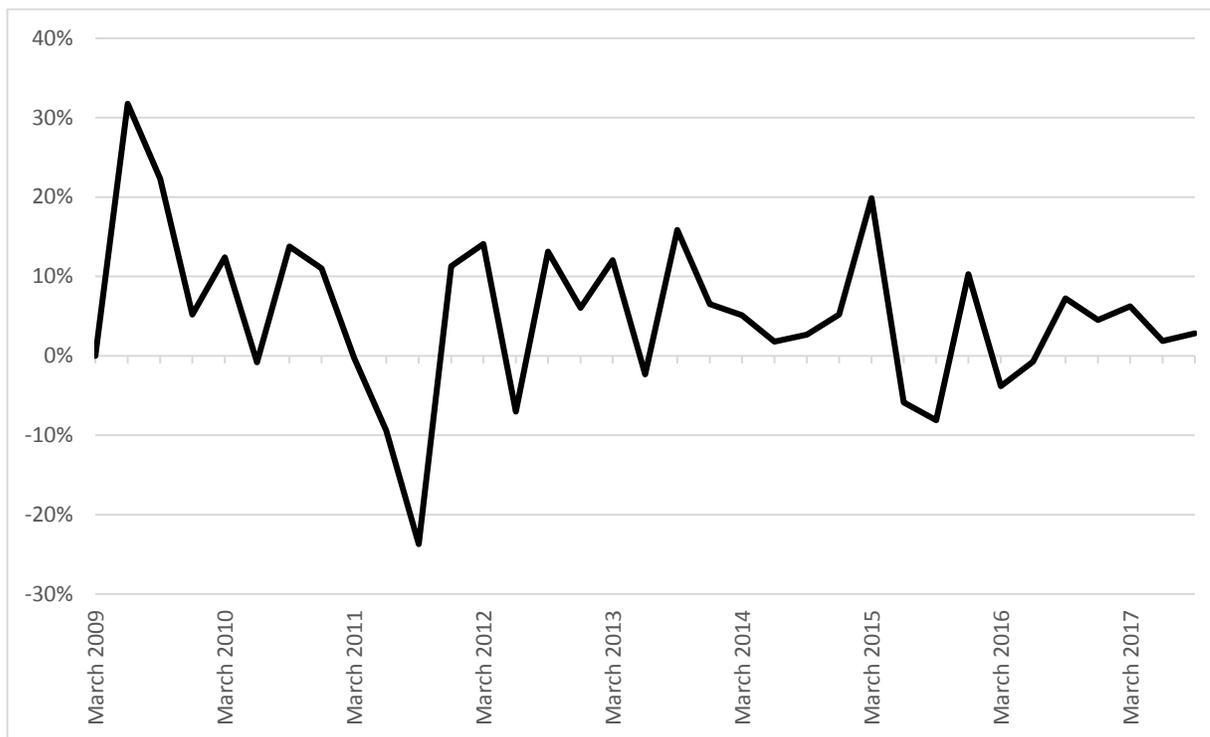


Figure 5. The evolution of stock returns in OMX Nordic 40.

Stock returns act as the only market-based variable in this study. Its progress on a portfolio level is visualized in Figure 5. As can be seen, stock returns have fluctuated significantly during the time period. Most of the time, stock returns have been positive during the time period: the average returns of OMX Nordic 40 were 5.06 %, according to Table 3. The highest returns of OMX Nordic 40 were made in early 2009 (33 %) and the lowest in the mid-2011 (-24 %). Stock returns as a dependent variable is significantly more volatile than any other variable used in this study when considering that this study focuses on post financial crisis time.

