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Value creation through socially responsible investing

Evidence from the Nordic countries

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ABSTRACT:
Nowadays corporations are expected to engage in socially responsible activities as they are in a position where they can have an actual impact on current global issues. The external demand for corporate social responsibility (CSR) comes from the corporations' stakeholders as well as laws and regulation that is constantly evolving. As investors have become more interested in socially responsible investing, it has raised a question whether it is financially profitable. This thesis aims at studying whether investors take corporations' CSR activities into account in their investment decisions or whether the decisions are based on accounting-based financial performance.

This study examines the relationship between Nordic listed companies' ESG rating and their financial performance and attempts to answer how value is created in the Nordic markets. This thesis focuses on the construct of corporate social responsibility and examines value creation through two theories, the shareholder theory which is the classic view regarding the role of corporations in a society, according to which the sole purpose of corporations is profit maximisation. The second observed theory is the stakeholder theory, an opponent to the shareholder theory, that emphasizes corporations' broader objective over sole profit maximization. If a positive relationship is found between corporate ESG performance and market-based financial performance, it indicates that investors take a broader amount of factors into account in their investment decisions rather than only corporations' accounting-based performance. Thus, the stakeholder theory would be better at explaining the value creation.

The data for this study comprises financial performance of 324 listed companies in the Nordic countries for the time period 2009-2019. Both fixed effects and random effects panel regression models are applied to study the relationships and answer the research questions. The findings from this study provide evidence on the controversial relationship between firm financial performance and ESG performance. Whereas accounting-based financial performance is negatively impacted by ESG performance, the market-based performance is positively affected, which would suggest the prevalence of the stakeholder theory as explaining the value creation better in the Nordic markets. Further, the study on ESG sub-components indicate that there is a negative relationship between accounting-based performance and all three sub-components, and that environmental performance has the highest impact on firm market performance. While the results remain ambiguous and thus in line with the previous research, it can no longer be a question whether corporations should shift toward more socially responsible business operations.

KEYWORDS: ESG, corporate social responsibility, socially responsible investing, Nordic countries

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TIIVISTELMÄ:
Tänä päivänä yritysten odotetaan harjoittavan yritysvastuullisuutta, sillä ne ovat asemassa, jossa ne voivat toimillaan tosiasiallisesti vaikuttaa globaaleihin ongelmiin. Vaatimus yritysvastuullisuudelle tulee yritysten ulkopuolisilta sidosryhmiltä, sekä lakien ja regulaation puolelta, jotka jatkuvasti kehittyvät. Kiinnostus vastuullista sijoittamista kohtaan on myös lisääntynyt, mikä onkin herättänyt kysymyksen koskien sitä, onko se taloudellisesti kannattavaa. Tämän tutkielman tavoitteena on selvittää ottavatko sijoittajat yritysten vastuullisuustoimet huomioon sijoituspäätöksissään, vai perustuvatko päätökset yritysten suoriutumiseen kirjanpidollisesta näkökulmasta.

Tutkielmassa tarkastellaan pohjoismaisten listattujen yritysten ESG-luokituksia ja niiden suhdetta yrityksen taloudelliseen suoriutumiseen, jota tarkastellaan sekä markkina- että tuloksentekonäkökulmasta. Tarkoituksena on selvittää, miten arvonluonti tapahtuu pohjoismaisilla markkinoilla. Tutkielma käsittelee yritysvastuullisuuden käsitettä ja tarkastelee arvonluontia kahden teorian kautta. Ensimmäinen teoria on osakkeenomistajateoria (shareholder theory), jonka klassisen lähestymistavan mukaan yritysten tarkoitus yhteiskunnassa on ainoastaan voiton maksimointi. Tämän teorian vastustaja on sidosryhmäteoria (stakeholder theory), joka korostaa yritysten laajempaa tavoitetta pelkän voiton maksimoinnin sijaan. Positiivinen suhde yrityksen ESG-luokituksen ja markkinasuoriutumisen välillä indikoi sitä, että sijoittajat ottavat sijoituspäätöksissään huomioon enemmän tekijöitä pelkän yrityksen tuloksentekokyvyn sijaan. Näin ollen sidosryhmäteoria selittäisi paremmin arvonluontia.

Tutkielman data on vuosilta 2009–2019 ja kattaa yhteensä 324 pohjoismaista yhtiötä. Tutkielmassa hyödynnetään sekä fixed effects että random effects -regressiomalleja tutkimuskysymysten selvittämiseksi, ja tulokset tarjoavat todisteita ESG-luokituksen ja yrityksen suoriutumiskyvyn välisestä kiistanalaisesta suhteesta. Kirjanpidollisesta näkökulmasta eli yrityksen tuloksentekokyky on negatiivisessa yhteydessä yrityksen ESG-luokitukseen. Päinvastaisesti yrityksen markkinasuoriutuminen on tulosten mukaisesti positiivisesti suhteessa sen ESG-luokitukseen, minkä mukaan sidosryhmäteoria voisi paremmin selittää arvonluontiprosessia pohjoismaisilla markkinoilla. Tutkielmassa tarkastellaan lisäksi ESG-luokituksen erillisiä osia, ja tulokset viittaavat siihen, että jokainen yritysvastuun osa-alue vaikuttaisi negatiivisesti yrityksen kirjanpidolliseen suoriutumiseen, ja että ympäristöön liittyvä yritysvastuu olisi positiivisessa suhteessa yrityksen markkina-arvoon. Tulosten ollessa moniselitteisiä ja täten linjassa aiemman kirjallisuuden kanssa, ei enää voida kyseenalaistaa sitä, pitäisikö yritysten siirtyä kohti vastuullisempia liiketoimintoja.

AVAINSANAT: ESG, corporate social responsibility, socially responsible investing, Nordic countries

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Abbreviations

CFP: Corporate financial performance

CSP: Corporate social performance

CSR: Corporate social responsibility

ESG: Environmental, social and governance

ESGP: ESG performance

FE: Fixed effects

OLS: Ordinary least squares

PRI: Principles for Responsible Investment

R&D: Research and development

RE: Random effects

ROA: Return on assets

SDGs: Sustainable Development Goals

SRI: Socially responsible investing

1 Introduction

Corporate social responsibility (CSR) has become a characteristic that is expected from firms by investors and required by constantly evolving regulation and laws. For decades, the discussion has revolved around the question whether being socially responsible is profitable for firms, and also for investors. As Wood (1991) points out, business and society are not separate from each other but rather interwoven, hence the society has expectations for firms' business actions and outcomes. Since corporations are in a position where they can have an impact on current global issues regarding sustainability such as climate change and nature loss or humanitarian issues, they are facing external demands from different stakeholders, such as employees, suppliers, governments and some stockholders, especially institutional shareholders (McWilliams & Siegel, 2001). Further, given the large and ever-growing number of companies disclosing sustainability information and the size of assets under management committed to sustainability, understanding the relevance of sustainability issues regarding investments is a current topic that calls for discussion.

By observing firms' accounting-based and market-based performance the profitability questions can be answered as the long line of literature has attempted to do. Still to this day no consensus has been achieved among scholars on this very topic. Another perspective on this matter besides profitability is asking what kind of responsibility corporates should have and to whom. In corporate social responsibility literature two commonly known perspectives are compared, that is the shareholder theory and the stakeholder theory. These theories have taken different approaches on the responsibility issue and emphasize different things. Whereas the shareholder theory has been the classic view highlighting the profit maximization agenda, the stakeholder theory challenges this view by highlighting the importance of other stakeholders as well besides the stockholders. As these two theories take on different approaches on value creation for investors, they will be discussed in this thesis to study the value creation in Nordic countries.

Motivation for this thesis stems from Nordic countries being the leading countries measured in ESG ratings (Robeco n.d.), hence it is expected that the countries' level of sustainability would be reflected on the firms' ESG performance, making the Nordic markets attractive for investors looking for sustainable companies to invest in. This thesis attempts to observe the value creation in the Nordic markets by studying the relationship between ESG ratings of Nordic listed companies and the financial performance of those companies respectively. Reflecting on the two CSR theories, a positive relationship between ESG and market performance would suggest that investors take more factors into account when making investment decisions besides the firm's financial accounting results. Hence, the shareholder theory is challenged by the stakeholder theory as the latter is better at explaining value creation for investors.

1.1 Purpose of the study and research questions

The purpose of this study is to recognize whether investors value firms' ESG activities. This is done by studying the relationship between firms' ESG ratings and financial performance from both accounting and market performance perspectives. Further, this study will also make a distinction between all aspects of ESG, that is examining their relationships to firm financial performance and finding how environmental, social or governance factors individually impact firm financial performance.

This thesis presents two approaches on value creation, that is the shareholder theory and the stakeholder theory, and attempts determining which one is better at explaining value creation. As discussed later in this thesis, the shareholder theory is all about maximizing profits and value for shareholders and that should be firms' only objective (Friedman, 1970). Conversely, the stakeholder theory takes a broader approach and emphasizes that other stakeholders should matter too, and that firms' objective should go beyond profit maximization to benefit the society as well (Freeman, 1984). Based on previous literature both accounting-based and market-based performance have been associated with higher financial performance (Friede et al., 2015; Russo & Fouts, 1997;

Velte, 2017). Hence similar results would be expected from this study and the first research question hypothesis are as defined as:

RQ1: Is firm financial performance positively impacted by firm's ESG performance?
H1: Firm's financial performance is positively impacted by its ESG performance.

Higher ESG rating together with higher financial performance would suggest that the stakeholder theory is better at explaining the value creation in the Nordic countries (Velte, 2017). Hence the second research question and hypothesis are defined as follows:

RQ2: Which theory is better at explaining value creation, the shareholder theory or the stakeholder theory?
H2: The stakeholder theory is better at explaining the value creation.

Further, this thesis also examines how the three sub-components of ESG contribute to financial performance and whether one of them has a stronger impact than the others. As such, the third research question and hypothesis of this thesis can be defined as follows:

RQ3: How do the three sub-components of ESG impact firm financial performance?
H3: All individual sub-components of ESG have a positive impact on financial performance.
H4: Governance performance has the strongest impact on financial performance and the impact is positive.

1.2 Structure of the thesis

This thesis proceeds in the following manner. The second chapter covers the construct of corporate social responsibility, its evolution, and the two CSR theories relevant to this study. The second chapter also discusses the emergence of ESG and socially responsible investing. The third chapter covers the previous literature relevant to this study from different viewpoints of CSR to results in the relationship between ESG and corporate financial performance. Chapter four describes the data and methodologies. Chapter five presents and discusses the empirical findings of this study, and the last chapter concludes.

