

Frida Børset Kammen
Håvard Alsvik Wikan

Investigating ESG: A Scandinavian evidence.

- A study on corporate financial performance, the moderating role of assurance, and ESG integration.

Master's thesis in Economics and Business Administration
Supervisor: Khine Kyaw and Rita Almaas Valstad

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Norwegian University of Science and Technology
Faculty of Economics and Management
NTNU Business School



Kunnskap for en bedre verden

Preface

This thesis is written in joint effort by two students majoring in Strategy, Organization & Management (SOL) and Finance & Investing (FIN). It is the final product of a master's degree in Economics and Business Administration at NTNU Business School. The thesis is written during the spring semester 2021 and is awarded with 30 credit points. This work has given us valuable insight into the relationship between ESG and Corporate Financial Performance (CFP), and ESG integration among institutional investors. We have therefore been able to dive deeper into important topics for both SOL and FIN, such as corporate responsibility and sustainability. The choice of topic is motivated by our personal interests.

First, we would like to thank our supervisors, Khine Kyaw and Rita Almaas Valstad, for their valuable feedback and support throughout this semester. We would also like to thank Sondre and Silje in SKAGEN Fondene, for inspiring us during the development of our research questions and providing valuable feedback and insight along the way. Lastly, we would like to thank all companies who participated in our survey that gave us precious feedback and inspiration.

The authors take full responsibility for the content of this thesis.

Trondheim 27.05.2021

Frida Børset Kammen

Håvard Alsvik Wikan

Abstract

The growing concern for sustainability and complexity in today's ESG reporting raise several questions. This master thesis involves two studies in the Scandinavian context, where we first examine the relationship between ESG performance (ESGP) and corporate financial performance (CFP), and if the link is moderated by an external audit of the ESG report. Secondly, we investigate how asset managers integrate and consider ESG reporting. The purpose is to highlight the implications our findings have for strategic management and investors decision making. We mainly apply stakeholder and sustainable finance theory as the theoretical framework.

We investigate the relationship between ESGP and CFP through panel data regression models, with regards to both market- and accounting-based CFP measures. Data is collected through Refinitiv Eikon, and the sample consists of 113 Scandinavian listed companies in the period 2009-2019. Our results show a significant positive linear relationship between ESGP and market-based CFP, and a significant U-shaped relationship between ESGP and accounting-based CFP. The findings remain constant after several robustness tests. Our results implicate that good ESGP enhances firm value, and that the long run ESGP effects are positive for accounting-based CFP as well. This suggests that management should assign long term-planning and a considerable amount of resources to ESG. As for investors, they should recognize the opportunities that comes along ESG and integrate it in investment decisions. We find no significant moderating effect of an external audit. This implicates that management should reevaluate the expenditures with such assurance, and that it does not add value to shareholders if their interests are purely financial.

Through our survey, we find that the majority of Scandinavian asset managers considers externally audited ESG reports as more reliable compared to non-audited reports. This implicates that the expenditures of an external audit can be necessary to obtain a successful stakeholder management. The results show that the majority integrate ESG systematically and use different investment strategies. Scandinavian asset managers find disclosure on all E, S and G factors to be important, which implicates that management need to focus on all aspects of ESG. This thesis highlights the importance of ESG reporting, effective stakeholder management and prominent ESG strategies among Scandinavian companies and investors. This can lead to increased long-term value creation for the company and its stakeholders.

Sammendrag

Det økte fokuset på bærekraft samt kompleksiteten i dagens ESG rapportering setter en rekke problemstillinger på agendaen. Denne masteroppgaven tar for seg to studier i en Skandinavisk kontekst, hvor vi først undersøker forholdet mellom ESG prestasjon (ESGP) og finansiell prestasjon (FP), og hvorvidt forholdet modereres av en ekstern revisjon av ESG rapporten. Deretter undersøker vi hvordan kapitalforvaltere integrerer og vurderer ESG rapportering. Formålet er å fremheve hvilke implikasjoner funnene har for strategisk ledelse og investorers beslutningstaking. Vi anvender hovedsakelig interessenteori og sustainable finance som teoretiske rammeverk.

Vi undersøker sammenhengen mellom ESGP og FP ved bruk av panel data regresjoner, med hensyn til både markeds- og regnskapsbasert FP. Data er hentet fra Refinitiv Eikon, og utvalget består av 113 Skandinaviske børsnoterte selskap i perioden 2009-2019. Resultatene viser en signifikant positiv og lineær sammenheng mellom ESGP og markedsbasert FP, og en signifikant U-formet sammenheng mellom ESGP og regnskapsbasert FP. Funnene antyder at god ESGP fører til økt verdsettelse, og at de langsiktige effektene av ESGP også er positiv for regnskapsbasert FP. Øvrige tester bekrefter at resultatene er robust. Dette impliserer at ledelsen bør integrere ESG som en langsiktig strategi og allokere tilstrekkelig med ressurser. Når det gjelder investorer, bør de anerkjenne mulighetene som følger med ESG, og integrere det i investeringsbeslutninger. Vi finner ingen signifikant modererende effekt av en ekstern revisjon. Dette impliserer at ledelsen bør revurdere de assosierte kostnadene, og at det ikke tilfører verdi til aksjonærene i form av profitt.

Gjennom spørreundersøkelsen finner vi at Skandinaviske forvaltere vurderer eksternt reviderte ESG rapporter som mer pålitelige enn ikke-reviderte rapporter. Dette impliserer at kostnadene med en ekstern revisjon kan være nødvendig for å sikre en vellykket interessentledelse. Resultatene viser at de fleste forvaltere integrerer ESG systematisk og bruker forskjellige investeringsstrategier. De anser at formidling av samtlige E, S og G faktorer er viktig, som impliserer at ledelsen bør fokusere på alle aspekter ved ESG. Denne masteroppgaven understreker betydningen av ESG rapportering, effektiv interessentledelse og bevisste ESG strategier blant Skandinaviske selskap og investorer. Dette kan lede til økt langsiktig verdiskapning for bedriften og deres interessenter.

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List of abbreviations

AM – Asset manager(s)

AUM – Assets under management

CFP – Corporate Financial Performance, relates to a firm's financials and is in this study measured by accounting-based and market-based financial performance.

CS – Corporate Sustainability

CSR – Corporate Social Responsibility

CSS – Corporate Sustainability Systems, relates to all systems and providers of different ESG scores.

ESGP – Environmental, Social and Governance Performance, which is measured by the ESGC score (ESG Combined Score by Refinitiv Eikon) in this study and is treated as a proxy for a company's sustainability performance.

FE – Fixed Effects Model

GRI – Global Reporting Initiative

IV – Instrumental variable

MWU – Mann-Whitney U test

POLS – Pooled Ordinary Least Squares Model

RE – Random Effects Model

RI – Responsible Investing

ROA – Return on Assets, relates to accounting-based financial performance in this study.

Scandinavian countries – Throughout this thesis we refer to the Scandinavian countries as Norway, Sweden and Denmark.

SF – Sustainable Finance

Tobin's Q –Valuation of the company, relates to market-based financial performance in this study.

UNGC – United Nations Global Compact

UNPRI – United Nations Principles for Responsible Investing

SDG – Sustainable Development Goals

2SLS – Two stage least squares model

Chapter 1. Introduction

This chapter will provide insight to the background of the chosen topic. Further it will address the purpose of the thesis with respective research questions. Lastly the contribution and overview of the study will be presented.

1.1 Problem background

Corporate Sustainability (CS) and Corporate Social Responsibility (CSR) have gained increased attention in the last decade because of climate change, oppression of human rights and corruption. The terms are widely used even though they have no standard definition, and appear rather ambiguous (Dahlsrud, 2008). We refer to CSR and CS as “*company activities – voluntary by definition – demonstrating the inclusion of social and environmental [and governance] concerns in business operations and in interactions with stakeholders*” (Van Marrewijk, 2003, p. 102). We therefore treat CS and CSR interchangeably. The increased focus on CSR after the financial crisis has led to the public putting pressure on corporations and financial institutions to address sustainability issues and report non-financial information (Daub, 2007; Boerner, 2007). For example, the Paris Agreement is one of the most well-known measures to deal with global warming and was initiated by United Nations. In recent years the European Commission has also initiated several directives to enhance firms CSR. This was motivated by change from a short-term shareholder view to a sustainable management strategy that combines the interests of various stakeholders. A successful stakeholder management is argued to lead to better environmental, social and governance performance (ESGP) which seems to be connected with future corporate financial performance (CFP) (Velte, 2017; Clark et al., 2015). Environmental, Social and Governance (ESG) is a term that was introduced in the financial markets for investors to address the sustainability and responsibility of companies, and has become commonly used in the research field of CSR. ESG can therefore be considered as an extension and renewal of the CSR term (Clark & Viehs, 2014). ESG performance is commonly used to measure a company’s sustainability performance due to its quantitative approach to non-financial data. Previous studies also show that ESG disclosure is related to actual sustainability performance (Papoutsi & Sodhi, 2020; Alsayegh et al., 2020; Hummel & Schlick, 2016). We therefore treat ESGP as a measurement of the firms CS and assume ESGP relates to actual sustainability performance. The term CFP can be defined as “*the extent to which a company achieves its economic goals*” and can be measured by both accounting-based and market-based measures (Orlitzky et al., 2003, p. 411). The issue of sustainability performance's

effect on financial performance is widely studied in the literature. Previous meta studies mainly indicate a positive link or at least a non-negative link between ESGP and CFP (Orlitzky et al., 2003; Friede et al., 2015; Clark et al., 2015; Vishwanathan et al., 2020). This suggest that a company is creating value for its investors and other stakeholders through ESG activities. These findings support that CSR can be justified strategically, and thus is an important part of strategic management (Vishwanatahn et al., 2020).