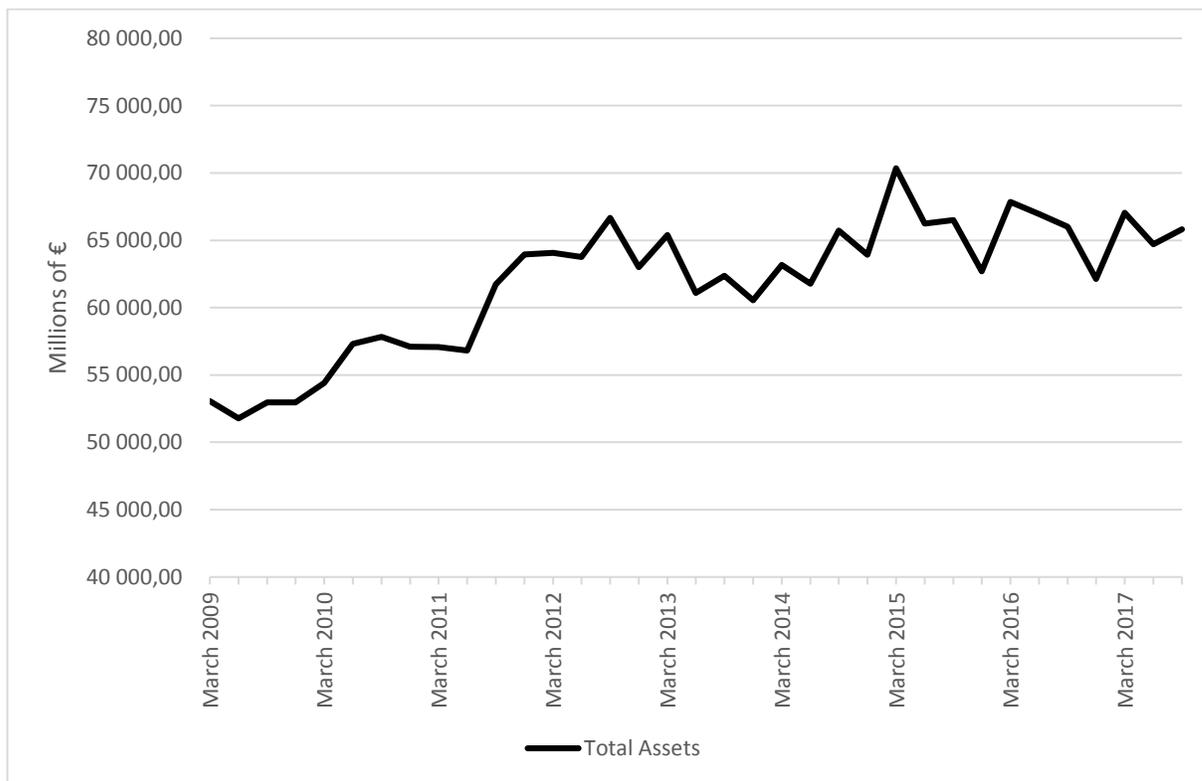


Figure 6. The evolution of total assets in OMX Nordic 40.

Figure 6 visualizes the quarterly development of OMX Nordic 40 Index companies' total assets, which are calculated as average for each quarter. From the point of view of total assets, OMX Nordic 40 Index companies have steadily grown the whole time period. From the start of circa 52 billion Euros, the average of the companies' total assets has reached its average end value with 68 billion Euros. It can be said from the graph that the variance of the control variable is relatively small without any significant fluctuations.

Table 3 summarizes the descriptive statistics of the study's variables. All of the CSR variables are presented as lagged variables with a lag of one quarter, whereas dependent variables are as basic variables. This is due to the fact economic models in this study try to explain how one quarter earlier CSR category ratings affect present time market-based and accounting-based independent financial variables.

Table 3. Descriptive statistics.

<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Min</i>	<i>Max</i>
CSR Aggregate	1222	58.31	7.55	30.67	73.67
CSR Community	1213	56.29	8.13	28.33	77.00
CSR Employees	1213	61.28	9.63	26.33	78.00
CSR Environment	1220	59.27	9.45	20.00	78.33
CSR Governance	1222	56.50	6.96	35.67	80.00
ROE (%)	1362	17.45	20.18	-112.03	103.55
ROA (%)	1362	7.12	10.11	-37.03	43.75
Stock Returns (%)	1218	5.06	15.95	-76.87	93.89
Total Assets (millions of €)	1415	61834.36	4834.89	51778.63	70351.47

The number of observations varies between 1415 and 1213. There are fewer observations for CSR categories than CFP variables, which is because of the complexity of keeping records of CSR ratings. When analyzing CSR categories, CSR Employees has the highest standard deviation with 9.63 while its values ranging from 26.33 to 78.00, whereas CSR Governance has the lowest standard deviation, 6.96, respectively. CSR ratings' minimum and maximum values range between 20 to 80 on a scale of 0-100. CSR Employees category has the highest mean rating value of all CSR variables with 61.28, although the difference between other categories is not that significant.