2 Theory and fundamentals

The purpose of this chapter is to introduce the construct of corporate social responsibility (CSR) and how it serves the purpose of being the foundation for ESG, a concept that comprises non-financial factors of a firm, that is environmental, social and governance elements. This chapter begins by defining CSR, discussing the relevant theories supporting the purpose of this thesis, and later discusses the emergence of ESG as well as responsible investing.

2.1 Definition of corporate social responsibility

Corporate social responsibility is often associated with sustainability, business ethics and company values. These themes cover multiple segments globally and they have increased their status in the business landscape. Corporations as well as governments are expected to address current environmental, economic, and humanitarian issues. Hence, there is a need for an ongoing discussion regarding the role of corporations in a society, what their responsibilities are, how they can engage more into sustainable development and have more ethical practices. (Haynes et al., 2012.)

The discussion around corporate social responsibility has been going on for decades. The field of CSR has been growing significantly since 1950s and has gained a great number of theories, approaches and terminologies. Some have argued in favour of CSR that "corporation has a duty to society" (Carroll, 1979), while some have stated that the only purpose of a corporation is to maximize its shareholders wealth within the fence of law and minimal ethical restrictions (Friedman, 1970). CSR is also seen as a basis for competitive advantage (Han et al., 2016; Margolis, Elfenbein & Walsh, 2007). Generally, the idea behind different CSR approaches is very similar. That is, many define CSR as doing more than what is required by law and beyond the interests of the firm (McWilliams & Siegel, 2001).

Despite the amount of attention CSR has received in academic and theoretical circles, it does not have a stabilized definition. Wood (1991) defines corporate social performance (CSP) as “a business organization’s configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm’s societal relationships”. Corporate social responsibility and social performance are often used interchangeably in empirical studies despite all the attempts of distinguishing the two by different theorists. The lack of standardized definition has been and still is one of the biggest challenges in this field of research as it enables use of varying measurements and indicators.

Corporate social performance can be measured by CSP disclosures, CSP reputation ratings, social audits, CSP processes and observable outcomes as well as managerial CPS principles and values (Fischer & Sawczyn, 2013). One widely recognized measurement to proxy CSR is the environmental, social and governance (ESG) score (Han et al., 2016). ESG performance of a company can be measured by a variety of indicators, such as CSR reporting or ratings or charitable givings (Velte, 2017). Since it is assumed that corporate social performance is comprehensively covered by ESG factors, ESG score will be used in this thesis to proxy for corporate social performance. Further, this thesis does not attempt making a distinction between CSR and sustainability, hence the terms are used interchangeably in this thesis.

2.2 Corporate incentives for CSR

It is no longer up for discussion whether companies should consider corporate responsibility but rather how they should do it. Implementing sustainability into business operations has become a crucial part of strategic planning. For corporate executives the pressure comes from trying to simultaneously improve both corporate social and financial performance. Essentially, for sustainability to be of value to both the organization and its stakeholders, it needs to be integrated into the way a company does business (Epstein, Elkington & Herman, 2018, p. 21). It is important for executives to understand what investors prioritize. For short-term profit sales, cost management, and R&D activities are organized in order to maximize profits rather than making long-term investments. (Unruh et al, 2016).

The incentive for CSR strategy implementation can be either internal or external of the firm. For example, sustainability may be a firm's core value that the management is committed to, or it is being recognized as a resource of financial value through increased revenues and lower costs. However, it is more common for a sustainability strategy to have external drivers, such as government regulation, pressure from non-governmental organizations and marketplace demands. (Epstein et al., 2018, p. 20.) Implementing a CSR strategy can help firms to act in accordance with regulations and laws while following their corporate values (Nirino, Santoro, Miglietta & Quaglia, 2021). Investments into CSR and sustainable practices can lead to discovering new resources, unique skills, and competences within a company, which can turn into competitive advantages. Further, taking on these activities the management style can become more forward-thinking, which in turn can prepare the firm's readiness to face any external challenges. Overall, it can be expected that investing in CSR can lead to more efficient use of resources. (Nirino et al., 2021; Majumdar & Marcus, 2001.) A successful stakeholder management strategy should also lead to better environmental, social, and corporate governance performance, and may be even further connected with future financial performance, if non-financial reporting is not any longer seen as a marketing tool or "green washing", but instead as an objective and reliable information tool (Velte, 2017).

Many initiatives have emerged that encourage companies to take on CSR activities and implementing it into their strategies. For example, the United Nations Global Compact (UNGC) is a framework that provides ten principles concerning human rights, labor, environment, and anti-corruption (UNGC, 2021a). The UNGC encourages companies to become more sustainable within those areas in their strategies while advancing broader societal goals, such as the UN Sustainable Development Goals (SDG) (UNGC, 2021b).

The European Commission has also initiated activities to enhance the quality of corporate governance, especially since the financial crisis of 2007-2008 wrecked stakeholder trust which motivated a shift from a short-term shareholder value policy towards a more sustainable management strategy that includes the interests of heterogenous stakeholder groups. (Velte, 2017.) For firms this has meant that they must innovate on their behalf for better solutions, re-evaluate their business practices and reshape their strategies as they strive to meet the demands of different stakeholders (Belyaeva et al.,, 2020).

2.3 How Corporate social responsibility creates value

How corporate social responsibility creates value or adds to the financial performance has been theorized by the good management theory and the slack resources theory. According to the slack resources theory better financial performance results in availability of slack resources (financial or other), that enable opportunities for firms to invest in social responsibility activities. Hence, better financial performance would be a predictor of better corporate social performance. (Waddock & Graves, 1997.) The good management theory suggests a high correlation between good management practice and social performance. CSP is considered to improve key stakeholder relationships, which will result in better overall performance. For example, good employee relations can enhance productivity, and good community relations can provide reduced regulation. Moreover, positive perceptions by outside stakeholders of the firm might lead to increase in sales or reduced stakeholder management costs. All such effects can impact the firm's bottom line. (Waddock & Graves, 1997.)

It is still unclear whether financially successful companies simply have more resources to spend on CSP and thus attain higher standards, or if various dimensions of CSP along better performance result in better financial outcomes. A construct of virtuous cycle is studied in the literature (Waddock & Graves, 1997; Fischer & Sawczyn, 2013; Orlitzky, Schmidt & Rynes, 2003), meaning that the relation between CSP and CFP is simultaneous and interactive. While the direction of causality is debatable, the two approaches may overlap yet they do not rule each other out. (Waddock & Graves, 1997; Margolis et al., 2007).

2.4 Corporate social responsibility theories

Many different theories have been presented to justify what kind of responsibility companies should have. In this subchapter two of the most known theories are discussed, the shareholder theory and the stakeholder theory. Since the purpose of this thesis is to analyse ESG rating and corporate financial performance, these two theories serve as the theoretical framework as both of them attempt to explain the relationship between corporate social responsibility and value creation.

The debate between the two theories has been going on for decades over which one is superior to the other one. As discussed in the previous subchapters, the question comes down to what kind of responsibility firms should have and to whom. While these two theories and their objectives differ from each other, in the current state of the world it is no longer socially acceptable for companies to work solely for shareholder wealth maximization.

2.4.1 Shareholder theory

The shareholder theory has been the classic approach as in the past corporations' objective has been on shareholder value maximization, meaning that corporations take on actions and investments that only serve this purpose. As Friedman (1970) states in his New York Times article, the only responsibility of a business is to use its resources and engage in such activities that increase profits in an open and free competition. Friedman (1970) argues that it would be against the idea and harmful for the foundations of a free society if executives were to decide the subject of social interest and used “social responsibility” as an excuse for corporate’s greater interests. Additionally, doing something good for social interest is seen as the corporation using someone else’s money, such as its employees, stockholders, or customers (Friedman, 1970).

According to the shareholder theory, managers adopting any other objective other than shareholder wealth maximization is a subversion of the basic framework of a market economy. The viewpoint suggests that pursuing public interest violates the ethical principles of a market-based society if those interests are in conflict with shareholders’ interests. (Mansell, 2013, p. 6.) For shareholder theory to hold, it requires that trade-offs that need to be made between stakeholders, need to be justifiable for shareholders, meaning financial benefits (Mansell, 2013, p. 11).

Firms using their resources on other than profit maximization raises the question on agency cost. As corporate philanthropy can enhance the firm’s reputation, if it is not offset by adequate compensation, it represents an agency cost. Firms engaging in activities that make them contribute to social purposes act as a motive that initially results in an opportunity loss for shareholders. (Brown et al., 2006.) Hence, from this point of view it is not in the shareholders’ best interest for companies to engage in CSR activities, as acting upon the society’s interest is to completely ignore the interests of shareholders (Brown et al., 2006). Some managers will discard any activities regarding CSR because they believe such efforts are against profit maximization and interests of shareholders (McWilliams & Siegel, 2001).

The shareholder theory has received criticism and it has been held responsible for corporate scandals. The argument against this classic approach stems from the pursuit of ever-increasing shareholder value at the expense of stakeholders. Mansell (2013) states that as long as the maximization of profits is the only legitimate objective for firms, any responsible activity towards other stakeholders is unobtainable. If shareholders alone are the only ones the firm remains accountable it is impossible that morally responsible business conduct exists (Mansell, 2013, p. 4).

2.4.2 Stakeholder theory

In a paper by Freeman (1984) the stakeholder theory was introduced. It rose as an opponent to the shareholder theory and challenged the idea of firms having solely one objective that is shareholder wealth maximization and that firms need to make trade-offs that are justifiable for the shareholders (Mansell, 2013; Wijnberg, 2000). Instead, according to the stakeholder theory businesses should serve and benefit all their stakeholders which affect and are affected by the firm's decisions (Jones & Wicks, 1999). Hence, shareholders should not be assumed to be the only or a predominant stakeholder.

Discarding the idea of profit maximization, the stakeholder theory is also seen as a way for managements to include interests and claims of non-stockholding groups (Mitchell, Agle and Wood, 1997). The only legitimate organizational objective is firms' accountability to all their stakeholders and balancing between their competing interests. However, benefits of different stakeholder groups can be in conflict with each other, hence the term balancing between them. The theory itself does not provide interpretation on which benefits should be preferred, as such problems are solved in practice by the substantive objectives that organizations have. (Sternberg, 2004, p. 129-134.)

Today, the stakeholder theory can be considered as being the most important approach explaining the impacts of CSR activities to higher corporate financial performance, that is how commitments in CSR activities contribute to firm's financial health (Rodgers, Choy & Guiral, 2013).

2.4.3 Development of the stakeholder theory

Over the years the stakeholder theory has evolved into several directions and different approaches have been proposed. The main theories can be classified into four groups which consider the interaction between business and society and how they are focused (Garriga & Mele, 2004). These theories will be discussed next.