This thesis will focus on the Scandinavian countries (Norway, Sweden and Denmark) that are considered sustainability leaders, in contrast to the US and the majority of Europe who are lagging a bit behind (Gjølberg, 2009). Scandinavians share many similarities, such as language, low levels of corruption, and cultural homogeneity (Hebb et al., 2016). Their culture is considered to be very feminine, where social and gender roles overlap, and conflict is handled through negotiation and cooperation (Strand et al., 2015). The countries have been in and out of unions throughout history, and the political system is a social democracy with high taxes, low trade barriers, good welfare systems and small wage gaps. In terms of ESG, they are more active in promoting ESG compared to Central Europe, and they were among the first countries to introduce regulatory frameworks (Hebb et al., 2016). The Scandinavian fund AktieAnsvar was a pioneer with the first ever ethical fund available for the public in 1965 and was driven by people's religious beliefs. Later on, the ESG investing movement was driven by influential events such as H&M and their controversial use of child labor, mainstream adoption by large institutions as well as legal and public pressure (Bengtsson, 2008). Scandinavian companies have become required by legislation from both EU directives and authorities to report non-financial information (Strand et al., 2015). However, they have a lot of flexibility regarding how they report it (Jackson et al., 2020; La Torre et al., 2018). The lack of a common international standard in reporting has made it difficult for stakeholders, and investors in particular, to assess and compare companies with regards to their ESG performance (European Commission, 2020). Also, the ESG scores and ESG data provided by externals are based on public information disclosed by companies and evaluations based on complex questionnaires (Del Giudice & Rigamonti, 2020; Escrig-Olmedo et al., 2010). Since there is no common standard for the reporting, it is somewhat up to the company to decide what is going to be reported, except for what is mandatory by law (La Torre et al., 2018). It is also up to the company to decide whether they want to pay for an independent verification of the report, which is in contrast to the financial statements where an audit is mandatory by law. Previous studies indicate that assurance of sustainability information provides credibility and reliability to the

report, which enhance trust for users (Kolk & Perego, 2010; Carrington, 2019; Farooq & De Villiers, 2017). In addition to being voluntary, there is no audit standard for the reported data, and audit firms are still in the early phase of processing the data (Eccles et al., 2014).

Even though ESG is a global concept, it has national differences. In the US, the outspring and development of sustainability practices was largely driven by businesses and philanthropy, while the government has played a greater role in Europe (Maignan & Ralston, 2002). Since governments are more in favor of redistribution, firms that engage in ESG are rewarded with political and administrative advantages (Steurer, 2010). US companies are therefore more subject to self-regulation and concerned about making ESG an extension of their own business model, while it serves public causes to a greater extent through stronger regulation in Europe. The US is also characterized as a more masculine culture where aggressive competition is considered as positive, with a greater focus on sustainability disclosure than Scandinavia. There are however differences within Europe, such as the UK and Germany being more masculine and productive-oriented such as the US (Strand et al., 2015; Maignan & Ralston, 2002).

Institutional investors are also pressured by legislation to take part towards a more sustainable economy. In 2018 the European Commission presented an action plan for sustainable finance which proposed that financial institutions should classify their economic activities (EU taxonomy) and improve disclosures regarding integration of ESG factors in decision making (European Commission, 2018). Investors are the vehicles that connect companies and sustainability through capital allocation, which is why ESG is particularly aimed at investors. CEO of the international investment bank Blackrock, Larry Fink, claims that ESG integration is material to long-term value creation. He believes capital will shift towards companies that better address climate risks in the future and that a successful transition requires innovation, leadership, coordination, support by government and partnerships with the private sector (Blackrock, 2021). This trend can be observed in numbers, as the amount of sustainable assets under management worldwide has increased with 34% since 2016 (GISA, 2018). Sustainable assets are a rather subjective term in this setting, and refers to assets being managed by a responsible investing strategy which, will be presented in Chapter 2. When the EU taxonomy enters into force in 2023, all financial institutions will be committed to classify and inform stakeholders about their sustainable activities. Therefore, the need for good quality ESG reporting is essential for institutional investors, where increased quality could be obtained through an independent verification. Assurance is important for companies, who can reduce

reputational or legal risks, and investors who get more reliable information (Farooq & De Villiers, 2017). A report by KPMG (2020) states that there has been an increase in companies who publish a sustainability report and the request for assurance have more than doubled during the last 15 years. Today, 71% of the world's largest companies' sustainability reports are assured by a third-party.

1.2 Problem discussion

The increased focus on sustainability among corporations, as well as investors and the society at large, makes room for questions about how sustainability efforts can create value, and for whom. Since sustainability reporting has gained a lot of attention through the recent years, the question of whether assurance of reporting can enhance value. This makes it interesting to investigate whether the efforts put down by companies to obtain an independent verification of the ESG report is affecting financial performance. In addition, the complexity of today's reporting framework makes it interesting to investigate how primary users of ESG information consider these problems.

1.2.1 Measuring sustainability is complex

Assessing and measuring the sustainability performance of a company is a difficult and complicated task. This due to sustainability being an ill-defined term with 17 dimensions, according to the Sustainable Development Goals (SDG) (Barbier & Burgess, 2017). The complexity of the sustainability term refers to the choice of criteria, how to quantify it, and how to judge whether the criteria have been met (Del Giudice & Rigamonti, 2020). Since regulation and the financial market is pushing the development of sustainable investments, there has developed several Corporate Sustainability Systems (CSS) to evaluate the sustainability performance of a company (Diez-Cañamero et al., 2020). One of the most used metrics are ESG scores. As of today, there is no clear and common method for calculating an ESG score, and there is no explicit standard for what is to be included in the E, S and G factors (Diez-Cañamero et al., 2020). Different rating agencies show little transparency regarding their methodology (Walter, 2019). Gibson et al. (2019) found that the average correlation between rating providers were 0.45, implying that they reach different conclusions. However, the biggest agencies do have moderate correlations between their scores. What constitutes an acceptable ESG score is therefore subjective to the raters' opinions. As previously mentioned, the ESG report issued by a company is the primary source of information used by the rating agencies (Del Giudice &

Rigamonti, 2020). Therefore, the quality of the ESG report is crucial for an accurate ESG assessment. An audit of the report can provide more accuracy and reliability of the information, which again can provide more accurate and reliable measures of the ESG score (Del Giudice & Rigamonti, 2020; Farooq & De Villiers, 2017).

There are numerous different rating providers in CSR. For example RobecoSAM, MSCI, Refinitiv Eikon, Sustainalytics and Bloomberg all provide ESG scores. RobecoSAM provides a country sustainability ranking that analyzes national ESG performance (RobecoSAM, 2021). Bloomberg provides an ESG disclosure score, which is a scoring based on the company's level of sustainability reporting and disclosure (Bloomberg, 2021). Providers such as Refinitiv Eikon have scores measuring how well companies perform on environmental, social and governance factors. Even though rating agencies have received criticism for their methods, ESG ratings are still the most common measurement of a company's sustainability performance in the literature. This thesis use the ESG Combined score (ESGC) provided by Refinitiv Eikon, and section 3.3.1 provides a more detailed explanation of what the score measures. This is important in terms of evaluating the practical implications of our study.

1.2.2 Reporting on sustainability is complex

The EU Directive on non-financial reporting (NFRD) entered into force in 2017 and required all EU countries to report non-financial information. The Directive is flexible in terms of how it should be transferred into local context by authorities. Thus, the Directive did not come with particular guidance regarding what reporting frameworks and guidelines should be used (La Torre et al., 2018). We highlight that all listed companies in the Scandinavian countries are affected by legislation requiring them to report non-financial information. The lack of standards has made it difficult for investors and other stakeholders to assess ESG information. A report from the European Commission (2020) concerning a review of the NFRD, states that the users of non-financial information find the information reported to be deficient in forms of comparability (71%), reliability (60%) and relevance (57%). Also, companies who prepared the non-financial information stated that the complexity of the current situation and deciding what information to report were significant problems (European Commission, 2020). This problem relates to there being over 30 different international frameworks for sustainability reporting (La Torre et al., 2018). The most commonly used guidelines and frameworks by Scandinavian companies are provided by the UN Global Compact (UNGC) and Global Reporting Initiative

(GRI). These are both voluntary initiatives pursuing to help companies disclose information regarding their ESG activities. As for the financial institutions, the UN Principles for Responsible Investments (UNPRI) provides guidelines. Contrary to the UNGC and GRI they focus on encouraging investors to invest in sustainable companies. This discussion highlights the importance of ESG issues for both corporate management and professional investors. Therefore, this thesis wishes to investigate the field of ESG from two perspectives.