When analyzing the study's Total Assets, the company sizes in OMX Nordic 40 Index is between circa 52 billion and 70 billion Euros during the time period. The average portfolio size is circa 62 billion Euros and standard deviation is almost 5 billion Euros. This means that the size of the companies in OMX Nordic 40 Index varies significantly. ROE and ROA values are shown as percentages. ROE's standard deviation 17.45 is much higher than ROA's 7.12 %, which was also easily noticeable from the Figure 4 ROE's minimum and maximum values range from -112.03 % to 103.55 %, whereas ROA' value spread respectively is much smaller from -37.03 % to 43.75 %. The only market-based variable, stock returns, ranges widely when minimum stock return is -76.87 % and maximum is 93.89 %. According to the standard deviation of stock returns, it is almost as volatile as ROE with value of 15.95 %. The mean stock returns in OMX Nordic 40 is 5.06 %.

3.2 Methodology

This section introduces this study's quantitative method that is used to analyze the data sample: panel data regression. Compared to the simple linear regression, panel data allows observing individual-specific differences between the units. Thus, it is possible to construct and test more complicated and efficient models (Hill, Griffiths and Lim, 2012). Scholars, such as Melo (2012), Lu et al. (2013), Pätäri et al. (2014) and Oh and Park (2015), have utilized panel data regressions in their studies. Panel data regression is shortly introduced focusing on the various estimation methods and grounds for suitable estimation method selection.

3.2.1 Panel regression

According to Baltagi (2001), a panel data set has both a cross-sectional and a time series dimension, where all cross-sectional units are observed during the whole time period. There can also be unobservable units in data, which leads to an unbalanced model. Observations are perceived as repeated measures at each point of time. This allows the parameters to be estimated with a higher accuracy because of a larger sample size. Ordinarily, panel data models are more efficient than pooling cross-sections because the observation of one individual for several periods decreases the variance compared to repeated random selections of individuals. In order to find an optimal estimation method, the heterogeneity and possible correlation between the sample's individuals must be discovered. In case the heterogeneity is not present in the data sample, combined OLS model (pooled ordinary least squares model) with one or more independent variables can be used. Baltagi (2001) interpreted the model as follows:

$$y_{it} = \alpha + \beta_1 x_{1it} + \beta_2 x_{2it} + u_{it} \quad (1)$$

where

y_{it} = the dependent variable (i=entity, t=time)

α = the constant term

β = the coefficient of a specific independent variable

x_{it} = the independent variable with i^{th} observation

u_{it} = the error term

In OLS model the coefficients of independent variables are assumed to be constant for all units throughout the whole time period. In other words, the model does not take heterogeneity into account. (Hill et al., 2012)

Potential heterogeneity can be studied with Breusch-Pagan test. The null hypothesis is that error variances are all equal.

$$H_0 : \sigma_u^2 = 0 \quad (2)$$

If the null hypothesis does not get rejected, heterogeneity is not present and pooled OLS is a suitable estimation method. In panel data applications, the error term of the first equation is commonly thought to be composed of two components:

$$U_{it} = \mu_i + \varepsilon_{it} \quad (3)$$

where

μ_i = the unobservable heterogeneity (constant over time)

ε_{it} = the remainder disturbance (varies between individuals and time)

The key insight is that with the panel data it is possible to control for (1) unobserved or unmeasurable sources of individual heterogeneity that vary across individuals but do not vary over time, and (2) omitted variable bias. If the heterogeneity is present in the model, there is a need for more developed estimation methods: fixed effects and random effects estimation methods. The main difference between these two methods is that in random effects estimation, the sample units are assumed to be a random sample from a bigger population where the statistical inference focuses on the whole population, whereas the fixed effects estimation takes into account also the units that are only included in the research sample. (Hill et al., 2012)