Instrumental theories

A group of CSR theories that go under the category of instrumental theories consider CSR solely as a strategic tool, an instrument, for economic objectives and wealth creation. According to these theories wealth creation is corporation's only social responsibility, following the approach of Friedman (1970) and the shareholder theory. Social activity is accepted only if it is consistent with wealth creation, although it has been argued that in certain situations taking into consideration stakeholders' interests can contribute to the shareholder wealth maximization. Hence, an adequate level of philanthropy is acceptable for the sake of profits. (Garriga & Mele, 2004, p. 53.)

Political theories

CSR theories considered as political emphasize the social power of corporation and its responsibility. Accordingly, corporations are to accept social duties and rights as well as participate in social cooperation. Most well-known political theories are 1) Corporate Constitutionalism which considers firms as social institutions that have great amount of social power and they should responsibly use this power while acknowledging it as a privilege, and 2) Corporate Citizenship which suggests that firms should be acting the same way as humans in a society, meaning that they follow the laws, regulation and ethical norms that are set by government and society. (Garriga & Mele, 2004, p. 57.)

Integrative theories

According to integrative theories corporates should integrate social demands in a way that the business would operate in accordance with social values. This is justified by arguing that business depends on society for its existence as well as for its continuity and growth. Integrative theories do not specify what kind of actions are expected from businesses. They focus on the detection and scanning of social demands that achieve social legitimacy, greater social acceptance and prestige. (Garriga & Mele, 2004, p. 52, 58.)

Ethical theories

Some theories can be viewed as ethical as they understand that the relationship between business and society is embedded with ethical values. According to this view businesses are to treat social responsibilities as ethical obligations. The ethical theories comprise also the normative stakeholder theory, according to which all stakeholders should be treated equally regardless of their social power. (Garriga & Mele, 2004, p. 60.)

2.5 Emergence of ESG

The term ESG is widely used by both institutional investors and investment professionals. ESG captures the essence of corporate social responsibility, that is environmental, social and governance measures, and it also refers to all non-financial fundamentals that can affect firms' financial performance. It is often used interchangeably with terms such as sustainable investing, socially responsible investing or mission-related investing. The emergence of ESG is driven by its potential on investment return and risk hence it has motivated the incorporation of ESG measures into investment decision. Today, over $121 trillion assets under management are managed by the signatories of United Nations Principles of Responsible Investment (PRI, 2021a). This represents the commitment of financial markets towards ESG criteria. (Friede, Busch & Bassen, 2015; Ho, 2015; Nirino et al., 2021.)

From firm's standpoint, high financial return and low financial risk are the main indicators of economic performance. Firm's risk management aims at reducing the firm-specific risk, which includes both financial and non-financial risks. ESG covers the non-financial risks which include negative environmental, social or governance practices. These can reduce product demand, increase reputational risk, or increase the likelihood that costly regulatory changes are imposed. Conceptually, responsible business practices should translate into lower ESG risks, and irresponsible practices should increase such risks. If a firm is looking to lower its idiosyncratic risk, it is inevitable to consider ESG matters as a part of its risk management. (Ho, 2015.)

Many third-party agencies such as Bloomberg, MSCI, Refinitiv and KLD are providing ESG ratings and measuring ESG performance. This information is used by institutional investors, asset managers and other stakeholders for decision making. The large number of data providers shows the growing importance of ESG and investors' interest towards it. Many firms have also identified it as strategically material and consequently they have started measuring and reporting firm-specific data on ESG aspects. However, lack of reporting standards has made it a challenge to decide which of the ESG data should be taken into consideration and what is relevant from an investment standpoint. The challenge lies mainly in identifying comparable, quantitative indicators that are material for different firms and industries. This has been a key barrier in the decision process. Many third-party agencies, such as the Sustainability Accounting Standards Board (SASB) and the International Integrated Reporting Council (IIRC) have made efforts to develop materiality guidelines as well as reporting standards to facilitate the incorporation of material non-financial information into current financial reports. (Amel-Zadeh & Serafeim, 2018; Ho, 2015.)

Traditionally, ESG investing has been considered as screening strategies, especially negative screenings that excludes firms or sectors from the portfolio. However, this kind of an approach has been shown to lower investment returns or increase portfolio risk. This has led to using multiple tools to measure non-financial ESG fundamentals in addition to standard measures of risk and return. (Ho, 2015.) Understanding how to efficiently integrate ESG criteria into investment process will enable harvesting the full potential of ESG factors that are value-enhancing (Friede et al., 2015). Besides negative screening, positive screening and active ownership have established their statuses as an approach to ESG investing, and they are expected to become increasingly a prevalent ESG investing style (Amel-Zadeh & Serafeim, 2018).

Furthermore, ESG information is associated with other economically meaningful effects. For example, lower cost of capital and lower capital constraints, analyst forecast errors, and stock price movements around mandatory ESG disclosure regulations (Amel-Zadeh & Serafeim, 2018). ESG activities are also associated with increased sales volume, increased revenues, decreased costs, reduced financial risk and improved reputation (Fischer & Sawczyn, 2013). Also, why and how investors use ESG information has been studied. Using ESG data is found to be motivated by financial reasons rather than ethical ones (Amel-Zadeh & Serafeim, 2018), although empirical studies suggest that financial performance would seem an unlikely rationale or justification for pursuing CSP (Margolis et al., 2007). ESG information is also found to provide more insights regarding firm risks rather than its competitive positioning (Amel-Zadeh & Serafeim, 2018).

2.6 Socially responsible investing

The Principles of Responsible Investment (PRI) defines responsible investment as a strategy of incorporating ESG factors in investment practices. Other terms such as sustainable investing, ethical investing and impact investing are often used interchangeably. What these terms have in common is that they all consider ESG issues as an approach to investment practices. (PRI, 2020a.) In 2016 Eurosif's Board defined socially responsible investing (SRI) as a long-term oriented investment approach which integrates ESG factors in the research, analysis and selection process of securities within an investment portfolio. The goal is to better capture long-term returns as well as to benefit society by influencing company behaviour (Eurosif, 2018).

The Principles for Responsible Investment was launched in 2006 and it is an international network of investors supported by the United Nations. The PRI comprises six voluntary principles targeting ESG issues which the signatories are committed to incorporate into their investment analysis, ownership policies and practices. The principles emphasize the investment process and its responsibility rather than the business operations of a corporation. A majority of the world's professionally managed investments have become a part of the signatory base and as the number of signatories is continuously growing the global financial system is developing into more sustainable one. (PRI, 2021.) Figure 1 below depicts the growth of PRI signatories and AUM since the launch of PRI in 2006:

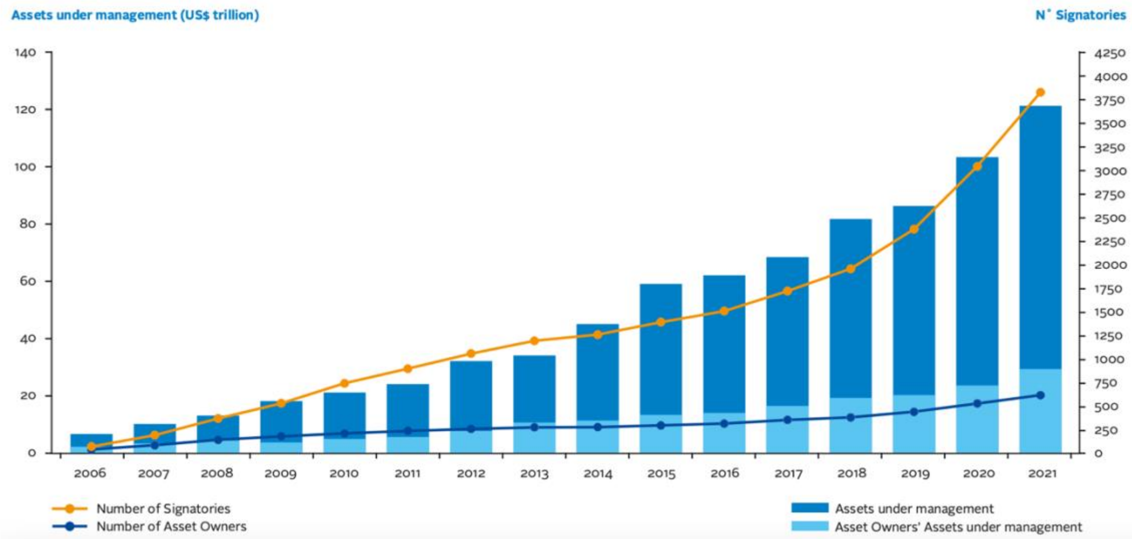

Figure 1. Development of PRI signatory growth and AUM. (PRI, 2021a).

Majority of sustainable assets is under institutional management as they tend to dominate the financial market. However, interest on responsible investing coming from retail investors has been steadily growing (GSIA, 2018). Since 2012 the Global Sustainable Investment Alliance has been reporting the proportions of institutional and retail investors' investments on sustainable assets. In the beginning of 2018 retail investors held 25 percent of sustainable investing assets, while in 2012 the number was 11 percent. (GSIA, 2018).

As the interest towards responsible investing has been growing there is more need for clearer definition and classification in terms of what can actually be considered as responsible investment. The lack of clear definition has led to concerns of greenwashing and transparency of sustainable finance. For example, the European Commission is addressing this concern in its Action Plan on Sustainable Finance (Eurosif, 2018). Further, things such as minimum standards for responsible investing will bring more clarity for investors and narrow the information asymmetry between retail investors and financial advisers, which is truly heightened when it comes to responsible investment products (Eurosif, 2018).

For the ambiguous concept of sustainability without a clear definition, the European Commission has established the EU taxonomy which is a classification system for environmentally sustainable activities. Essentially, the taxonomy will provide firms, investors, and policymakers appropriate definitions for which economic activities can be considered sustainable. The aim of the EU taxonomy is to create security for investors and protect them from greenwashing, help firms in achieving a more environmentally friendly state, mitigate market fragmentation and shift investors towards targets where they are most needed. (European Commission, n.d.)

At least three factors have been recognised that drive investors' interest towards sustainability. Analytical and sophisticated modelling is one of them, showing how and when investments in sustainability create value for shareholders. Another factor is empirical research that proves the link between effective management of sustainability issues to strong financial performance. The third factor is a shift in investors' attitudes regarding the connection between strong sustainability performance, value creation and risk reduction. Some 80% of investors believe that good sustainability performance will increase a firm's potential for long-term value creation. (Unruh et al., 2016.)