1.3 Purpose of the study and research questions

The first purpose of this thesis is to investigate the relationship between ESGP and CFP of Scandinavian listed companies. We use one-year lagged variables of CFP, to be able to evaluate the impact of ESGP on CFP, which is in line with Velte (2017), Choi & Wang (2009) and Scholtens (2008). We want to investigate the effect of ESGP on both accounting-based measures that relates to operational performance, and market-based measures which relates to the stock market. Furthermore, we look deeper into the relationship and investigate if an external audit of the ESG report can act as a moderator. This is based on an assumption that an external audit may increase the quality of the ESG report, which can improve legitimacy and stakeholder communication (Farooq & De Villiers, 2017; Omran & Ramdhony, 2015). The purpose is to examine whether ESG activities creates value for the company and its stakeholders, and if the value creation is enhanced through obtaining an external audit of the ESG report. This purpose relates to which of the stakeholder and shareholder theory better explains value creation. The first purpose allows us to find out whether ESGP has financial effects, but it does not provide a deeper understanding of how and why investors integrate ESG, and the challenges related. The second purpose is therefore to investigate how asset managers (AM) use ESG information, as well as their considerations in terms of ESG reporting. Our second purpose is based on the problems around ESG reporting, measuring and assurance discussed above. The current situation is complex and lacks standardization and regulation, even in well developed countries and economies such as Scandinavia. Since AM constitutes the biggest proportion of the responsible investments made (Scholtens, 2014), and considering that they are being pressured to integrate ESG, it is interesting to look further into.

We have limited our study to concern Scandinavian listed companies and asset managers. This due to Scandinavian countries being considered as sustainability leaders (Gjølberg, 2009), which differentiates our findings compared to studies in US and other EU countries. In addition,

there are limited previous studies examining the relationship between ESGP and CFP in the Scandinavian context. This study provides evidence from stakeholder-oriented countries where corporate advantage is achieved through cooperation rather than harsh competition, in comparison to the US and several European countries (Strand et al., 2015). It is not the purpose that the findings of this study should be generalized, because the ESGP and CFP link has proven to vary between and within continents. (Friede et al., 2015; Li et al., 2018; Velte, 2017). This also accounts for the findings from our study on Scandinavian asset managers. The study is limited to the Scandinavian universe, and we encourage the readers to draw their own conclusions.

We highlight the fact that several of the asset managing companies have significant shares in the listed companies in our first study. Thus, their opinions can be considered as a great representation of the shareholders. The three research questions are therefore connected to each other, in a way that RQ1 & 2 investigate how ESG affects financial performance, while RQ3 provides a deeper understanding into why and how ESG information is used, in addition to addressing the challenges. RQ3 give a further explanation to how an external audit is valued and assessed by professional investors as a primary stakeholder group, which can be aligned with the findings from RQ2. This can be summarized in the following research questions, where RQ1 & 2 constitutes the first purpose and RQ3 constitutes the second purpose:

Research questions

RQ1: *“Does ESGP have an effect on CFP for Scandinavian listed companies?”*

RQ2: *“Does an external audit of the ESG report moderate the relationship between ESGP and CFP for Scandinavian listed companies?”*

RQ3: *“How does Scandinavian asset managers use and consider ESG information?”*

1.4 Contribution to the field

The field of sustainability reporting, measures and investments are important for strategic management, investors and authorities in the process of achieving sustainable development. Even though much has been investigated regarding the relationship between ESGP and CFP, we contribute to the existing literature by further investigating the moderating effect of external audit. This is an interesting question for both managers, who have expenses associated with an

external audit, and investors who rely on ESG information from reports in their investments. Previous literature find that audit of financial information increases quality, and we assume the same is expected with non-financial information (Moroney et al., 2012). Therefore, this research will contribute with new insight on whether an external audit is valuable to the company and investors. This thesis contributes by explaining which of the stakeholder and shareholder theory better explain value creation in the Scandinavian context. Previous studies concerning the link between ESGP and CFP are primarily focused on North America and Europe at large, and the Scandinavian context needs maturity. We also study a time period from 2009 to 2019, which is believed to be sufficient to capture the long-term effect of ESGP on CFP. Our study contributes with insight in how ESG information is used and considered among asset managers in Scandinavia, which is important for strategic management. Our results provide a better understanding of the behavior among investors in the field and contributes to sustainable finance theory. This thesis has both theoretical contributions and practical implications for strategic management, investors as well as authorities.

1.5 Overview of the study

In Chapter 2 we will present theory and empirical literature that is relevant to analyze the research questions. We have focused on stakeholder theory and sustainable finance theory in addition to presenting literature that focus on the relationship between ESGP-CFP, sustainability assurance and how ESG information is used and assessed. In Chapter 3 we will discuss the research method and design for our two studies. We have applied different methodical approaches which will be thoroughly explained. We will also discuss the validity and reliability of our results. In Chapter 4 we present the empirical results from our studies. In Chapter 5 we will analyze the results in light of theory and previous findings and discuss what implications they have for management and investors. In Chapter 6 we will present the conclusions of our study and further discuss the theoretical contribution and practical implications. Lastly, the limitations of our study will be highlighted with suggestions for future research.

Chapter 2. Theory and literature review

In this chapter we will present the theoretical framework and relevant literature to shed light on the research questions. We will start by discussing the definitions of sustainability and corporate social responsibility. Furthermore, we move on to discussing the theoretical framework for this thesis that concerns stakeholder theory, legitimacy theory and sustainable finance. Lastly, previous studies regarding the relationship between ESGP and CFP, sustainability assurance and investors' use and consideration of ESG information will be discussed.

2.1 Theory

2.1.1 Defining sustainability

It is important to address the different definitions of sustainability used in the literature since it is a rather ambiguous concept (Dahlsrud, 2008). The purpose of this study is not to judge the sustainability of corporations, but as earlier explained we assume that ESGP is a proxy for a company's sustainability performance. A very commonly used definition of sustainable development originates from the “Brundtland Report” in 1987. For the first time, sustainable development was defined and referred to as *“a development that meets the needs of the present without compromising the ability of future generations to meet their own needs”* (United Nations, 1987, p. 37). This definition changed the notion of development from an approach only concerning economic growth, to a common understanding that economic growth goes hand in hand with environmental social, and governance aspects (Diez-Cañamero et al., 2020). The UN definition also entail that sustainability concerns the future and therefore has a long-term perspective. This definition also encompasses a stakeholder perspective. Therefore, the term sustainability can be compared to Van Marrewijk (2003, p. 102) definition of CSR/CS *“company activities – voluntary by definition – demonstrating the inclusion of social and environmental [and governance] concerns in business operations and in interactions with stakeholders”*. We treat sustainability as a concept of companies including social, environmental and governance concerns in a long-term perspective to create value for stakeholders.

2.1.2 Corporate Social Responsibility - What is it?

The CSR definition has been thoroughly debated in the academic literature. Bowen (1953, p. 6), who is considered as one of the founders of CSR, defines the CSR term from the

businessman's perspective "*whose responsibility is to align all decisions and actions with the objectives and values of society*". Several institutional organizations have also established their own definitions of CSR. The European Commission (2011, p. 6) defines CSR as "*the responsibility of enterprises for their impacts on society*". They further explain this responsibility by saying CSR includes responsibilities beyond what is required by legislation. In order for companies to address their CSR, they should emphasize to incorporate social, environmental, and governance aspects into their business operations while adhering to their stakeholders (European Commission, 2011). This definition can be compared to Van Marrewijk (2003) definition of CSR which is referred to in this thesis. Stellner et al. (2015) argues there is no internationally accepted definition of CSR and that the E, S and G dimensions should be included in the definition. Although it is unclear what is the right definition, there is broad consensus in the academic literature that E, S, and G information can be used by market participants to gain insight on sustainability matters. One example is investors who can evaluate and assess corporations regarding their overall CSR through ESG information (Clark & Viehs, 2014).

The theoretical development of CSR has derived towards the stakeholder approach, based on two central aspects: the engagement between stakeholders and companies, and for whom and how value is generated (Diez-Cañamaro et al., 2020). There are therefore multiple theoretical frameworks developed in the CSR literature. One of the most well-known theories is the stakeholder theory developed by Freeman (1984) in his book *Strategic Management: A Stakeholder Approach*. Carrolls' (1991) model is also a well-established framework that resembles a pyramid of a corporation's responsibilities. In his words "*the CSR firm should strive to make profit, obey the law, be ethical and be a good corporate citizen*" (Carroll, 1991, p. 43). Another essential view in terms of CSR is "*creating shared value*" established by Porter and Kramer (2019). The concept of creating shared value states that the efforts made by a company to deal with social and environmental issues, will yield economic and social value for the company as well as its various stakeholders (Porter & Kramer, 2019). These are all theoretical frameworks that could serve as a foundation for this thesis. Since the stakeholder theory tries to explain CSR and how corporations can create value for its stakeholders it is considered appropriate.

2.1.3 Stakeholder theory and legitimacy theory

As mentioned there has been a vast theoretical development in the CSR literature during the last decades. One of the most established theories is the stakeholder theory developed by Edward Freeman (1984), which will serve as the theoretical framework for this thesis. Since stakeholder theory tries to explain the relationship between a corporation's CSR and value creation, it is considered appropriate to serve as the theoretical foundation. Previous related studies have also chosen a stakeholder approach as their theoretical underpinning (see e.g. Velte, 2017; Eccles et al., 2014; Wang et al., 2016). In addition, legitimacy theory will serve as a foundation, because it offers an explanation for companies' voluntary disclosure and assurance of non-financial information. The two theories are closely linked, but they provide slightly different explanations regarding a firm's CSR (Branco & Rodrigues, 2006). Legitimacy theory suggests that companies provide CSR disclosures to be perceived as legitimate by their stakeholders, whereas stakeholder theory explains how corporations are accountable to several stakeholders through their business operations (Omran & Ramdhony, 2015).