If the model contains an endogeneity problem, the fixed effect model is to be used. Endogeneity means that the error term correlates with an independent variable, which leads to inconsistent estimation results with the random effects estimator. In other words, a situation where an individual-specific effect is excluded from the regression but it correlates with the independent variable. The fixed effects model equation is as follows:

$$y_{it} = \alpha_i + \beta_1 x_{1it} + \beta_2 x_{2it} + \varepsilon_{it} \quad (4)$$

where

y_{it} = the dependent variable (i=entity, t=time)

α = the constant term

β = the coefficient for specific independent variable

x_{it} = the independent variable with i^{th} observation

ε_{it} = the remainder disturbance

With the fixed effects estimator, it is not possible to include variables that are constant throughout the time span as explanatory variables, in this case invariant variables. (Hill et al., 2012)

Random effects estimator considers the random variation between individuals which is due to the average constant term $\bar{\beta}$ and random individual variation u_i :

$$\beta_{0i} = \bar{\beta}_0 + u_i \quad (5)$$

The differences between individuals are assumed to be affecting the dependent variable. The random effects model with two independent variables is as follows:

$$y_{it} = \bar{\beta}_0 + \beta_1 x_{1it} + \beta_2 x_{2it} + \varepsilon_{it} + u_i \quad (6)$$

The idea behind the model is that the error terms of random individual variation are independent, their average is zero and their standard deviation is constant. The random effects estimator is more suitable as an estimation method than pooled OLS models under the circumstances where the heterogeneity is present with the individual units. The advantage of random effects estimator is the fact that it can utilize all the variables that are constant through the time period. In addition, random effects model takes into account both the variation between

individual units and the independent variables' individual-specific variation over time, whereas fixed effects model takes into consideration only the latter. (Hill et al., 2012)

The potential problem with the random effects estimation method is the endogeneity. In order to test the endogeneity, the Hausman test can be used. The null hypothesis states that there are no differences between fixed effects model and random effects model's coefficients. If the null hypothesis does not get rejected, both models' parameter values are consistent and random effects estimator can be used. If the null hypothesis is rejected, fixed effects model is more suitable as an estimation method. (Hill et al., 2012)

3.2.2 Regression Model

In order to test the statistical bivariate relationship between CSR and CFP and, especially how CSR ratings attribute to the company's financial performance, this study's regression model is developed based on previous sub-chapter's derived equations. The model is created with care when interpreting individual coefficients due to the fact that indicators of financial performance tend to be correlated (McGuire, Schneeweis & Branch, 1986). The model uses CFP measures as a dependent variable, CSR categories as an independent variable and company's size as a control variable.

$$CFP_{it} = \alpha + \beta_1 CSR_{it-1} + \beta_2 SIZE_{it-1} + \varepsilon_{it} \quad (7)$$

where

CFP_{it} = the dependent variable ROE, ROA or stock prices

α = the intercept

CSR_{it-1} = the lagged independent variable CSR Aggregate, CSR Community, CSR Employees, CSR Environment and CSR Governance

$SIZE_{it-1}$ = the lagged control variable Total Assets

ε_{it} = the error term

The model is repeated for all the three CFP measures five times with different lagged independent variable. The independent variables and the control variable are lagged with one quarter. Using the lags, the calculations are able to better explain the causality between company's CSR and CFP and incorporate feedback over time. This is useful tool in a situation where a potential endogeneity problem and a reverse causality are present which worsen the statistical inference.

4 RESULTS

This thesis' objective was to clarify the nature of the relationship between CSR and CFP in OMX Nordic 40 companies and how the company's size influences on that relationship. In this chapter, the bivariate linear regression model and its results are presented. The statistical tests were run by EViews 10 program. The main objective of a regression analysis is to find out if there is a relationship between individual CSR categories and CFP, in other words, if the variables correlate with each other. It is essential to examine the nature of the relationship between the independent variables before estimating the regression models. Thus, Pearson correlation coefficients are presented in Table 4. After this, the results of regression models with fixed effects and random effects estimators are presented.

4.1 Correlation Analysis

The Pearson correlation coefficients between dependent CFP variables and independent CSR variables are shown in the Table 4. Multicollinearity occurs between independent variables in a situation where correlation coefficient exceeds the limit of 0.8. In other words, the reliability of the results may be weakened if there is a statistically significant relationship between the independent variables (Gujarati, 2003).