3 Previous literature

Previous literature on corporate social responsibility and its linkage to corporate financial performance has been growing since the mid 20th century. Since 1970s over 2000 empirical studies have reviewed the relationship but the results have been rather mixed, and no consensus has been found on which scholars can all agree on (Friede et al., 2015). Variation in the results can be explained by varying methodologies used in studies and how CSR is defined and measured (Waddock & Graves, 1997; Russo & Fouts, 1997). Majority of the studies do however emphasize the importance of CSR and consideration of ESG factors in business operations. Proving that by doing good is connected to doing well would legitimize CSR on economic grounds, even more companies would pursue the good and enhance their bottom line, and consequently contribute more broadly to society’s well-being (Margolis et al., 2007).

Next subchapters will discuss previous literature and the findings regarding the link between corporate social responsibility and corporate financial performance. Although this study focuses on ESG ratings and CFP, the following subchapters will first present literature regarding other perspectives of CSR and CFP to paint a more comprehensive picture on the topic. After this literature on ESG and its impact on firm financial performance is discussed.

3.1 Corporate social responsibility and financial performance

Waddock and Graves (1997) examine whether corporate social performance (CSP) is linked to corporate financial performance (CFP). They also test whether both slack resources and good management theories operate simultaneously, that is in what direction the causation runs. With a sample of 469 firms from the S&P 500 they run regression analyses using a one-year lag for financial performance, which is denoted by return on assets, return on equity, and return on sales. For CSP they construct a CSP index consisting of eight attributes. Their results report a positive relationship between

CSP and CFP. Further, the theory regarding slack resources is supported, although the good management theory is not completely discarded, as some evidence hints towards its prevalence. According to these results companies can “do well by doing good”, which is an indicator of a virtuous cycle.

Fischer and Sawczyn (2013) study German listed companies to clarify the relationship between CSP and CFP and to analyse the cause-and-effect relation between the two. They contribute to the literature by reviewing German companies on the topic, testing for Granger causality and arguing that the degree of innovation has a significant impact on CSP and CFP. They run a multivariate regression analysis, and use a one-year lag between CSP, CFP and all independent variables as it expresses that corporate social responsibility is a strategic concept and that its effects do not occur immediately. They find a positive and significant relationship for German listed firms, and that it is affected by the degree of innovation. (Fischer and Sawczyn, 2013.)

Meta-analyses and literature reviews have supported the results from individual studies. Whereas literature reviews may provide interesting insights they are rather narrative, and the results are based on vote-counting, which from a methodological point of view are less sophisticated. Hence, a formal meta-analysis in seen as a more valuable and fitting. (Orlitzky et al., 2003; Friede et al., 2015; Margolis et al., 2007.)

A meta-analysis by Orlitzky et al. (2003) integrates over 52 studies over a 30-year time period and finds a positive link between corporate social performance and financial performance across industries and study contexts. Similarly, Margolis et al. (2007) combine 167 studies on the CSP-CFP relationship and arrive at a conclusion that supports the findings by Orlitzky et al. (2003). Accordingly, firms do not suffer financially for their socially responsible investments, which debunks Friedman’s (1970) concerns about theft. They do instead find a mildly positive yet statistically significant relationship between socially responsible and financial performance. Further, Margolis et al. (2007) imply that shareholder value is not destroyed by engaging in CSP activities.

For the CSP-CFP causation both Orlitzky et al. (2003) and Margolis et al. (2007) suggest that firms with superior financial performance will more likely engage in corporate social performance activities. Reasons for pursuing CSP are mitigation of risk, external expectations, generalized reciprocity and guilt (Margolis et al., 2007). However, only Orlitzky et al. (2003) support the view of virtuous cycle, as they find the causation to be bidirectional and simultaneous. According to Margolis et al. (2007) presence of socially responsible corporate policies does not predict current or future financial success, and such finding is contradictory to the theory of virtuous cycle. Overall, meta-analyses by Orlitzky et al. (2003) and Margolis et al. (2007) emphasize how complex the relationship between CSP and CFP can be and the difficulty of measuring and assessing it. Essentially, it is addressed that corporate responsibility can be rewarding in many ways.

Although studies find a positive relation between CSP and CFP, it does not necessarily indicate the persistence of financial performance. Choi and Wang (2009) contribute to previous literature regarding stakeholder theory and corporate social responsibility by studying the effect of stakeholder relations on the persistence of a firm's superior financial performance. They analyse 11-year time period of 518 US firms using a series first-order autoregressive models. For stakeholder relations an aggregate measure is computed, which includes community relations, diversity, employee relations, environment and product dimensions. For firm's financial performance ROA and Tobin's Q are used as proxies. The results indicate that good stakeholder relationships help well performing firms to sustain superior profits. An important finding is that positive stakeholder relations are more important in helping poorly performing companies recover from disadvantageous position compared to their role in sustaining performance advantage of superior firms. According to Choi and Wang (2009) it is unlikely for a firm to recover quickly from inferior performance without good stakeholder relations. In addition, it is important that these relationships are built before the downturn of performance.

Di Giuli and Kostovetsky (2014) study political values of firm's stakeholders and how they might impact the firm's behaviour in terms of CSR. Although the authors examine CSR from a political perspective and find democratic environments to be more socially responsible, their study also provides a broader view on the economic significance of CSR policies and how it affects both shareholder and stakeholder wealth. The results from this study suggest that expansion of CSR policies is associated with future stock underperformance as well as decline in the operating performance, measured in return on assets, in the long run. Additionally, Di Giuli and Kostovetsky (2014) state that CSR can contribute to stakeholders' wellbeing even when it is not increasing the firm's profitability.

López, Garcia and Rodrigues (2007) study how CSR practices affect business performance. The sample for this study comprises two groups of firms from Dow Jones Sustainability Index and Dow Jones Global Index, totalling 110 firms. The studied time period runs from 1998 to 2004. The goal is to see whether there are significant differences between firms that have adopted sustainability practices compared to those that have not. Firm performance is measured through accounting-based indicators, focusing on growth of profit before tax and growth in revenue. They find that during the first year in which sustainability practices are applied, the impact on performance is negative. In the short-term investments into sustainability practices might place firms in disadvantage respect to others, but such a negative impact seems to be self-correcting in the longer-term.

3.2 ESG impact on corporate financial performance

Friede et al. (2015) review over 2000 individual studies and conclude that about 90% of the studies find a nonnegative relationship between ESG and corporate financial performance. Further, most of the reviewed studies suggest that there is a positive link which remains stable over time. Friede et al. (2015) conclude that investing through ESG criteria does pay off financially. Although there are portfolio studies that provide neutral or mixed evidence on the relationship, it should be noted that various systematic and idiosyncratic risks as well as implementation costs in mutual funds shadow the results. (Friede et al., 2015).

Some studies focus solely on the environmental perspective and its linkage to financial performance. For example, Russo and Fouts (1997) examine the link between firms' environmental and economic performance by analysing 243 firms between the years 1991 and 1992. Their results suggest that it indeed "pays to be green" as environmental performance and return on assets are positively linked. They also find that industry growth moderates the linkage. Dowell et al., (2000) study US based multinational enterprises from the S&P 500 list and their market performance in relation to global environmental standards. The sample period is between the years 1994 and 1997. The results indicate that the market value, measured by Tobin's Q, is higher for those companies that adopt a stringent global environmental standard. Furthermore, the market value is found to appreciate quickly after a firm has adopted a higher environmental standard. Consistent with these findings are the ones presented by Salama (2005) who examines British companies finds a positive relationship. Further, according to the findings by Salama (2005), investors are not financially penalized for targeting admirable companies.

Velte (2017) uses the stakeholder theory as a theoretical foundation and hypothesizes that ESG performance (ESGP) leads to better financial performance. The sample for this study comprises German listed companies between 2010 and 2014. The paper conducts a deeper analysis on all three components of ESG and their link to financial performance. Both accounting and market-based performance is examined using ROA and Tobin's Q as variables respectively. The results show that ESGP has a positive and significant impact on accounting-based performance, but not on market-based performance. Further, out of the three components of ESG the governance score is found to have the strongest impact on financial performance.

Similar to Velte (2017) Han, Kim and Yu (2016) examine which one of the three individual dimensions of ESG affects firm financial performance and profit the most and whether the impact is negative or positive. They use a sample of Korean listed firms in the period of 2008 and 2014. For ESG measures they use three separate, individual proxies to account for CSR, and for financial performance they use return on equity, market-to-book ratio and annual stock returns. They find the governance aspect of ESG is the only one that has a positive and significant relationship to accounting-based financial performance. Ultimately, they report that ESG efforts in Korean firms will be beneficial. Especially investments into environmental activities will increase profits in the long run, although improving governance responsibility is fruitful as well in improving profits (Han et al., 2016).

Nollet et al., (2016) study the linkage between corporate social performance and financial performance. Their sample consist annual data for all listed firms in S&P500 in the period 2007-2011. Financial performance is measured in return on assets, return on capital and annual excess stock returns. ESG disclosure by Bloomberg is used as a proxy for CSP, the independent variable. This study also disaggregates the ESG score into its sub-components of environmental, social and governance factors. As such, they are able to assess which component is the key driver for improving financial performance. They test for both linear and non-linear relationships and while no significant relationships are found in the linear model, a U-shape relationship is discovered between accounting-based measures of financial performance and CSP when studying non-linear relationships. This finding implies that investments into CSR do not occur immediately but once a threshold level of CSP is reached. For ESG sub-components they find a significant U-shaped relationship between the governance factor and financial performance. For market-based measures no significant linkage is found.

3.3 Conclusions on the previous literature

The previous literature and the results on the CSP-CFP relationship is incoherent as detailed above. What is however evident is the complexity of the relationship that many studies highlight. To draw some conclusions, although there is evidence that CSR can affect negatively on firm's financial performance, it is potentially only for short-term period and in some cases self-correcting. On the contrary, many studies do find a positive linkage between financial performance and corporate social performance. Studies suggest that sustainable companies have higher market value and CSR plays an important role in sustaining firm's profitability. CSR is also found to help poor performing firms to recover from a disadvantageous position if the stakeholder relationships are established beforehand. Further, it is apparent that the impact of CSR activities does not occur immediately, and investments into CSR might first decrease financial performance. Evidence regarding the causation of this relationship suggests that superior financial performance causes the emergence future CSR activities, and some studies go even further suggesting that there is a virtuous cycle between CFP and CSR. Furthermore, the impact of ESG performance on CFP is found to be positive, which is a conclusion that is supported by majority of studies (Friede et al., 2015). Out of the three aspects of ESG, the governance factor is often found to have strongest positive linkage or being the only significant factor determining the financial performance. Overall, it is suggested that ESG pays of financially.