In contrast to the stakeholder theory, we find Milton Friedman's (1970) shareholder theory. Both stakeholder and shareholder theory are normative theories of CSR (Smith, 2003). The fundamental distinction between stakeholder and shareholder theory is that the former claims that the interests of all stakeholders need to be considered. Stakeholder theory assumes that satisfying and balancing the interests of multiple stakeholders will eventually determine the success of the firm (Freeman, 1984). The ultimate objective for the company is continued existence according to stakeholder theory (Smith, 2003). This means that the company must pursue continued existence through balancing the interests of all stakeholders, as well as the shareholders who usually care most about profits. Therefore, profitability is of importance in stakeholder theory, but it should not be at the expense of other stakeholders' interests (Smith, 2003). In contrast, the shareholder theory states that the company is only accountable towards its shareholders and that management should only serve in their interests. Thus, involving in ESG activities is believed to not be in the shareholders' interests as they are not considered profit maximizing activities and therefore comes with an opportunity loss (Friedman, 1970). Stakeholder theory believes that even if profit maximization is the objective of the firm, they must concentrate on stakeholder relations in order to accomplish shareholder value. This is due to the complexity of today's business contexts where corporations consist of interconnected networks between customers, suppliers, shareholders, communities and employees who are

interdependent (Freeman et al., 2007). Shareholder theory on the contrary does not believe it is in the company's interest to consider other stakeholders interests and believe the company will suffer financial losses by involving in ESG activities. This cost must in turn be carried out by the shareholders. Shareholder theory believes that CSR is at conflict with the purpose of the company, which is profit maximization.

We highlight the fact that stakeholder theory does not perfectly address what corporations should do when there are conflicts between different stakeholders' interests, and it does not perfectly address who the stakeholders of the firm are. Freeman & Reed (1983) distinguishes between a narrow and broad definition of stakeholders. The broad definition refers to "*Any identifiable group or individual who can affect the achievement of an organization's objectives or who is affected by the achievement of an organization's objectives*" (Freeman & Reed, 1983, p. 91). This is an ambiguous definition where it is hard to judge who constitutes the stakeholders of the firm. The narrow definition refers to "*Any identifiable group or individual on which the organization is dependent for its continued survival*" (Freeman & Reed, 1983, p. 91). Freeman (2010) also separates between primary and secondary stakeholders, where the primary stakeholders are directly affected by the firm and always needs to be taken into consideration. The primary stakeholders generally refer to the company's employees, customers, owners, investors, suppliers and local community.

Freeman (2010) explains that it is not only the firm which affects the stakeholders, the stakeholders can also affect the organization's success to a great extent. Due to this fact the firm needs a strategic management plan which involves taking the needs and interests of the stakeholders into account. Therefore, it is necessary to identify all stakeholders and their interests (Freeman, 2010). A way to do this is by creating a *stakeholder map*, which identifies the individuals which are affected by or is affecting the organization. All stakeholders which are included in the stakeholder map play a vital role in the success of a business. In a stakeholder map one should think of the primary stakeholders as the ones who have the most influence and power on the operations. The secondary stakeholders do not have as much power and influence on the company as the primary stakeholders, but their interests can nevertheless influence the operations (Bourne & Walker, 2005). Interestingly, the first stakeholder map published in academic literature was by the Scandinavian Eric Rhenman, 20 years prior to Freeman (1984), which was similar to Figure 2.1. Rhenman believed that companies should cooperate with

stakeholders rather than treating them as competitors, which in turn would yield a cooperative advantage (Strand & Freeman, 2015).

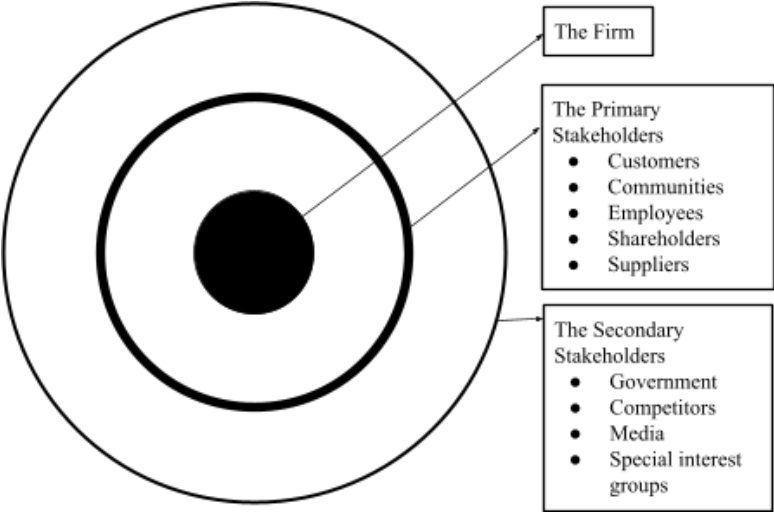


Figure 2.1: Stakeholder map inspired by Freeman (Freeman, 2010, p. 25).

As one can see from the stakeholder map in Figure 2.1, the shareholders of the company are considered primary stakeholders (Freeman, 2010). Even though investors might be perceived as only having a financial stake in a firm, they can also be affected by the firm in other ways, as they might be customers or part of the community in which the firm operates. Their interests could therefore include other elements in addition to profit. We look at stakeholders of the firm as “Any identifiable group or individual on which the organization is dependent for its continued survival” and distinguish between primary and secondary stakeholders (Freeman & Reed, 1983, p. 91). From an ESG performance perspective, it is reasonable to see the primary stakeholders in Figure 2.1 as the most important stakeholders. This due to the fact that these stakeholder groups are mostly affected by what is measured in the ESG score applied in this thesis (see Section 3.3.1). In addition, secondary stakeholders like media and government are considered important because they can affect the ESG score and reporting.

The inclusion of public expectations in strategic decisions requires the establishment of a stakeholder management. Freeman (2010, p. 53) refers to this stakeholder management as “the necessity for an organization to manage the relationships with its specific stakeholder groups in an action-oriented way”. This definition involves that companies are actually doing actions to address the needs of various stakeholder groups, and can be done through ESG activities. The ESG activities carried out by companies are therefore dependent on who the stakeholders

are. Also, one major part of stakeholder management is decision-useful stakeholder communication with a combined view of financial and non-financial issues (Roberts, 1992). It is argued that publicly disclosed information regarding the CSR activities provides a basis for dialogue with various stakeholders and society (Dierkes & Antal, 1985). This can also be explained by legitimacy theory, where companies disclose CSR activities to be perceived as legitimate by their stakeholders (Frynas & Yamahaki, 2016). A company's failure to align the interests of the organization and the key stakeholders, may lead to loss of legitimacy. Therefore, companies seek to legitimize their actions through CSR reporting to get approval from its stakeholders, and thus ensure continued existence (Omran & Ramdhony, 2015). Under the assumption that stakeholders care for sustainable development, better ESG reporting will increase ESG scores, which attracts new shareholders (Clarkson et al., 2008). The reasoning is then that the company can gain increased CFP as a consequence of the increased stakeholder trust (Martinez et al., 2017; Velte, 2017). CSR disclosures play a vital role in enhancing the effect of ESG has on corporate reputation, and signaling improved sustainable performance (Branco & Rodrigues, 2008; Bayoud et al., 2012). The reasoning is that companies want to improve their stakeholder communication and increase their legitimacy, which can be done through improved CSR disclosure. Therefore, from a stakeholder and legitimacy theory perspective, one can argue that the quality of the ESG reporting is of importance. Previous literature suggest that stakeholders agree assurance of sustainability reports is a key condition for quality, since it will lessen the credibility gap (Dando & Swift, 2003; Bartels et al., 2008). This provides a theoretical foundation for explaining how an external audit of the ESG report might moderate the relationship between ESGP and CFP.

In addition to stakeholder theory, we will explain the field of sustainable finance and responsible investing, which is a relatively nascent field that is closely related to the stakeholder approach and long-term value creation (Schoenmaker & Schramade, 2019). This is an important theoretical foundation for explaining responsible investment behavior.

2.1.4 Sustainable finance

Sustainable finance (SF) is a field that has developed due to societal pressure, sustainability crisis, financial crisis and lack of regulation and legislation in the financial sector (Lagoarde-Segot, 2019; Sandberg, 2018). It is a relatively new theoretical perspective that has become increasingly important in the financial industry and has led to rising regulations in some

countries (Schoenmaker and Schramade, 2019). The dominant view of the purpose of financial agents is that they should pursue to maximize shareholder profits, since this will contribute to market efficiency and thereby to general well-being in society (Sandberg, 2018). However, the financial crisis greatly demonstrated how profit-maximizing companies in unregulated markets pose extreme risks on the financial system and society at large. Further, there has been a growing concern that the dominant financial system is unable to address the sustainability challenges of our time, such as global warming, child labor, poverty and corruption (Sandberg, 2018). Therefore, institutional organizations such as the United Nations and the European Commission have focused on putting more regulation and pressure on financial markets to contribute to a sustainable development. SF will therefore serve as the theoretical foundation for examining how professional investors use and consider ESG information in investments, as it believes the financial markets need to look beyond its only role of profit maximization.

There are a number of different terms used when referring to sustainable finance (Soppe, 2004). For example, terms like “green finance”, “sustainable finance” and “climate finance” are being used in the same manner. This implies that there is no agreed upon and standard definition. The EU Commission defines SF “*as the process of taking due to account of environmental, social and governance (ESG) considerations when making investment decisions in the financial sector*” (EU Commission, 2021). In this case the goal of SF is to increase long-term investments in sustainable economic activities and projects. SF is therefore not limited to only concern one financial activity or instrument, and it encompasses the whole spectrum of financial activities which incorporate the concept of sustainability (Schoenmaker & Schramade, 2019). Based on the above definition one can see that SF encompasses all dimensions of ESG. Although the field of SF is rather broad and ambiguous, it has gained increased attention by academics during the recent years (Wilson, 2010). Both academics and institutional organizations, like the EU Commission, state the importance of SF in the process of reaching sustainability targets and its key role towards sustainable development (Drempetic et al., 2019; European Commission, 2021).