Table 4. Correlation Matrix.

	ROE	ROA	Stock
CSR Aggregate	0.217***	0.182***	-0.186***
CSR Community	0.306***	0.265***	-0.199***
CSR Employees	0.205***	0.167***	-0.181***
CSR Environment	0.176***	0.144***	-0.166***
CSR Governance	0.060***	0.043	-0.105***
Total Assets	-0.267***	-0.296***	0.122***

*, **, *** statistically significant at 10 %, 5 % and 1 % level, respectively.

As can be seen from Table 4, only four coefficients exceed the limit 0.2: ROE-CSR Aggregate (lagged), ROE-Community (lagged), ROE-Employees (lagged) and ROA-Community (lagged). Only the accounting-based variables ROE and ROA have positive coefficients with CSR categories, whereas market-based variable has only negative coefficients. Every coefficient is statistically significant except CSR Governance (lagged) with ROA. The correlation coefficients are higher between ROE and CSR variables than with ROA, respectively. Total Assets appear to be negatively correlated with accounting-based measures but positively with market-based measure.

4.2 CSR-CFP Relationship

In this subsection, the results of how individual CSR categories affect different CFP measures in OMX Nordic 40 Index are presented. Since there are three dependent variables that indicate CFP and five independent variables that indicate CSR, there are altogether 15 different regression models that were ran in this study. The control variable is the only variable that is present in every regression. The independent variables, as well as the control variable, are lagged with one quarter. The results are presented as follows: ROE with fixed effects estimator, ROA with fixed effects estimator and, lastly, stock returns with fixed effects estimator. Results of random effects estimators are shown if the random effects estimator is consistent.

Results of fixed effects estimators on ROE are presented in Table 5. CSR aggregate, CSR Employees and CSR Governance are independent variables that have a statistically significant effect on ROE at 1 % risk level, and the effect being positive and relatively small. Thus, hypotheses H₁, H₃ and H₅ are supported. CSR Community and CSR Environment are the only variables that are not statistically significant, although their relationships with ROE are positive. Total Assets as a control variable is statistically significant and has a major positive relationship in every model with ROE. The R² value is quite high with every model as its values range from 0.621 to 0.627. This means that the CSR variables explain over 60% of ROE's value changes.

Table 5. Results of fixed effects estimators for CSR on ROE.

	ROE				
	1	2	3	4	5
CSR Aggregate	0.408*** (3.513)				
CSR Community		0.115 (1.170)			
CSR Employees			0.339*** (4.320)		
CSR Environment				0.143 (1.555)	
CSR Governance					0.403*** (3.885)
Total Assets	7.835*** (2.444)	7.842*** (2.434)	7.819** (2.446)	7.836** (2.433)	7.894** (2.465)
N	1178	1178	1178	1178	1178
R²	0.625	0.621	0.627	0.621	0.625
F test for no fixed effects	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Hausman test	0.0009	0.0001	0.0009	0.0011	0.0004

*, **, *** statistically significant at 10%, 5%, 1%, respectively. t Value in brackets.

F test for no fixed effects is <0.0001 in every regression which indicates that every variable is statistically significant in their fixed effects. When analyzing the Hausman test results, which are considered with 10 % significance level, there are not any models that could be applied for random effects estimation.

Fixed effects results for CSR's effect on ROA are presented in Table 6. The findings are quite similar to CSR's effect on ROE. CSR Aggregate, CSR Employees, CSR Environment and CSR Governance are statistically significant at 1% risk level. Respectively to ROE, hypotheses H₁, H₃, H₄ and H₅ do not get rejected. The results are similar to ROE's results while all the independent variables have a positive relationship with ROA, even though, the relationships are also quite small. Totals assets have statistically significant relationship with ROA at 10%. Compared to the values with ROE, the control variable has smaller coefficient values with ROA. R² values range from 70.6 % to 71.2%, which are higher than with ROE.

Table 6. Results of fixed effects estimators for CSR on ROA.