4 Data and methodology

The purpose of this chapter is to discuss the data used in this thesis as well as the methodologies to carry out the empirical research part of this thesis. Further, later subchapters will present and discuss the results of the panel regressions.

4.1 Nordic markets

The data in this study focuses on the Nordic countries as they are often considered as leaders when speaking of sustainability. According to Robeco (n.d.) in 2021 Denmark, Finland, Norway and Sweden were the top countries in ESG performance. Furthermore, all these countries are rated among the top 10 in the 2021 SDG Index, where Finland, Sweden and Denmark comprise the top three countries. The SDG Index ranks countries on their overall performance regarding the UN's Sustainable Development Goals (SDGs) (SDG Index, 2021). As the Nordic countries are leaders of sustainable development it can be expected that corporations domiciled in those countries also promote/have/ have adopted sustainable activities through regulation for example. Additionally, for many years Nordic corporations have made it to the top 10 of the most sustainable corporations ranking by the Corporate Knights (Corporate Knights, n.d.).

With these accomplishments the Nordic countries are chosen for this thesis as they can be considered to best serve the purpose of this thesis when it comes to studying the value creation of sustainable activities and whether such activities are appreciated by investors.

4.2 Data description

The primary interest of this study is to examine value creation in the Nordic countries, which is achieved by examining the relationship between firm ESG rating and firm financial performance. Therefore, ESG ratings are an essential piece of this study and the data. The ESG ratings for this study were retrieved from Refinitiv database which currently provides ESG ratings for over 9500 companies globally. The data for the ESG score construction is collected by processing publicly available information from annual reports, company websites, CSR reports and news sources, to name a few (Refinitiv, 2021). Over 500 company-level measures are calculated of which 186 most material and comparable are chosen. These are grouped into ten categories that comprise the three aspects of ESG and the final ESG score. (Refinitiv, 2021.) Figure 2 illustrates how those ten categories are divided that construct the ESG score.

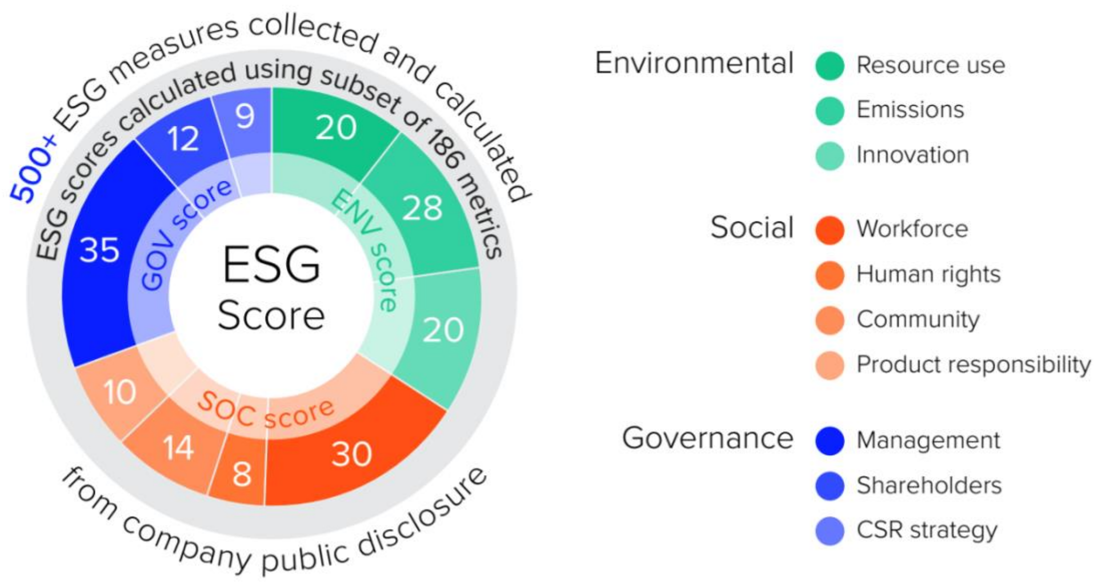

Figure 2. Construction of ESG metrics. (Refinitiv, 2021).

The initial dataset for this study comprises Nordic non-financial listed firms from the Nasdaq OMX Stockholm, Nasdaq OMX Copenhagen, Nasdaq OMX Helsinki, and Oslo Børs over the period 2009-2019. However, this initial sample of firms needed some exclusions. Since ESG ratings are not available for each firm, and due to its importance to this study, firms with incomplete ESG data are removed, so that for each observed year and company there are ESG data. Following previous literature (Velte, 2017) also all financial companies are excluded from the data due to their specific regulation and different operational processes, hence they may result as outliers. Further, for more robust results, the data is trimmed to exclude firms that do not have data for each sample year. Hence, the data is set as a panel data based on firm and year. As a result, a balanced panel data is created totalling 3564 observations. On a country level, majority of the firms observed during the sample period are Swedish, that is 179 firms. In fact, the number of Swedish firms is greater than all other countries combined. For reference, there are 67 Finnish, 40 Norwegian and 38 Danish firms. In total the dataset covers 324 firms from these four countries for the period of 2009-2019. For this study the dominance of Swedish firms is not considered, and no fixed country effects are applied.

The firms in the final dataset cover 32 industries. Categorisation by MSCI (2022) identifies 11 main categories for industries. These categories are Energy, Materials, Industry, Consumer discretionary, Consumer staples, Health care, Financials, Information technology, Communication services, Utilities, and Real estate. This categorisation is also used in this thesis as the firms in the data comprise initially 32 different industries. However, since firms from the financial sector have been excluded, no Financials category is included. Instead, firms that do not have an industry data available, those are bundled into an Other category. This categorisation is used later to create an industry dummy variable used in the regression models.

4.3 Variables

4.3.1 Dependent variables

Firm financial performance is measured in market value as well as from an accounting perspective. These make up the dependent variables. The choice of these variables for the purpose of this study is in line with previous literature by Velte (2017) and Choi and Wang (2009).

Tobin's Q

For market value, Tobin's Q is used as a proxy. Tobin's Q is widely used in the literature to account for company's market performance and value. It is defined as the ratio of the company's market value to the replacement cost of its assets. Due to complexity of calculation and limited information, it has become a common practice to use the ratio of the market value of the firm's equity and liabilities to its corresponding book values (Velte, 2017; Han et al., 2016). The same approach is also used here. The benefit of using market-based figures to measure corporate performance is that they are free from managerial manipulation and comparable between firms (Aras et al., 2010). It should be noted however that investors' perception may be inadequate to measure firm financial performance.

Return on assets

Return on assets (ROA) is used as a proxy for accounting performance. ROA represents a firm's profitability and is defined as the ratio of company's net income over its total assets (Velte, 2017). Although accounting-based view is a common way of measuring corporate performance, it does have some drawbacks. Given that it only shows historical corporate performance, there is a chance for manipulation on behalf of managers, and some figures may not be comparable between firms due to different accounting procedures (Aras et al., 2010).

4.3.2 Independent variables

ESG score

The ESG Score retrieved from Refinitiv database is used as a proxy for company ESG performance. As described above the ESG Score captures a subset of 186 most relevant data points from over 500 company level ESG measures. Environmental, governance, and social components make up the final ESG score, which reflects company's ESG performance as well as the effectiveness and commitment, all based on publicly reported information. This study also analyses the impact of the three individual components of ESG separately. The components are identified as environmental score

(ENV), social score (SOC) and governance score (GOV). The environmental score addresses for example firms' disclosure on their CO2 emissions, energy consumption, resource use, and emissions reduction policy. The social score covers firms' disclosure policy regarding statistics on employees, product responsibility, and human rights. Lastly, the governance score reflects the corporate governance structure and firm's CSR strategy. (Han et al., 2016; Refinitiv, 2021.)

4.3.3 Control variables

Control variables are introduced in the regression models in order to exclude any effects they might have on the firm performance. Following the previous literature the following variables were chosen as they are commonly used.

Firm size

To account for firm size, a natural logarithm of total assets is used as a proxy. Size can be related to the extent of how interested stakeholders are about firm's CSR activities (Velte, 2017). Further, size is also a relevant control variable since larger firms may have greater resources for social investments and they may attract more pressure to engage in CSP (Margolis et al., 2007).

Firm risk

Systematic risk is considered in the regression model as a control variable by using firm-specific beta factor as a proxy. For unsystematic firm risk a debt-to-equity ratio is applied for firm's financial leverage. Firm risk has been associated with financial performance and firms with lower risk generally tend to engage in CSP, and CSP has been linked to the risk profile of firms (Margolis et al., 2007; Choi and Wang, 2009).

Industry

An industry dummy variable is applied to control for any variation between industries. The data contains 11 different categories for the industries. Controlling industries is considered important as there can be variation in the degree of regulation and in requirements for socially responsible behaviour (Fischer and Sawczyn, 2013). Further, some industries may be considered “dirtier” than others, and reporting rules might vary which can promote more responsible behaviour but also constrain it. (Margolis et al., 2007.)

Research and development intensity

Initially research and development (R&D) intensity was considered to be included as a control variable, mainly as it is seen as a key source of persistent performance advantage (Choi and Wang, 2009) and this variable is often used is However, due to lack of sufficient data the R&D variable is not included in the final dataset of this study. This can be considered as a limitation for this study.

4.4 Descriptive statistics

This subchapter describes further details regarding the data used in this study. To improve the accuracy of the results, outlier values for each variable have been replaced by less extreme values (RDocumentation, n.d.). This is done by winsorizing so that the final dataset includes data only between 0,5% and 99,5% of the initial dataset.

Table 1 summarizes the regression variables and the descriptive statistics of the full sample. Panel A provides information on ESG performance, Panel B provides information on financial performance and Panel C provides information on the control variables.

Table 1. The descriptive statistics.

	Mean	Median	Std.	Min	Max
Panel A: ESG performance					
ESG	63,12	66,59	18,96	7,84	94,24
ENV	63,96	70,07	24,48	0,00	98,39
SOC	67,60	73,28	21,67	1,92	96,52
GOV	54,56	55,13	22,71	6,53	96,25
Panel B: Financial performance					
Tobin's Q	1,31	0,92	1,46	0,01	14,43
ROA	6,37	5,91	10,67	-55,57	128,42
Panel C: Control variables					
BETA	0,62	0,58	0,64	-6,68	5,55
DEBT	0,23	0,23	0,14	0,00	1,04
SIZE	16,82	16,96	1,58	10,97	20,73

As the Panel A illustrates, the mean values for ESG and its sub-components differ from each other, but only slightly. Out of the three, SOC has the highest mean value of 67,60 and GOV has the lowest, 54,56. The standard deviation for all four variables in Panel A are close to each other. Although, ENV has slightly higher standard deviation than the others, the values for standard deviation here imply that these four variables are not totally stable but have some volatility to them.