In its core essence, SF is based on sustainability principles (Lagoarde-Segot, 2019). This means that the three pillars of sustainability are intrinsic to SF. SF is therefore about the interaction between finance and ESG issues. SF is based on a stakeholder perspective and long-term value creation, where financial market integrates financial, social and environmental values (Schoenmaker and Schramade, 2019). This means that SF is about ensuring and improving

economic efficiency and societal well-being for today and the long term. SF is therefore in contrast to the traditional finance approach (Soppe, 2004). It is argued that SF is not only important from a sustainable point of view, but also from an investment point of view. ESG factors have shown to be essential drivers for the risk and return of portfolios (Boffo & Patalano, 2020). Next, we will outline the field of responsible investing which focus on how SF in practice can contribute in the process towards a sustainable future.

2.1.5 Responsible investing

Scholtens (2014) states that responsible investing is also referred to as socially responsible investing and sustainable investing in the academic literature. Despite the use of slightly different terms, these concepts represent to a great extent the same. Scholtens (2014, p. 382) defines responsible investing as “*investments who takes into account non-financial criteria*”. He further explains this concept as investors trying to account for environmental, social, governance (ESG) and ethical issues in the investment process. This definition has a striking similarity to the definition of SF by the EU Commission. UNPRI, which is an international organization that provides guidelines on integrating ESG in investments, defines RI as “*strategies and practices that incorporate material environmental, social and governance (ESG) factors in investment decisions and active ownership*”. From this definition, materiality refers to the factors that affect financial returns (UNPRI, 2021a). In et al. (2019) highlights that RI is about integrating ESG factors in conjunction with traditional financial criteria in the investment process. RI is considered as framework to address problems with irrational markets and contradicts the efficient market hypothesis which assumes rationality. This assumption has been challenged in wake of the financial crisis. One of the problems is that information asymmetry is a great limitation in the market. RI is therefore a response that seek to limit information asymmetry by enhancing active and long-term ownership, and therefore improve market efficiency (Hebb et al., 2016).

Responsible investing has during the recent years become widespread in the financial markets (Scholtens, 2014; Nilsson, 2008). Nilsson (2008) argues that this can be explained by two social trends: people are moving their savings to investment products such as funds, and there has been an increased consumer concern for ESG issues. Scholtens (2014) also highlight that the majority of responsible investments are undertaken by institutional investors. UNPRI (2021a) states that there are mainly three forces that are driving the growth of responsible investments

in the asset managing business. Firstly, there has been a growing recognition in academics as well as the financial industry, that ESG integration can influence returns. Secondly, clients are demanding greater transparency concerning how and where their money is invested. This is driven by the realization that ESG factors can influence company value and reputation, and a concern for the impacts of the companies are invested in. This argument is in line with Hebb et al. (2016) who claims that the growth of RI has been a response to externalities, meaning the negative (and positive) side effects businesses create. Lastly, responsible investment regulation has increased significantly during the recent years. This regulation has been driven by a realization that the financial sector can play an important role in meeting global sustainability challenges (UNPRI, 2021a). This also highlights the fact that regulation has been necessary in order for the financial market to contribute towards sustainable development.

The adoption of ESG considerations into investments has continuously matured in the last decades (Scholtens & Sievänen, 2013). RI has evolved from a risk management perspective to one that seeks long-term value creation for corporations and society (Eurosif, 2021). What makes it interesting to study RI in a Scandinavian context, is the fact that variations in RI can be explained by the role of government, the public conception about sustainability, values, norms and culture (Bengtsson, 2008). These factors are quite homogeneous across the Scandinavian countries, which makes it interesting to examine how RI is adopted in this context. Scholtens & Sievänen (2013) find that feminine and masculine culture is associated with differences in RI. They find that femininity impacts investors preferences to account for ESG issues with respect to companies' operations. Based on this development several strategies have evolved to constitute the framework for responsible investing (Scholtens, 2014).

Investing strategies

According to Hebb et al. (2016), Scandinavian investors heavily relies on negative screening, followed up by norms-based screening. On the other hand, thematic investing, best-in-class screening and positive screening is not very popular. Scholtens & Sievänen (2013) find that countries with feminine cultures, such as Norway and Sweden, have a strong preference for norms- and value-based investing. Scandinavian RI funds are characterized with their focus on transparency, such as providing reasoning for how and why the exclusion list is composed as it is. Table 2.1 briefly explains the different investing strategies.

<i>Full integration</i>	Refers to explicitly and systematically combining ESG factors and financials in investment analysis and decisions, to better manage risks and improve returns.
<i>Best-in-Class</i>	Refers to an approach where leading or best-performing investments within a universe or category are selected or weighted based on ESG criteria.
<i>Positive screening</i>	Refers to including investments that meet a minimum set of criteria. These investments demonstrate improvement or leadership compared to peers.
<i>Norms-based screening</i>	Refers to including or excluding investments according to their compliance with international standards or industry initiatives.
<i>Negative screening</i>	Refers to excluding specific investments from the portfolio. Typically, exclusion of companies operating in controversial industries such as tobacco, weapons, gambling etc.
<i>Engagement/Active ownership</i>	Involves discussing ESG issues directly with companies to bring out change. It also includes expressing approval or disapproval through voting on specific ESG issues.
<i>Impact investment</i>	Refers to investments in organizations and funds with the intention to generate social and environmental impact alongside financial return.
<i>Sustainability themed</i>	Refers to investing in assets linked to sustainable development.

Table 2.1: *Responsible investing strategies* (from Scholtens, 2014, p. 383; Eurosif, 2021).

These strategies constitute the universe of responsible investing where asset managers use multiple simultaneously. Scholtens (2014) highlights the fact that there are weaknesses connected to the strategies with regards to how they account for responsibility. He argues that the lack of a sound definition and proper metrics to determine the responsibility of an investment is important factors. In the next chapter we will go through the most relevant literature regarding our research questions.

2.2 Literature review

2.2.1 The link between ESGP and CFP

There are several previous studies that have examined the relationship between ESG and CFP, so the literature is not considered to be limited. On the other hand, there has been different focus areas within the field and variation of methodical approaches. This has resulted in varying results across studies and different contexts. Our study will focus on investigating the link between ESGP and both accounting-based and market-based CFP in Scandinavia. This

literature review will therefore focus on studies with similar methodology and meta studies. When investigating the link between ESGP and both CFP measures, we can observe if ESGP enhances the operation of daily processes, in addition to whether the market values ESG activities (Clark et al, 2015).

Accounting based CFP

Accounting based financial performance is referring to internal resource utilization and is commonly measured by ROA (Return on Assets), ROE (Return on Equity) or ROCE (Return on Capital Employed) as the dependent variable in panel data regressions (Manrique & Martí-Ballester, 2017; Chelawat & Trivedi, 2016). The strategic choices of fund allocation made by management are subject to these measures, and thus reflect internal decision making and operational performance (Orlitzky et al., 2003). It is argued that ESG performance enhances firm reputation, increase stakeholder reciprocations, mitigates firm risk and strengthens innovation capacity which positively affects CFP (Vishwanathan et al., 2020). One limitation with accounting-based measures is that they are subject to differences in accounting practices (Chelawat & Trivedi, 2016; Scholtens, 2008).

In his study of German listed companies, Velte (2017) found a positive relationship between ESGP and ROA. Similarly, Li et al. (2018) also found the same in their study of UK. Eccles et al. (2014) also find the same to be true for US companies, where high rated sustainability companies outperform the low ones in regards of accounting-based measures. Moving over to meta studies, Clark et al. (2015) found that 88% of all studies in the research field indicated a positive correlation between ESGP and accounting-based CFP. Orlitzky et al. (2003) made similar conclusions primarily focused on western studies. Friede et al. (2015) also found the same in their meta study of more than 2000 articles investigating the relationship between ESGP and CFP. Accounting-based measures appeared to be more correlated to ESGP than market-based indicators, and that the findings were consistent across industries and contexts. Several meta studies support that the accounting-based correlation is superior to market-based CFP (López-Arceiz et al., 2018; Wang et al., 2016; Lu & Taylor, 2016). The studies are conducted with a gap of 15 years between them, so it is interesting that the conclusions are the same even though a lot has happened in the field throughout the years. However, some of them include the same individual studies, which can bias the results. Even though the link between CFP and ESG seems to be positive or at least non-negative, there are contradicting studies that find negative or mixed results. Some possible explanations can be due to sampling error, measurement error,

inconsistencies in the definition of the dependent and independent variables, different samples or poor research design (Orlitzky et al., 2003; Nollet et al., 2016; Wang et al., 2016). The study of Duque-Grisales & Aguilera-Caracuel (2019) in Latin America is one example where they find a negative relationship. Their results indicate that either ESG activities are not executed efficiently, do not receive approval from stakeholders, or simply that the cost associated is too high.