	ROA				
	1	2	3	4	5
CSR Aggregate	0.218*** (4.274)				
CSR Community		0.016 (0.366)			
CSR Employees			0.173*** (5.017)		
CSR Environment				0.122*** (3.031)	
CSR Governance					0.231*** (5.086)
Total Assets	2.456* (1.743)	2.467* (1.737)	2.449* (1.743)	7.836** (2.433)	2.489* (1.773)
N	1178	1178	1178	1178	1178
R2	0.710	0.706	.712	0.708	0.712
F test for no fixed effects	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Hausman test	0.0047	0.0011	0.0050	0.0046	0.0019

*, **, *** statistically significant at 10%, 5%, 1%, respectively. t Value in brackets.

Similar to results with ROE, the Hausman test scores do not exceed 10% significance level requirement in any model, whereas F test for no fixed effects was statistically significant in every model with <0.0001.

CSR variables' effects on OMX Nordic 40 companies' stock returns are shown in Table 7. Every individual CSR variable has statistically significant relationship with stock returns, even though the relationship appears to be slightly negative. Hence, all hypotheses are rejected. Another worth mentioning finding is that it appears to be that total assets have negative coefficients with stock returns. Otherwise, Total assets as a control variable is statistically significant at 5% risk level with CSR governance. Also, the R² values are lower with market-based measure than

accounting-based measures while R² values range from 6.7 % to 10.6 %. In other words, CSR variables and company size explain relatively little the changes in stock returns.

Table 7. Results of fixed effects estimators for CSR on stock returns.

	Stock Returns				
	1	2	3	4	5
CSR Aggregate	-0.009*** (-9.520)				
CSR Community		-0.008*** (-9.243)			
CSR Employees			-0.005*** (-7.375)		
CSR Environment				-0.006*** (-8.057)	
CSR Governance					-0.007*** (-6.356)
Total Assets	-0.053 (-1.459)	-0.058 (-1.586)	-0.058 (-1.573)	-0.062* (-1.696)	-0.078** (-2.112)
N	1178	1178	1178	1178	1178
R²	0.106	0.102	0.079	0.087	0.067
F test for no fixed effects	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Hausman test	0.0000	0.0000	0.0000	0.0000	0.0025

*, **, *** statistically significant at 10%, 5%, 1%, respectively. t Value in brackets.

Like in ROE and ROA, F test for no fixed effects was statistically significant in every model with <0.0001. The null hypothesis, which stated that random effects estimators are appropriate to estimate this model, is rejected with every dependent variable.

5 CONCLUSIONS

In the final chapter of this study, the results of statistical analyses are presented and compared to earlier similar researches. This study's contributions to the existing literature are introduced. Answers to the study's main research question and its sub-questions are presented and the conclusions are based on them. Last, this study's limitations and potential future research topics are discussed.

5.1 Main Findings and Contributions

This study examined how companies' CSR in overall and with individual categories affect their CFP. Despite the relationship between CSR and CFP has been widely studied for decades with conflicting results, the subject is still current. Majority of earlier researchers have found out that the CSR-CFP relationship is positive (Preston and O'Bannon, 1997; Orlitzky et al., 2003; Endrikat et al., 2014). CSR is a growing, progressive phenomenon that has various effects on markets and societies in the global world. Companies are obligated to engage in CSR activities due to regulation and pressure from stakeholders. Some scholars have not found any relationship concerning CSR-CFP relationship (McWilliams and Siegel, 2001; Makni et al., 2009; Aras et al., 2010). Hence, the absence of consensus is far from solved, whether if it is financially beneficial for a company to take part in CSR ventures or not.

This study focused on OMX Nordic 40 Index within a time period totaling 8 years from 2009 to 2017. The study sample consisted of quarterly data and the data sample was analysed with panel regression model by using fixed effects and random effects estimators. Companies' CSR ratings for community, employees, environment and governance categories were received from CSRHub, whereas CFP measures and companies' total assets were received from Bloomberg. This study's independent variables and the control variable were lagged with one quarter. Based on earlier research results, this study's hypotheses concerning the relationship between CSR and CFP were presumed to be positive with every CSR category individually and with aggregate measure. This study only focused on how CSR affects CFP, not vice versa.