Panel B shows information on financial performance. Accordingly, ROA has a mean value of 6,37 whereas Tobin’s Q has only 1,31. Standard deviation for ROA is higher compared to Tobin’s Q, as the values are 10,67 and 1,46 respectively. This would imply that the Tobin’s Q is more stable than ROA.

As the Panel C depicts the control variables Beta, Debt and Size, these variables show fairly low volatility. For further details on ESG disclosure, Table 2 depicts the development of Nordic ESG score during the sample time period.

Table 2. Development of ESG scores.

Year	Obs.	Mean	Std.	Max	Min
2009	324	57,22	20,58	91,28	7,84
2010	324	58,27	19,58	89,27	12,67
2011	324	60,13	19,61	93,53	11,43
2012	324	60,94	18,70	91,68	10,33
2013	324	60,56	18,56	89,77	8,73
2014	324	61,17	18,26	92,77	12,76
2015	324	64,46	18,54	89,42	12,48
2016	324	65,10	17,80	89,38	12,40
2017	324	66,67	18,10	93,65	10,39
2018	324	68,66	17,25	94,24	16,30
2019	324	71,11	16,25	93,75	19,07

Since 2009 the trend has been positive as the mean value of ESG score has been increasing yearly from its 2009 level of 57,22 to 71,11 in 2019. Such a continuing increase in the ESG score suggests that commitments to CSR remain rather persistent over time. This upward trend would also indicate that in the observed firms more investments are made into CSR activities which has led the overall ESG score to reach higher levels. The standard deviation for ESG score has remained closely to the same level over the sample period.

Table 3 depicts unconditional correlation for the dependent, independent and control variables. Significance level is set at 5% and majority of the correlations indicate significance as the table illustrates.

Table 3. Pearson correlation matrix.

	ROA	Tobin's Q	ESG	ENV	SOC	GOV	BETA	DEBT	SIZE
ROA	1								
Tobin's Q	0,474*	1							
ESG	0,138*	0,038	1						
ENV	0,128*	0,037	0,868*	1					
SOC	0,199*	0,129*	0,904*	0,764*	1				
GOV	-0,020	-0,091*	0,654*	0,329*	0,383*	1			
BETA	-0,116*	-0,076*	-0,147*	-0,137*	-0,152*	-0,032	1		
DEBT	-0,191*	-0,305*	-0,130*	-0,141*	-0,119*	-0,070*	-0,005	1	
SIZE	0,091*	-0,050*	0,463*	0,384*	0,465*	0,235*	-0,024	0,050*	1

The highest correlations can be observed between ESG and its sub-components, a result that is quite self-evident. When it comes to financial performance, ROA and Tobin's Q are strongly positively correlated with each other as the coefficient is 0,474. Furthermore, looking at the correlation between CSR variables and financial performance, Tobin's Q is positively correlated with all CSR variables (ESG, ENV and SOC) besides the governance (GOV) factor. However, only SOC and GOV show statistically significant correlation with Tobin's Q. Similarly, ROA is positively and significantly correlated with all other ESG variables besides the governance (GOV) variable. These positive correlations are initial indicators that better CSR performance would lead to better financial performance, except for the governance aspect.

For control variables, both Beta and Debt are negatively correlated with both of the financial performance variables and the correlations are statistically significant as well. Further, looking at the ESG and its sub-components, Beta and Debt are negatively correlated with them as well. Only statistically insignificant correlation is between Beta and GOV. On the contrary, Size is positively correlated with ESG and its sub-components, and the coefficients are greater compared to Beta and Debt and their coefficients.

Whereas ROA and Size are slightly positively correlated, Tobin's Q on the other hand is negatively correlated with Size. Both of these correlations are significant on 5% level.

4.5 Methodology

This subchapter describes the methodology that is used to examine this study's main objective of value creation, that is the relationship between firm's ESG performance and financial performance. As the data has cross-sectional and time series elements, panel data approaches will be used to examine the data. Commonly used approaches for panel data are fixed effects model and random effects model. In order to decide which one of the models is more suitable for the purpose of this study, a Hausman test, also known as a specification test, is applied.

The Hausman test detects whether predictor variables in a regression model are endogenous. The null hypothesis is that the random effects model is the preferred or consistent one versus the alternative hypothesis, which states that the fixed effects model is consistent. The objective is to test whether the unique error terms are correlated with the regressors, and the null hypothesis states that they are not. Regarding the test results, if the p-value is significant (<0,05) the null hypothesis is rejected. (Hausman, 1978.) The results for the Hausman test are presented in table 4 below. The results suggest that in majority of the cases the random effects model is the preferred one to examine the relationships stated in the table. Only in three cases the p-value is significant hence the fixed effects model would be the consistent one. As can be later observed in the regression results tables, both models are represented for comparison purposes.

Table 4. Results for the Hausman test.

Analysed relationship	Chi-squared	p-value	Preferred model
ESG - ROA	20,33	0,0004	Fixed effects
ESG - Tobin's Q	6,90	0,1414	Random effects
ENV - ROA	10,58	0,0318	Fixed effects
ENV - Tobin's Q	6,84	0,1448	Random effects
SOC - ROA	20,52	0,0004	Fixed effects
SOC - Tobin's Q	7,00	0,1357	Random effects
GOV - ROA	1,52	0,8227	Random effects
GOV - Tobin's Q	7,78	0,0999	Random effects

Preferred model is decided by the Hausman test. The null hypothesis is that the random effects model is preferred. If p-value is less than 0,05 the null hypothesis is rejected, and the fixed effects model is chosen.

Following Nollet et al. (2016) to study the relationship between ESG performance and firm financial performance, the following regression models are applied:

$$ROA_{i,t} = \alpha + \beta_1 ESG_{i,t-1} + \beta_2 BETA_{i,t-1} + \beta_3 DEBT_{i,t-1} + \beta_4 SIZE_{i,t-1} + \beta_5 IND_{i,t} + \varepsilon_{i,t} \tag{1}$$

$$Tobin's\ Q_{i,t} = \alpha + \beta_1 ESG_{i,t-1} + \beta_2 BETA_{i,t-1} + \beta_3 DEBT_{i,t-1} + \beta_4 SIZE_{i,-1t} + \beta_5 IND_{i,t} + \varepsilon_{i,t} \tag{2}$$

Financial performance is studied in both market-based and accounting-based measures, that is Tobin's Q and ROA. These make up the dependent variables, where *i* denotes firm and *t* denotes year. ESG is an independent variable that captures firm's corporate social performance, and $BETA$, $DEBT$, $SIZE$, account for control variables, and IND is an industry dummy variable. As previous literature has shown (Choi & Wang, 2009), the impact of ESG activities does not transfer immediately into firm's financial performance. For that reason, the independent variables are lagged by one year. Hence, ESG scores in year *t-1* are compared with financial performance indicators in year *t,* starting from 2009 to 2019. The error term ε contains both independent idiosyncratic error term as well as unobserved firm specific characteristics. Also, year and firm fixed effects are applied. Additionally, the impact of each sub-component of ESG is analysed by replacing the independent variable ESG in the regression model with variables ENV, SOC and GOV.

5 Empirical results

In this chapter the relationship between ESG score and firm financial performance is tested and later the results are presented. First, ESG impact on ROA and on Tobin's Q is analysed, and later each sub-component of ESG and their impact on the financial performance is measured are analysed. The regressions results are presented in tables 5-8.

5.1 ESG impact on financial performance

To examine the impact of ESG rating on firm financial performance, three different models were applied. First a simple linear ordinary least squares model (OLS) is run, which does not incorporate any fixed effects. However, for more robust results it is beneficial to include both firm and year fixed effects, hence the fixed effects model (FE) is applied. For comparison purposes, random effects model (RE) is also applied as the Hausman test suggests that it is the preferred model for majority of the studied linkages. Table 5 presents the results from the models for the sample period of 2009-2019.

Table 5. Regression results on ESG impact on firm financial performance.

	OLS		FIXED EFFECTS		RANDOM EFFECTS	
Independent variables	**ROA**	**Tobin's Q**	**ROA**	**Tobin's Q**	**ROA**	**Tobin's Q**
ESG	0,061***	0,0037**	-0,1076***	0,0046*	-0,0035	0,0045**
	(0,0174)	(0,0020)	(0,0352)	(0,0025)	(0,0262)	(0,0023)
BETA	-1,3136***	-0,0023	-1,6864**	0,0313	-1,4491**	0,0244
	(0,4245)	(0,0463)	(0,6586)	(0,0461)	(0,5644)	(0,0447)
DEBT	-10,8959***	-1,8563***	-5,6022	-1,1555***	-5,5194**	-1,2536***
	(0,3574)	(0,1925)	(3,7347)	(0,2616)	(2,7493)	(0,2429)
SIZE	0,3574**	-0,0415**	0,5169	0,1157**	0,5341	0,0247
	(0,1815)	(0,0200)	(0,8226)	(0,0576)	(0,3271)	(0,0399)
Adj. R-squared	0,1	0,28	-0,1	-0,09	0,02	0,06
F-statistics	16	52,63	4,35	7,12	-	-
Chisq.	-	-	-	-	47,66	105,1
Observations	1696	1696	1575	1575	1575	1575

Industry dummies are controlled in the regressions. The standard errors are presented in parentheses below the corresponding correlation coefficients. Significance levels: p < 0,1*, p < 0,05**, p < 0,01***.

Table 5 shows the regression results for OLS, FE and RE models. The OLS model shows a positive relationship between ESG score and both financial performance measures ROA and Tobin's Q. The linkage is stronger between ESG and ROA as the coefficient is 0,0605 and statistically significant on 1% level, whereas for Tobin's Q the relationship is weaker and significant only on 5% level. However, the OLS model itself might be ineffective model for panel data, hence results of FE and RE models are presented in the following columns.

For the linkage between ESG and ROA the Hausman test suggested that the fixed effects model is more suitable. The results of the FE model suggest a negative relationship between ESG and ROA. The impact is somewhat strong as the coefficient is -0,1076 and significant on 1% level. This finding would indicate that from the accounting perspective it is not beneficial to invest into ESG activities, and further such investments would destroy shareholder value. The RE model also suggests negative relationship, although it is not statistically significant.