There is a discussion concerning the causal link between ESGP and CFP, and whether it could be that good financial performance cause higher ESG performance. Eccles et al. (2014) refers to ESG as a potential “luxury good”, meaning that only firms which already perform well financially can afford to implement ESG. Orlitzky et al. (2003) also discuss a possible halo effect that might exist, where companies that perform better financially receive higher ESG ratings regardless of their actual sustainability performance. This effect suggests a stronger correlation between ESG and market-based rather than accounting-based studies, due to reputation bias. Orlitzky et al. (2003) does not find any evidence for this halo effect, as the correlations are somewhat the same.

In most studies, researchers work under the assumption of linearity. Han et al. (2016) challenged this in their study of the Korean stock market. First, they found mixed and insignificant results in the linear regressions. When applying quadratic models however, a U-shaped significant relationship between several ESG factors and CFP was observed, implying that ESG activities only pay off after a certain threshold amount of ESG has been accumulated. Han et al. (2016) found a significant U-shaped relationship between environmental score and ROE, and an inversely U-shaped relationship between governance score and ROE. They calculated the turning point to be to be greater than the mean environmental score, indicating that severe resources should be allocated into ESG in order to enhance CFP. Nollet et al. (2016) made similar findings among companies listed on S&P 500 where a U-shaped relationship existed between accounting-based CFP and overall ESG performance. They did not find a significant relationship in the linear models. The turning point was calculated to be far below the mean score, indicating that small improvements in ESG score can enhance CFP.

The link between ESG and CFP has not been thoroughly investigated in a Scandinavian context, but there exists evidence from the Nordics where Finland is included as well. This facilitates for comparison since our samples and contexts can be considered pretty similar. Dahlberg &

Wiklund (2018) found a positive, but not significant relationship between ESGP and accounting-based CFP in their study. On the other hand, Langeland & Ugland (2019) found a significant negative effect, and Ahlklo & Lind (2019) found no significant relationship. The fact that these findings are mixed highlights the demand for more research in the field.

Market based CFP

While accounting measures reflect past performance, market measures are forward looking as well (Chelawat & Trivedi, 2016). The ESGP and market-based CFP relation can be investigated through a portfolio and non-portfolio approach. It is important to distinguish between the two, since our study is concerned with a non-portfolio approach. Portfolio studies focus on mutual funds and indices and include elements such as benchmarks and abnormal returns, while the non-portfolio approach investigate whether there is a relationship between market-based indicators and ESGP. Friede et al. (2015) found that the ESG-CFP relation was positive in 56,7% of the non-portfolio studies as opposed to 15,5% of portfolio studies. One possible explanation for the difference is that the positive effects from ESG are so small compared to other factors that are subject to the share price, such as competitive pressures, economic cycles, or regulatory changes (Pelozo, 2009). As this distinction has been clarified, all studies from this point on relates to the non-portfolio approach.

Tobin's Q and P/B (Price to Book) ratio are evaluation measures commonly used as the dependent variables in the research field (Viswanathan et al., 2020). Market-based measures differ from accounting-based because they are continuously evaluated by investors, and not subject to different rules and standards such as accounting practices, which raises a concern in terms of comparability. Shareholders are in charge of the bidding and asking processes of stock, which means they decide the market value of firms (Orlitzky et al., 2003). Market-based measures also have limitations, in a way that information asymmetry might lead to misleading evaluations (Scholtens, 2008). ESG can be a tool to make unobservable non-financial information observable, and hence reduce information asymmetry (Su et al., 2016). A limitation with using market-based measures is the fact that they only capture the interest of financial stakeholders, and not non-financial stakeholders which also are affected by ESG activities (Scholtens, 2008).

Velte (2017) found no significant relationship between ESGP and market-based CFP in the German context. On the other hand, Li et al. (2018) found a significant relationship with market-

based CFP for UK companies. Eccles et al. (2014) found that companies with high ESGP outperformed companies with low ESGP in terms of market-based CFP for US listed companies. Studies also show that companies with high ESGP have significantly lower risk (Eccles et al., 2014; Sassen et al., 2016). In the Nordics Ahlklö & Lind (2019) found no significant relationship, while Dahlberg & Wiklund (2018) found a positive significant relationship between Tobin's Q and ESGP. Orlitzky et al. (2003), Wang et al. (2016), López-Arceiz et al. (2018) and Lu & Taylor (2016) found market-based CFP to be less correlated with ESGP than accounting-based CFP in their meta studies. On the contrary, Dixon-Fowler et al. (2013) found evidence supporting that market-based CFP had the strongest relation to ESGP. Clark et al. (2015) found a positive relationship between ESGP and market-based CFP in 80% of the studies in their meta-analysis. Interestingly, the ESGP-CFP link seems to be stronger in advanced economies rather than developing ones. Possible explanations could be better information channels and effective market supervision in advanced economies, while loose and ineffective governmental regulation might cause corporations in developing markets to ignore the potential risk of sanctions (Wang et al., 2016).

Overall, consensus seems to be that the link between ESGP and CFP is positive, and that accounting-based CFP has a stronger correlation compared to market-based CFP. However, there are contradicting findings, and it is difficult to draw ultimate conclusions. It is interesting to investigate both measures, as they have different characteristics which have been highlighted in this literature review.

2.2.2 Assurance in sustainability reporting

Even though much research has been conducted on sustainability assurance, there is little evidence on how an audit of ESG reports affect CFP. For example, Del Giudice & Rigamonti (2020) found that companies with audited ESG reports mitigated the impact of a corporate scandal on their ESG score. This implies that audited ESG reports increase the accuracy of ESG rating agencies and bridge the credibility gap between the market and companies. Chen et al. (2016) found that commitment to higher audit quality of financials sends credible signals to investors about firms' future performance and perceived value of ESG. Similar findings were made by Hammami & Zadeh (2019) who found that high quality audits have a positive impact on ESG transparency of Canadian firms.

Auditors have played a major role in ensuring credibility and comparability of financials throughout history. This is accomplished by limiting information asymmetry and enabling transparency and trust, which is beneficial for the efficiency of capital markets (Bedard et al., 2010). These properties are essential to the quality of an audit, a term that was defined by DeAngelo (1981, p. 186) as “*the market assessed joint probability that a given auditor will both discover a breach in a client’s accounting system, and report the breach*”. This definition is subject to two traits, namely expertise and independence of the auditor. The auditor must be competent enough to discover errors and be objective in order to avoid conflicting interests in regard to revealing the errors (Knechel, 2016). Since an audit increases the quality of financials reported, we assume an audit can increase the quality of non-financial information. This assumption is based on Chen et al. (2019) who found that companies who receive assurance of ESG reports are more likely to detect and correct errors compared to those with no assurance. The evidence implies that auditors add value by enhancing the quality of ESG reports by mitigating errors and identifying areas in need of improvement, such as methodology and definitions of scopes and targets.

The birth of sustainability reporting dates back to the 1970s, while external assurance of them commercialized in late 90s (Junior et al., 2014). Since the purchase of such assurance is costly, it is assumed that the companies buying them experience increased trust among stakeholders. These companies tend to be of large size and have high leverage and assure their sustainability reports in order to improve credibility and firm reputation (Simnett et al., 2009). Alon & Vidovic (2015) found that companies with better sustainability performance were more likely to obtain an external audit of their ESG report. Interestingly they found that assurance did not affect firm reputation which is in contrast to Simnett et al. (2009). In countries where ESG reporting is subject to stricter legislation, the demand for sustainability assurance is higher (Perego & Kolk 2012). Simnett et al. (2009) observed differences between stakeholder and shareholder-oriented countries in terms of sustainability assurance, where companies from stakeholder-oriented countries were more likely to have their sustainability report assured by someone from the auditing profession. Norway, Sweden and Denmark were defined as stakeholder-oriented in their paper. Perego & Kolk (2012) observed the same pattern and added that Scandinavian firms have high quality assurance statements. Furthermore, Dhaliwal et al. (2012) found that companies from stakeholder-oriented countries tend to exert a stronger effect on investors' decision making, and that ESG is more likely to affect the financial performance of such companies.

Perego & Kolk (2012) distinguish between the role of accounting and non-accounting firms in terms of sustainability assurance. Accounting firms are a better fit to provide higher quality of aspects related to reporting and procedures, while non-accounting firms deliver high quality opinions and recommendations. Accounting firms tend to apply a more conservative and careful approach and are more hesitant to draw ultimate conclusions. Since there is no standard framework in place, assurers use combinations of different guidelines, and lack transparency on their own methods. It is a paradox that auditors seek to increase transparency of sustainability reports, but then again not being transparent about their own methods. Auditors are also criticized for limiting their own legal responsibility and lobby for standards that reduce their own risk, even though the standards might reduce value for investors (Perego & Kolk, 2012). Despite firms with high leverage seeking to have their sustainability reports assured, Simnett et al. (2009) found that auditors are more likely to assure firms with lower leverage, which can be explained by their risk-averse appetite.

The non-financial services the auditors provide are comprehensive, among others; benchmarking, risk assessment, code of conduct, due diligence, data process management, adhering to business standards, report preparation and target setting in line with business goals (Deloitte, 2020; EY, 2020; CAQ, 2020a). While traditional mandatory financial reporting is mostly based on tangibles on the balance sheet, ESG is to a much larger extent subject to intangible assets such as intellectual property and innovation. This leads investors to look beyond book value. Previously, 80% of the market value of a company could be read off the balance sheet, while it averages around 48% today (EY, 2020). We now move over to the “the big four”, because they account for almost all the audited ESG reports in our Scandinavian sample.