Next, answers to the relationship between CSR and CFP with different independent and dependent variables in OMX 40 Nordic Index are presented. The empirical part of this study aims to answer the study's research questions presented in Chapter 1. The main research problem examines the nature of the relationship between CSR and CFP in OMX Nordic 40 companies:

- *What type of relationship is there between CSR and CFP in OMX Nordic 40 companies?*

Based on multiple panel regression analysis results ran in this study and answering this study's research question, there is a statistically significant positive relationship between CSR aggregate and CFP in OMX Nordic 40 Index. The results are consistent with researches conducted by McGuire et al. (1988), Preston and O'Bannon (1997), Waddock and Graves (1997), Hillman and Keim (2001) and Mahoney and Roberts (2007). Findings are in line with the first hypothesis which predicted the positive relationship between CSR and CFP generally. According to the results, good CSR ratings enhance CFP. It seems that there is a positive synergy between CSR and CFP which is contrary to Waddock and Graves' (1997) trade-off theory. In other words, companies that invest in CSR ventures, generate more profit than companies that do not make any investments in CSR ventures. When considering the relationship between CSR and the market-based CFP measure, this study did find a negative relationship between these two variables that is inconsistent with Surroca et. al's (2010) research findings. Whereas, Cardebat and Sirven's (2010) conclusion was that the relationship between CSR and CFP is negative. The insignificant results may be explained with the dynamic nature of market-based measures that are more prone to fluctuations in CSR ratings than accounting-based measures (Al-Tuwaijri et al., 2004). On the other hand, accounting-based measures have throughout history yielded more significant results than their market-based counterparts (McGuire et al., 1988; Ali et al., 2012). As can be seen from the Table 2 and the Table 4, CSR ratings and stock returns have been growing during the time period, although stock returns have been more volatile than CSR ratings, which may explain the insignificant results.

At this point of the study, it is mandatory to remind that there have been conducted relatively few researches that have examined how individual CSR categories affect CFP by far. Thus, there are only a few researches to be benchmarked and compared. As Barcos et al. (2013) stated, the need for profound researches examining the nature of different individual CSR categories is crucial in order to yield significant contributions to literature. This study aims to deepen the understanding about which are the CSR categories that truly have an effect on CFP by answering its sub-questions:

- *How do the results vary with different CSR categories?*

When analyzing the effects of different CSR categories on CFP, the results indicate a variety between accounting-based and market-based measures which is consistent with Berman et al.'s (1999) results. Almost every individual CSR category seems to indicate a positive relationship and the variety can only be seen in the intensity of effects of different categories with accounting-based measures. Only independent variables that did not indicate a statistically significant relationship were CSR Community and CSR Environment. In other words, companies can enhance their CFP by contributing to almost any CSR category in OMX Nordic 40 Index. These results are consistent with Hillman and Keim (2001), Brammer and Millington (2008), Kacperczyk (2009) and Crifo et al. (2016). When analyzing individual CSR categories' effects on ROE, following categories are statistically significant: CSR Employees and CSR Governance. However, CSR Community and CSR Environment have positive, yet statistically insignificant, relationship with ROE. Respectively to ROA, CSR Employees, CSR Environment and CSR Governance are statistically significant. These results are consistent with findings of Russo and Fouts (1997) and Hillman and Keim (2001). In addition, the positive results of CSR Environment are in line with McWilliams and Siegel (2000) and Brammer and Millington (2008). CSR Community seems to be statistically insignificant with both accounting-based measures, which is inconsistent with Waddock and Graves' (1997) research. One interesting finding is that the statistically significant CSR categories appear to have a stronger relationship with ROE than with ROA. The stronger relationship may be explained with the fact that ROA basically holds ROE in its measure. This may indicate that individual CSR categories do not have a relationship with all of the assets of ROA.

Opposite to study's hypothesis, there is a statistically significant, yet negative, relationship between individual CSR categories and stock returns as a CFP measure. Compared to the results are consistent with Berman et al. (1999), Park and Lee (2009) and Inoue and Lee (2011). Their results indicate that CSR activities do not affect market-based measures as CFP, whereas accounting-based measures are affected by CSR rating. In addition, as market-based measures reflect only investors' opinions on the company's future value creation, it seems like the use of stock returns as a CFP measure is unfavorable, even though non-financial stakeholders are also affected by CSR (McWilliams et al., 2006). This study's results were inconsistent with Bauer, Guenster and Otten (2004) and Black, Hasung and Woochan (2006) researches that had found a positive relationship.