The relationship between ESG and Tobin’s Q is positive according to both FE and RE as the coefficients are 0,0046 and 0,0045 respectively. The Hausman test suggested the random effects model is consistent describing the relationship, and the results based on this model is statistically significant on 5% level whereas the FE model finds it significant only on 10% level. The coefficients as well as standard deviations are however almost the same for both models. This positive finding would suggest that investors value ESG activities which is reflected in higher market value.

5.2 Impact of ESG sub-components on financial performance

Next, each individual aspect of ESG is analyzed what kind of impact they have on financial performance and whether one is dominant over the others. Using the same models both market-based and accounting-based performance is measured. The following sub-chapters will discuss each aspect individually, that is the environmental, social and governance factors.

5.2.1 Environmental performance

The results regarding the relationship between corporate environmental and financial performance is presented in the table 6. For accounting-based performance results the Hausman test suggested the FE model to be more suitable for this relationship. The results from the FE model suggest a negative relationship as the coefficient is -0,0513. The finding is also statistically significant on 10% level. Considering the RE model, conversely to the FE model environmental performance seems to affect positively, although the finding is not statistically significant. When looking at the market-performance, measured in Tobin's Q, environmental performance positively affects corporate's market performance. Here the RE model is preferred, although both models suggest approximately as strong relationships. The coefficient from the RE model is 0,0056 and it is statistically significant on 1% level.

Table 6. Regression results on environmental and financial performance.

	OLS		**FIXED EFFECTS**		**RANDOM EFFECTS**	
Independent variables	**ROA**	**Tobin's Q**	**ROA**	**Tobin's Q**	**ROA**	**Tobin's Q**
ENV	0,0558***	0,0047***	-0,0513*	0,0057***	0,0210	0,0056***
	(0,0126)	(0,0014)	(0,0308)	(0,0022)	(0,0203)	(0,0019)
BETA	-1,2985***	-0,0009	-1,5908**	0,0240	-1,4580***	0,0179
	(0,4236)	(0,0462)	(0,6606)	(0,0461)	(0,5646)	(0,0446)
DEBT	-10,6903***	-1,8184***	-5,4573	-1,1439***	-5,1705*	-1,2368***
	(1,7622)	(0,1920)	(3,7443)	(0,2614)	(2,7520)	(0,2427)
SIZE	0,3504**	-0,0494***	0,2735	0,1081*	0,3910	0,0161
	(0,1728)	(0,0188)	(0,8230)	(0,0575)	(0,3201)	(0,0396)
Adj. R-squared	0,11	0,28	-0,11	-0,09	0,02	0,06
F-statistics	16,64	53,48	2,7	8,01	-	-
Chisq.	-	-	-	-	48,5	110,12
Observations	1736	1736	1575	1575	1575	1575

Industry dummies are controlled in the regressions. The standard errors are presented in parentheses below the corresponding correlation coefficients. Significance levels: p < 0,1*, p < 0,05**, p < 0,01***.

To conclude the results from table 6, corporate environmental performance impacts negatively on financial performance from accounting-based perspective, and conversely positively on market-based performance. Negative impact on accounting-based performance could be explained by corporate investments on environmental practices that are not profitable for the firm in the short term but cause only expenses. However, such investments can turn out to be profitable in the longer run if the firm is able to reduce its production costs, for instance. The positive relationship between environmental and market performance could be explained by investors' appreciation towards firm's improved environmental practices, hence the firm is valued higher.

5.2.2 Social performance

For the relationship between corporate social and financial performance the regression results are presented in table 7. Here the fixed effects model is the preferred one to observe results between variables SOC and ROA. For this relationship the FE model yields a negative coefficient, that is -0,0243. However, this finding is not statistically significant. The RE model would suggest a positive impact on ROA with a coefficient of 0,0399, but as this model is not preferred, this finding cannot be considered as reliable. Hence the results suggest that social performance does not have an impact on accounting-based performance. For market-based performance, both FE and RE model return coefficients that are almost the same. In this case, the RE model is preferred according to the Hausman test. A positive coefficient 0,0066 that is statistically significant on a 1% level is suggested by the RE model, meaning that social performance affects positively on corporate market performance.

Table 7. Regression results on social and financial performance.

	OLS		FIXED EFFECTS		RANDOM EFFECTS	
Independent variables	**ROA**	**Tobin's Q**	**ROA**	**Tobin's Q**	**ROA**	**Tobin's Q**
SOC	0,0844***	0,0087***	-0,0243	0,0063***	0,0399**	0,0066***
	(0,0147)	(0,0016)	(0,0249)	(0,0017)	(0,0202)	(0,0017)
BETA	-1,2362***	0,0061	-1,6626**	0,0355	-1,3947**	0,0291
	(0,4222)	(0,0459)	(0,6609)	(0,0460)	(0,5599)	(0,0445)
DEBT	-10,5957***	-1,7878***	-5,4157	-1,1157***	-4,9448*	-1,2139***
	(1,7504)	(0,1904)	(3,7502)	(0,2610)	(0,3129)	(0,2422)
SIZE	0,1686	-0,0744***	0,1631	0,0970*	0,2717	0,0056
	(0,1792)	(0,0195)	(0,8235)	(0,0573)	(0,3129)	(0,0394)
Adj. R-squared	0,11	0,29	-0,11	-0,09	0,03	0,06
F-statistics	17,77	55,4	2,24	9,61	-	-
Chisq.	-	-	-	-	54,71	118,54
Observations	1736	1736	1575	1575	1575	1575

Industry dummies are controlled in the regressions. The standard errors are presented in parentheses below the corresponding correlation coefficients. Significance levels: p < 0,1*, p < 0,05**, p < 0,01***.

5.2.3 Governance performance

This last sub-chapter discusses the findings of the governance aspect of ESG and its relationship with corporate financial performance. According to the Hausman test, both relationships between governance performance and accounting and market-based performance is best explained by the RE model. The results are presented in the table 8 below.

Table 8. Regression results on governance and financial performance.

	OLS		FIXED EFFECTS		RANDOM EFFECTS	
Independent variables	**ROA**	**Tobin's Q**	**ROA**	**Tobin's Q**	**ROA**	**Tobin's Q**
GOV	-0,0289**	-0,0055***	-0,0445**	-0,0027*	-0,0338*	-0,0029**
	(0,0123)	(0,0013)	(0,0217)	(0,0015)	(0,0175)	(0,0014)
BETA	-1,2716***	0,0069	-1,6864**	0,0265	-1,4506**	0,0203
	(0,4259)	(0,0461)	(0,6600)	(0,0462)	(0,5666)	(0,0447)
DEBT	-12,1760***	-1,985***	-5,1304	-1,1689***	-5,7397**	-1,2871***
	(1,7594)	(0,1906)	(3,7392)	(0,2615)	(2,7636)	(0,2425)
SIZE	0,7767***	-0,0028	0,1165	0,1437**	0,6189**	0,0056
	(0,1624)	(0,0176)	(0,8087)	(0,0566)	(0,3077)	(0,0383)
Adj. R-squared	0,09	0,28	-0,11	-0,09	0,02	0,06
F-statistics	15,43	54,04	3,06	6,97	-	-
Chisq.	-	-	-	-	49,39	106,253
Observations	1736	1736	1575	1575	1575	1575

Industry dummies are controlled in the regressions. The standard errors are presented in parentheses below the corresponding correlation coefficients. Significance levels: p < 0,1*, p < 0,05**, p < 0,01***.

As the table 8 shows, ROA is negatively affected by corporate governance performance, as the coefficient is -0,0338 and the finding is statistically significant on 10% level. The impact is stronger in the accounting-based performance compared to the market-based performance, although the impact on market-based performance is negative too. For Tobin’s Q the coefficient is -0,0029 and the finding is statistically significant on 5% level. To conclude, both aspects of financial performance seem to be negatively affected by corporate’s governance performance. This finding differs from the environmental and social performance in that no positive impact is suggested by the regression results, indicating that firms’ financial performance would only suffer from investments and actions in better corporate governance performance.

6 Conclusions

The empirical part of this thesis studied the relationship between company ESG performance and financial performance, attempting to answer the question whether being socially responsible is profitable and as such this thesis attempts answering which one of the two CSR theories is better at explaining value creation. A positive relationship between ESG performance and accounting based financial performance would suggest that the shareholder theory would better explain value creation for investors, whereas the stakeholder theory would be better at explaining value creation if the company ESG performance and market-based financial performance had a positive relationship. In other words, if investors appreciate corporations' socially responsible activities and take the ESG factor into consideration in investment decisions, they would value the corporation higher, which would lead into better market performance. As such, the stakeholder theory would be better at explaining the value creation. Further, this thesis also studies the individual sub-components of ESG to see which one of the sub-components contributes the most to corporation's financial performance. Assumptions regarding the results were made based on the previous literature although this field of research is scattered, and no consensus has been addressed thus far.

For the relationship between accounting-based financial performance and ESG performance the panel regression results suggest that there is a negative relationship. This finding would suggest that it is not profitable for the company to invest into ESG activities as it would destroy shareholder value. Similar results are found in the previous literature, although it has been addressed that negative impact on accounting based financial performance could only be short-term and self-correcting as investments into ESG activities do not transfer into positive financial performance immediately. Such an explanation is reasonbale given the fact that transforming business operations for instance into more environmentally friendly require time and big investments that might become profitable for the company in the long-term. Overall, the negative relationship between ESG and accounting based performance does not support value creation explained by the shareholder theory or the stakeholder theory.

On the other hand, the impact of ESG performance on market-based financial performance is found to be positive. A positive relationship between the two means that corporations that are more socially responsible i.e., have a higher ESG score, also have a higher market value. Hence, it would indicate that investors appreciate corporations' actions toward socially responsible business operations and that in their investment decisions they care about other factors as well besides firm's accounting performance. This would suggest that the stakeholder theory is better at explaining the value creation for investors in the Nordic countries, meaning that when companies consider broader objectives besides profit maximization it is of higher value for investors. As such the results answer the first research question of this thesis, although only market-based financial performance is positively impacted by ESG performance, hence the first hypothesis of this thesis does not apply here fully. Further, the second research question can be answered regarding which theory is better at explaining value creation. Based on the results it is suggested that the stakeholder theory is better at explaining value creation, so the second hypothesis applies in this case.

The third research question of this thesis was assessing how the three sub-components of ESG impact firm financial performance. For the individual sub-components, the results suggest that environmental and social performance would negatively affect the accounting based financial performance, whereas the impact on market performance is positive, although quite weak. The corporate governance performance is the only one suggesting negative impact on both aspects of financial performance. This finding is contradictory to findings from previous literature that suggest the governance performance having a positive impact on firm financial performance. A positive linkage would be expected considering the importance of good governance on firm overall performance. Of the three sub-components the environmental performance has the strongest yet negative impact on accounting-based financial performance whereas the social performance has the strongest impact on market performance, and it is positive. With these results the third hypothesis does not hold as the three sub-components have different impacts on financial performance, that is not all of them have a positive impact.