EY (2021) addresses ESG matters by bringing together a team of sustainability professionals with background in communications, science and operations, along with those who have knowledge about financial reporting and accounting. KPMG (2021) refers to their role as determining the reliability, comparability, and relevance of ESG metrics, but not to offer an opinion if it is the right data to report. The latter suggest that they maintain an independent role. Further, they state that their mission of sustainable assurance is serving and protecting the capital markets. Firms with extensive voluntary disclosures might experience improved liquidity of stocks because of limiting information asymmetry, lower cost of capital due to

reduced information risk, and increased coverage by financial analysts (Healy & Palepu, 2001). PwC (2021) put emphasis on how they help companies identify and disclose material ESG risks and mitigate their disclosure gaps. They highlight the importance of customizing communication to different stakeholders on the right platforms. Deloitte (2020) states that non-financial disclosure is of importance to all stakeholders, because it provides critical insight to how management navigates global trends, risks, and opportunities to drive long term value. By helping stakeholders see the big picture, the company boost trust, confidence and strengthen their reputation. Non-financial disclosures often involve qualitative information, and investors might worry that it is a subjective viewpoint rather than an evidence-based fact (EY, 2020). The number of investors who conduct a detailed review of non-financials have increased significantly, which highlights the adoption of ESG in decision making (EY, 2020). However, EY (2019) found that 56% of investors believed that ESG disclosures are not adequate. This implies that disclosure efforts are not sufficient according to investors.

All of the big four emphasize the importance of compliance to reporting standards and frameworks such as GRI. PwC (2020a) categorizes the integration of ESG among companies in three levels, namely laggards, middle and front runners. Front runners regularly discuss ESG matters in board meetings, are great at disclosing and have adopted commonly accepted standards and frameworks. Laggards on the other hand do very little and are not identifying material ESG areas. It appears that a lot of companies lay in the middle tier which is considered a “safe zone”, because they avoid the downside risk of being a laggard, and the extra work, cost and perceived risk of being a front runner. The middle tier can struggle to aim their ESG content towards investors, and their ESG strategy is not always linked to business goals (PwC, 2020b). When companies do not apply to commonly accepted standards, they are free to choose the information they disclose, which might not reflect the whole truth (CAQ, 2021b). For instance, incorporation of SDGs is very popular in Scandinavia. However, research suggests that corporate reporting on SDGs focus almost solely on the positive contributions’ companies make towards sustainable development and lack transparency on the negative impacts. In addition, the SDG reporting is mostly disconnected from business goals (KPMG, 2020).

KPMG and Deloitte gave us insight on what assurance standards they use, where both stated that they use the “*ISAE 3000: Assurance Engagements Other than Audits or Reviews of Historical Financial Information*”. In short, the standard provides either reasonable or limited assurance depending on what the client demands. Its purpose is to ensure that a report is free

from material misstatements and express a conclusion about the outcomes that have been measured. This should enhance the confidence of the ESG report to the intended users (IAASB, 2013). KPMG added that they also use the “*ISAE 3410: Assurance Engagements on Greenhouse Gas Statements*” when only the climate numbers are audited. Its objective is as clear as its name, to quantify emissions which is often reported as direct and indirect emissions (IAASB, 2012).

Overall, assurance of sustainability reports seems to bridge credibility and trust between companies and stakeholders. An audit can reduce errors and identify areas in need of improvement, that ultimately can increase the quality of the report and thereby strengthen stakeholder communication. Companies seek to improve their reputation and legitimacy, which consequently could enhance CFP. The auditors can help companies to disclose material ESG risks in accordance to commonly accepted standards, which generates value for investors in the form of comparability and more efficient capital markets.

2.2.3 Investors consideration of ESG-information

The growing interest for ESG investments can be observed in the market, but the underlying practices and assessments among investors are not exposed. Studies concerning the link between ESG and CFP do not provide a deeper understanding of how and why ESG information is used, as well as the challenges of ESG integration. Previous research in the field of RI has focused on different topics related to both motives, drivers, barriers and investment strategies (Amel-Zadeh & Serafeim, 2018; Van Duuren et al., 2016; Eccles et al., 2017). This thesis is concerned with exploring how asset managers use ESG information and how they consider the ESG reporting framework. This subchapter will cover evidence from studies conducted to gain knowledge on these issues. The academic literature exploring professional investors considerations and use of ESG information is limited. We therefore include a study provided by the CFA institute, which is a global association of investment professionals.

In a study by Amel-Zadeh & Serafeim (2018), they surveyed global investment professionals. Among the respondents, 8% were ESG specialists, which indicates that most companies did not have specific positions dedicated for ESG investing. However, they found that 82,1% of respondents use ESG information in their investments. A similar study by Przychodzen et al. (2016) in US, Canada and some European countries found that 40% of respondents claimed

ESG issues were of considerable or extreme importance in investment decisions. US investors considered it as more important compared to the other countries. This is in contrast to Amel-Zadeh & Serafeim (2018) who found that European AM integrate ESG to a larger degree than those from the US. Przychodzen et al. (2016) did not find gender or professional experience to influence the propensity to integrate ESG. This is opposed to CFA(2017) who find that female respondents are more positive towards ESG integration. They also found that 73% of investors take at least one ESG factor into consideration in their global survey. Of those who incorporate it, 51% do it systematically while 45% do it occasionally (case-to case), while European investors are more likely to have systematic processes and routines than others.

When examining the reasons for integrating ESG, the majority use ESG information because it is material to investment performance (Amel-Zadeh & Serafeim, 2018). Big AM find this reason to be more important compared to small AM (Amel-Zadeh & Srafeim, 2018). Further down on the list is growth in client and stakeholder demand (CFA 2017; Amel-Zadeh & Serafeim, 2018). Amel-Zadeh & Serafeim (2018) opted for free text answers in the survey, which revealed that risk was a crucial factor as well. This is in line with the findings of Van Duuren et al. (2016), Przychodzen et al. (2016) and CFA (2017). Interestingly, Przychodzen et al. (2016) find that ESG integration are not solely perceived by AM as a tool for additional long-term value creation. Krueger et al. (2020) surveyed investors on incorporation of climate risk in particular, where investors considered financial, operating, governance, social and environmental risk to be most important. However, the risks that were ranked of lesser importance were also deemed as material to financial risk. Of those who did not use ESG information, the most frequent reason was that they believed there was no stakeholder demand for ESG information, and that it was not material to investment performance (Amel-Zadeh & Serafeim, 2018; CFA, 2017).

When addressing the barriers of ESG investing, Amel-Zadeh & Serfaeim (2018) found that lack of comparability, lack of standards and the cost associated were considered as the greatest challenges of integrating ESG. Eccles et al. (2017) observed the same pattern in their survey, where lack of standards in data, lack of disclosure and concerns about underperformance were the greatest barriers. When asked how to overcome the barriers, the top picks were increased client demand, greater transparency of ESG reporting from the companies and investment outperformance. Especially relevant for our paper is that Amel-Zadeh & Serafeim (2018) found that 26,4% experienced lack of assurance and reliability of ESG information. This was more

current for big AM and assurance was considered to be of greater importance in the future. CFA (2017) found that lack of assurance was even more dominant, where 69% meant ESG reports should be subject to an independent verification, and 61% believed that companies should be required to report on their ESG performance. When CFA (2017) asked about the favored provider of assurance, professional service firms skilled in ESG (56%) were preferred above accounting firms (30%). De Villiers & Van Staden (2010) made similar findings in their study concerning environmental disclosures, where an audit was favored by 53% of respondents in the US, 55% in the UK and 70% in Australia.

In regard to RI strategies, Amel-Zadeh & Serafeim (2018) found that active ownership was most adopted, followed by full integration and negative screening. Van Duuren et al. (2016) observed that the latter strategy was very common, but they did not list all relevant RI strategies to choose among. CFA (2017) found that full integration and negative screening were the two most adopted strategies. Negative screening was more widespread in Europe than other continents, with full integration rising in popularity. Eccles et al. (2017) found that negative screening was most frequently used, and that active ownership and full integration was the least adopted strategies, which contradicts the findings of Amel-Zadeh & Serafeim (2018). According to Amel-Zadeh & Serafeim (2018), screening strategies were more prominent among large investors, and European investors were more likely to enforce active ownership.

Van Duuren et al. (2016) found that most responders expected ESG integration have a positive impact on returns, lower risk and stronger long term value creation. Eccles et al. (2017) found that investors were convinced that ESG integration would result in superior risk-adjusted return in the long run. Van Duuren et al. (2016) found that managers attached higher weight to the governance factor and that it has a close relationship to management quality. They concluded that ESG investing in general was more applicable to fundamental than technical investing and analysis. The rationale was that managers with higher level of ESG integration required more firm specific information and raw data rather than aggregate analysis. Interestingly, ESG ratings was the most popular source of information, implying that investors are constrained by their resources to make faster investment decisions. However, CFA (2017) found that public information was the most common source of information, followed by third party research.

The literature suggests that there is a strong demand for ESG information by professional investors, and that asset managers are integrating ESG information in their investment

processes. Risk and investment performance are central to why AM use it, and negative screening appears to be the most adopted RI strategy. The barriers to adopting it is mostly tied to data issues, such as lack of standards. Lastly, the majority of investors believe that independent assurance is necessary, but they have mixed opinions regarding the provider of it.

2.2.4 Research questions and hypotheses

The first and main purpose of this thesis is to investigate the relationship between ESGP and CFP, and if the relationship is moderated by an external audit of the report, which is summarized in RQ 1 and 2 in Section 1.3. To answer the first question, we have developed two hypotheses based on previous theory and literature:

H1: ESGP has a significant positive effect on market-based performance (Tobin's Q) for Scandinavian listed companies.