This study used company's total assets as a control variable to indicate the company size. As the results indicate, the company size is affecting positively and statistically significantly accounting-based measures. This study's results are consistent with earlier studies, such as Roberts (1992), Luo and Bhattacharya (2006) and Makni et al. (2009). The company size does not have a statistically significant relationship with stock returns. Even though the company size was measured with company's total assets, the control variable has the strongest relationship with ROE instead of ROA. In other words, the company size has a relationship only with the company's equity. This is an interesting finding because ROA ratio basically considers all the assets of a company as the name implies.

This study has multiple contributions to the existing literature. First, using alternative CSR data contributes to earlier researches, which have used data that had to be modified at first, such as content analysis or dichotomous and ordinal variables. CSRHub data is a neutral database and its ratings do not need to be modified by scholars. This simplifies the comparison between studies because future researches can use the same data without any modification or subjectivity. As stated before, the varying results in the existent literature are explained by the various use of different CSR measures. Second, this study's time period represents the modern time CSR and enhances the information of the CSR-CFP relationship nowadays. In addition, examining OMX Nordic 40 Index adds value to the literature because this market has not been studied before from point of view of the CSR-CFP relationship. Also, focusing on the impacts

of different CSR categories gives more insight of the dynamics of the CSR-CFP relationship. This is quite a new trend in the CSR research.

5.2 Limitations and Future Research

This study focused only on companies in OMX Nordic 40 and did not take into account how the CSR-CFP relationship differs in other industries. In future research, the focus could be on the relationship within specific industries because the financial returns from certain CSR categories may differ due to the fact that different industries possess special uniqueness and faces specific social interests and issues based on internal and external issues (Griffin and Mahon, 1997; Oh and Park, 2016).

Because this study used company's total assets as a control variable, company's risk, as in capital structure, could be taken into account. Leverage is assumed to affect CSR-CFP relationship because high risk tolerant companies act differently than companies with low leverage when it comes to CSR ventures. Companies with high level of debt have had negative effect on their CFP (Capon, Farley and Hoening, 1990; Waddock and Graves, 1997). Another limitation is the use of stock returns as a CFP measure and its insignificant results that may be explained by that stock returns as such are not that good for a market-based measure. Stock returns may not capture investors' company's future value creation. Alternatively, Tobin's Q, a reckoned and risk-adjusted measure, or market value added (MVA) could be used (Hillman and Keim, 2001; Luo and Bhattacharya, 2006; Makni et al., 2009).

The time period of this study is from 2009 to 2017 with quarterly data. Because CSR is perceived as an altruism, it would be interesting to divide the time period in two and find out if the CSR-CFP relationship has changed before and after financial crisis that occurred in 2008. In overall, like among Nordic companies, CSR has grown rapidly during last three decades. It seems that the society takes it for granted that companies act in a socially responsible manner. As stated, gaining a competitive advantage by engaging in CSR ventures act as motive for companies. The future researches should examine how the CSR-CFP relationship has evolved for the past 10 or 20 years and has CSR reached its saturation point where additional contributions to CSR initiatives do not yield any added value or advantage.

This study examined the effects of individual CSR categories in order to better understand the dynamics between CSR and CFP. Although, this study did not take under consideration the interactions between CSR categories and what could be the optimal CSR strategy that would maximize company's CFP. CSR categories act differently whether they are considered individually and as a whole as Crifo et al. (2011) stated in their research. The decision about which of the CSR categories a company should focus on is relevant to its CFP. The intensity of the effects of different CSR categories differs from category to category and not all CSR strategies are "the best fit" for every company.

Needless to say, there is a need for more thorough researches due to contradictory results, even though academic literature has expanded through time and information about multidimensional CSR has developed. Due to regulation (European Union, 2014), companies are obligated to report their CSR related activities, which have yielded more profound CSR data, for example data for different CSR categories and their sub-categories. Also, regulation has improved companies' CSR transparency. Last, CSR data is nowadays more accessible from different sources and for different uses, and it will certainly contribute significantly to future research in the form of more complex research and a better comparability between researches.

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