Further, the fourth hypothesis does not hold as the governance performance does not have the strongest impact and the impact is found to be negative.

The findings of this thesis follow the previous literature in that no unambiguous conclusions can be drawn to determine whether it pays off being socially responsible. The findings do however provide a perspective on what investors value in their investment decision process, as the governance performance is the only one showing a negative relationship with companies' market performance. While investors are more demanding on corporations to become more sustainable and the constantly evolving regulation sets requirements for corporations to do so, it might not be very long a decision for companies to whether becoming more socially responsible but rather how. Given the current global issues such as the climate change it requires corporations to shift toward more sustainable practices, as business as usual will no longer be an option hence it is not only the investors corporations should try to please by pursuing corporate social responsibility but to secure their own future in a changing world.

Future research could study the causality between ESG performance and firm financial performance, as this thesis does not cover the question on causality and thus the results cannot be interpreted as straightforwardly, that is better ESG performance does not directly cause better market performance, for instance. Further, more control variables such as the R&D intensity could be added into the regression models when more data is available. As the regulation regarding corporations' sustainability disclosure develops and it becomes more standardised, possibly a better perspective on corporations' social responsibility is available. Hence, as the data would be more comprehensive in both quantitative and qualitative terms, a similar study to this could be conducted. Although, some years need to pass so that such company disclosure is available.

REFERENCES

Amel-Zadeh, A., & Serafeim, G. (2018). Why and how investors use ESG information: Evidence from a global survey. *Financial Analysts Journal*, 74(3), 87-103. https://doi.org/10.2469/faj.v74.n3.2

Aras, G., Aybars, A., & Kutlu, O. (2010). Managing corporate performance: Investigating the relationship between corporate social responsibility and financial performance in emerging markets. *International Journal of Productivity and Performance Management, 59*(3), 229-254. https://doi.org/10.1108/17410401011023573

Belyaeva, Z., Shams, S. R., Santoro, G., & Grandhi, B. (2020). Unpacking stakeholder relationship management in the public and private sectors: the comparative insights. *EuroMed Journal of Business*, 15(3), 269-281. https://doi.org/10.1108/EMJB-06-2019-0085

Brown, W. O., Helland, E., & Smith, J. K. (2006). Corporate philanthropic practices. *Journal of Corporate Finance*, *12*(5), 855-877. https://doi.org/10.1016/j.jcorpfin.2006.02.001

Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *Academy of Management Review*, 4(4), 497-505. https://doi.org/10.5465/amr.1979.4498296

Choi, J., & Wang, H. (2009). Stakeholder relations and the persistence of corporate financial performance. *Strategic Management Journal*, 30(8), 895-907. https://doi.org/10.1002/smj.759

Corporate Knights. (n.d.). Global 100. Retrieved February 19, 2022, from https://www.corporateknights.com/rankings/global-100-rankings/

Di Giuli, A., & Kostovetsky, L. (2014). Are red or blue companies more likely to go green? Politics and corporate social responsibility. *Journal of Financial Economics*, 111(1), 158-180. https://doi.org/10.1016/j.jfineco.2013.10.002

Dowell, G., Hart, S., & Yeung, B. (2000). Do corporate global environmental standards create or destroy market value? *Management Science*, *46*(8), 1059-1074. https://doi.org/10.1287/mnsc.46.8.1059.12030

Epstein, M. J., Elkington, J., & Herman, B. (2018). *Making sustainability work: Best practices in managing and measuring corporate social, environmental and economic impacts*. Routledge.

European Commission. (n.d.) *EU Taxonomy for sustainable activities.* European Commission. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en

Eurosif. (2018). *European SRI study 2018*. Retrieved April 20, 2021, from https://www.eurosif.org/wp-content/uploads/2021/10/European-SRI-2018-Study.pdf

Fischer, T. M., & Sawczyn, A. A. (2013). The relationship between corporate social performance and corporate financial performance and the role of innovation: Evidence from German listed firms. *Journal of Management Control*, 24(1), 27-52. http://dx.doi.org/10.1007/s00187-013-0171-5

Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210-233. https://doi.org/10.1080/20430795.2015.1118917

Friedman, M. (1970, September 13). The social responsibility of business is to increase its profits. *New York Times Magazine,* 32:13, 122-126.

Freeman, E. R. (1984). *Strategic management: A stakeholder approach.* Pitman.

Garriga, E., & Melé, D. (2004). Corporate social responsibility theories: Mapping the territory. *Journal of Business Ethics*, 53(1), 51-71. https://doi.org/10.1023/B:BUSI.0000039399.90587.34

GSIA. (2018). *Global sustainable investment review 2018*. http://www.gsi-alliance.org/wp-content/uploads/2019/06/GSIR_Review2018F.pdf

Han, J. J., Kim, H. J., & Yu, J. (2016). Empirical study on relationship between corporate social responsibility and financial performance in Korea. *Asian Journal of Sustainability and Social Responsibility*, 1(1), 61-76. https://doi.org/10.1186/s41180-016-0002-3

Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica: Journal of the Econometric Society*, 1251-1271. https://doi.org/10.2307/1913827

Haynes, K., Murray, A., & Dillard, J. (2012). *Corporate Social Responsibility: A Research Handbook*. Taylor and Francis.

Ho, V. H. (2015). Risk-related activism: The business case for monitoring nonfinancial risk. *Journal of Corporate Law*, 41(3), 647-705.

Jones, T. M., & Wicks, A. C. (1999). Convergent stakeholder theory. *Academy of Management Review*, 24(2), 206-221. https://doi.org/10.5465/amr.1999.1893929

López, M. V., Garcia, A., & Rodriguez, L. (2007). Sustainable development and corporate performance: A study based on the Dow Jones sustainability index. *Journal of Business Ethics*, 75(3), 285-300. https://doi.org/10.1007/s10551-006-9253-8

Majumdar, S. K., & Marcus, A. A. (2001). Rules versus discretion: The productivity consequences of flexible regulation. *Academy of Management Journal*, 44(1), 170-179.

Mansell, S. F. (2013). *Capitalism, corporations and the social contract: A critique of stakeholder theory*. Cambridge University Press. https://doi.org/10.1017/CBO9781139058926

Margolis, J. D., Elfenbein, H. A., & Walsh, J. P. (2007). Does it pay to be good? A meta-analysis and redirection of research on the relationship between corporate social and financial performance. *Ann Arbor*, 1001(48109-1234), 1-68.

McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, *26*(1), 117-127. https://doi.org/10.5465/amr.2001.4011987

MSCI. (2022). *The Global industry classification standard*. https://www.msci.com/our-solutions/indexes/gics

Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of Management Review*, 22(4), 853-886. https://doi.org/10.5465/amr.1997.9711022105

Nirino, N., Santoro, G., Miglietta, N., & Quaglia, R. (2021). Corporate controversies and company's financial performance: Exploring the moderating role of ESG practices.

Technological Forecasting and Social Change, 162, 120341. https://doi.org/10.1016/j.techfore.2020.120341

Nollet, J., Filis, G., & Mitrokostas, E. (2016). Corporate social responsibility and financial performance: A non-linear and disaggregated approach. *Economic Modelling*, 52, 400-407. https://doi.org/10.1016/j.econmod.2015.09.019

Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies*, 24(3), 403-441. https://doi.org/10.1177/0170840603024003910

PRI. (2020a). *PRI brochure 2020*. [Brochure]. https://www.unpri.org/download?ac=10948

PRI. (2021). *About the PRI*. Retrieved April 4, 2021, from https://www.unpri.org/pri/about-the-pri

PRI. (2021a). *Annual report*. Retrieved November 1, 2021, from https://www.unpri.org/annual-report-2021

RDocumentation. (n.d.). Winsorize: Winsorize (Replace Extreme Values by Less Extreme Ones). Retrieved April 20, 2022, from https://www.rdocumentation.org/packages/DescTools/versions/0.99.44/topics/Winsorize

Refinitiv. (2021). Environmental, social and governance (ESG) scores from Refinitiv. Retrieved November 6, 2021, from https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf

Rodgers, W., Choy, H. L., & Guiral, A. (2013). Do investors value a firm's commitment to social activities? *Journal of Business Ethics*, *114*(4), 607-623. https://doi.org/10.1007/s10551-013-1707-1

Robeco. (n.d.). *Country sustainability rating*. Retrieved January 18, 2022, from https://www.robeco.com/en/key-strengths/sustainable-investing/country-ranking/

Russo, M. V., & Fouts, P. A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal*, *40*(3), 534-559. https://doi.org/10.5465/257052

Salama, A. (2005). A note on the impact of environmental performance on financial performance. *Structural Change and Economic Dynamics*, 16(3), 413-421. https://doi.org/10.1016/j.strueco.2004.04.005

SDG Index. (2021). Sustainable Development Report. Retrieved February 19, 2022, from https://s3.amazonaws.com/sustainabledevelopment.report/2021/2021-sustainable-development-report.pdf

Sternberg, E. (2004). *Corporate governance: Accountability in the marketplace* (2nd ed.). Institute of Economic Affairs.

UNGC. (2021a). *The ten principles of the UN global compact.* Retrieved April 4, 2021, from https://www.unglobalcompact.org/what-is-gc/mission/principles

UNGC. (2021b). *Our mission*. Retrieved April 4, 2021, from https://www.unglobalcompact.org/what-is-gc/mission

Unruh, G., Kiron, D., Kruschwitz, N., Reeves, M., Rubel, H., & Zum Felde, A. M. (2016). Investing for a sustainable future: Investors care more about sustainability than many executives believe. *MIT Sloan Management Review*, 57(4).

Velte, P. (2017). Does ESG performance have an impact on financial performance? Evidence from Germany. *Journal of Global Responsibility*, 8(2), 169-178. https://doi.org/10.1108/JGR-11-2016-0029

Waddock, S. A., & Graves, S. B. (1997). The corporate social performance–financial performance link. *Strategic Management Journal*, 18(4), 303-319. https://doi.org/10.1002/(SICI)1097-0266(199704)18:4<303::AID-SMJ869>3.0.CO;2-G

Wijnberg, N. M. (2000). Normative stakeholder theory and Aristotle: The link between ethics and politics. *Journal of Business Ethics*, 25, 329-343. https://doi.org/10.1023/A:1006086226794

Wood, D. J. (1991). Corporate social performance revisited. *Academy of Management Review*, *16*(4), 691-718. https://doi.org/10.5465/amr.1991.4279616