H2: ESGP has a significant positive effect on accounting-based performance (ROA) for Scandinavian listed companies.

A positive relationship between ESGP and CFP is expected based on consensus in previous research. According to stakeholder theory a company will be most successful and create value when taking all stakeholders interest into consideration (Freeman, 2010). To answer the second question, we have developed the following hypothesis:

H3: The link between ESGP and CFP (ROA/Tobin's Q) will be positively moderated by an audit of the ESG report.

Based on stakeholder theory and legitimacy theory we assume that assurance of ESG reports will positively moderate the link between ESGP and CFP. The objective of an audit is to reduce errors and make sure that the report is in line with the chosen standard (Chen et al., 2019). Therefore, an audit can increase the quality and credibility of the report which can improve the perceived legitimacy of the corporation, leading to better CFP. The hypotheses can be summarized in Figure 2.2 showing the conceptual framework for RQ1 and 2.

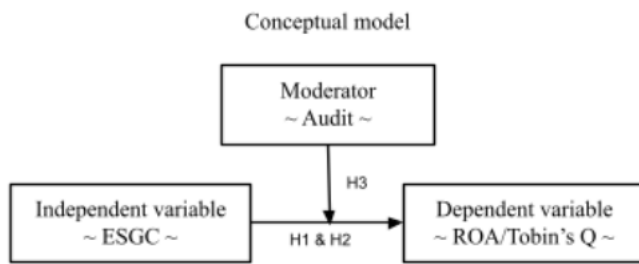


Figure 2.2: *Conceptual model with audit as a moderator between ESGP-CFP.*

The second purpose of this thesis is to investigate how asset managers use and consider ESG information and highlight significant differences between groups. Since previous research in this particular field is limited, we have not developed hypotheses to test. We rather aim to answer RQ3 (see section 1.3) directly with aggregated evidence from a survey. The intention is to provide a deeper understanding of the ESGP and CFP link and generate insights which can give implications for management, investors and regulators. We emphasize to investigate if ESG information is used systematically, reasons for using it, RI strategies and considerations regarding external audit of ESG reports.

Chapter 3. Methodology

In this chapter we will discuss the scientific methodology applied in this thesis. The research approach and method will be explained and justified. The reliability and validity of this study will be assessed. Furthermore, the ethical considerations concerning our research will be discussed, before we move on to explaining the research design for the regression analysis and the survey.

3.1 Research method

The main objective of this thesis is to answer the three research questions, which consist of two research studies. In this section, we will discuss the overall methodology with regards to the two studies. Our thesis consists of a quantitative research design, involving an empirical analysis concerning the relationship between ESGP and CFP, and a survey to get insight in AM use and consideration of ESG information. It is therefore a multi-method quantitative study, where two quantitative data collection processes and analysis have been conducted (Wilson, 2014). We will therefore present the empirical findings from the survey and the regressions in separate sections (Section 4.1 & 4.2). Even though this thesis consists of two studies, the research questions are connected to each other.

The choice of methodology is based on the research questions. We use a deductive approach as we collect data to test hypotheses developed from theory (Bell et al., 2019). This applies particularly for the study of the ESGP-CFP link, but also partially for the study on ESG investment behavior since it is based on prior literature. Since the objective is not to generate new theory, a deductive approach is considered the best fit (Bell et al., 2019, p. 35). This thesis can be characterized to have both an explanatory and descriptive purpose (Wilson, 2014). A descriptive approach is useful when researchers wish to describe an existing issue, problem or phenomenon through observations to get deeper insight. This approach suits our thesis since we wish to investigate the fields of RI and SF which are relatively nascent fields in academic literature. Wilson (2014, p.118) highlight that the descriptive design is carried out in both quantitative and qualitative research. The study on AM is therefore considered to have a descriptive design, as we wish to describe how AM use and consider ESG information. This thesis also has an explanatory design where we wish to examine whether there is a positive or negative relationship between ESGP and CFP, and whether an audit positively affects the relationship. An explanatory approach aims to study a situation or phenomenon to explain the

relationship between variables, and is therefore a good fit (Bell et al., 2019). One of the delimitations due to our methodology, is that we are not able to study any true causal links between the variables. This is due to the fact that it is impossible to exclusively prove any causal links through the regression analyses. Nevertheless, we are able to conduct statistical tests to determine whether there is a statistically significant relationship between ESGP and CFP. Based on the above discussion, our thesis can be considered a combined study with more than one purpose in its design. In the next section we will shortly discuss the validity and reliability of our findings.

3.1.1 Validity and reliability of results

Validity of measures relates to “*whether or not a measure of a concept really measures the concept*” (Bell et al., 2019, p.177). To ensure validity of our results, we need to make sure that the regression analyses and the survey really measures what they are supposed to, so that we answer the research questions. In quantitative research there is a concern for causality, which refers to internal validity (Bell et al., 2019). This is important regarding the regressions as we do not attempt to find any causal links between ESGP and CFP. Our study is concerned about the relationship between the variables, and whether an external audit affects this relationship in any way. Data was collected from a reliable source, Refinitiv Eikon, which is a recognized data source in this particular research field (Velte, 2017; Eccles et al., 2014; Garcia et al., 2017). Retrieving data from a recognized source strengthens the internal validity of the study, because the measurement of the variables is considered to be trustworthy. Also, we use similar variables in line with previous studies in the regression models. We conducted several tests prior to the final models, to make sure the models yield reliable and valid estimates. These will be further explained in section 3.3. We only applied one type of ESG rating in our analysis which limits the generalization of the study and must be considered when applying the results to other contexts.

To ensure validity in terms of the survey, we had experts from SKAGEN as well as academics to evaluate the questions in the survey. We also made sure to put in explanations and definitions on relevant questions, to avoid any misunderstandings. However, we expect that our respondents could be particularly ESG aware, which can impact our results and validity. This is highlighted by the fact that all participants completed the survey. We were not able to analyze the non-responders due to an anonymous survey, which makes difficult to determine is the

responders really are of the ESG aware kind or not. A final impact on the validity, is the fact that it is a self-assessment survey, and the results only represent the respondent's own evaluation and not necessarily the truth. A concern when it comes to the validity of our results from both regressions and the survey, involves several biases. The problem of researcher bias, where the researcher can affect the results, is considered to be minimized due to our quantitative method and use of reliable data. We tried to maintain an objective approach when analyzing the results in both the regressions and the survey. To minimize the risk of biases we did several measures, which will be further discussed in Section 3.4. In terms of external validity, this refers to generalization of the results, and whether the findings can be transferred into other contexts (Bell et al., 2019). In our case, the study is concerned with the Scandinavian context and not all Scandinavian companies and AM were included in the sample.

Validity also needs to be discussed in connection to reliability of the study. Reliability refers to *“whether or not the results of a study are repeatable”* (Bell et al., 2019, p.46). This involves studying a phenomenon or a problem in the right way and that the research is conducted in a way so that the results can be trusted. To ensure high reliability the study should involve a method of high transparency and consistency, to make sure that the study is replicable (Bell et al., 2019). The secondary data used in the regressions are considered reliable. Nevertheless, one cannot guarantee that the results are the same when using another proxy for market- and accounting-based CFP or a different provider of ESG scores. This is due to the fact that ESG scores are subjective, and rating agencies use different methods. To ensure reliability and validity of the results in the regressions we have conducted several robustness checks, which will be further discussed in section 4.1.3. The robustness checks support our results, and thus strengthens the validity and reliability of the regressions. The primary data from the survey could as previously mentioned involve response biases. Since we have done several actions to reduce it, the answers are considered reliable. In the next section we will shortly discuss the ethical considerations we took into account when conducting our research.

3.2 Research ethics

It is important to consider ethical issues when conducting research, in order to avoid the possibility of harming and deceiving the subjects of the research (Bell et al., 2019). Since our study involves a survey there are several ethical considerations that needs to be discussed.

Throughout this thesis we have pursued the objectivity principle, which means that all the results obtained from the empirical analysis and the survey are presented in an open, truthful, and accurate manner. In addition to this we have taken other ethical principles into consideration such as respect of privacy, avoidance of harm, anonymity, voluntary participation and quality data management (Bell et al., 2019). We distributed an anonymous web-based survey made in Nettskjema, to prospects via email. Since the form was anonymous and did not collect any personal information, we did not get a formal or written consent from the respondents. Since NSD (Norwegian Centre for Research Data) has strict guidelines regarding data collection in research projects, we reported the project. We were given approval to go ahead with data collection, since answers could not be traced back to respondents' email or IP address. The findings from the survey are presented in a non-attributable manner and prevents recognition of respondents from the analysis and data set. Furthermore, the respondents of the survey were first notified about the research project with a request to participate. In the notification we informed about the purpose of the study as well as their right to anonymity, and that the data would be handled in a safe manner. We also outlined that it was completely voluntary to participate in the study. In addition, we tried to simplify questions and provide explanations of terms that could potentially be unfamiliar for the respondents to avoid embarrassment or stress. In the next section we move on to discussing research design for both studies.

3.3 Research design for regression analyses

3.3.1 Data collection and variables

This sub-chapter describes the data collection process and provides an overview of the variables used in the regressions. All data is collected at the end period of each year through the Refinitiv Eikon database (also known as Thomson Reuters Datastream). All monetary variables use US dollar as the currency.

The population of our study consists of all companies listed on Oslo Børs, Nasdaq Copenhagen and Nasdaq Stockholm. 695 companies are listed on the three exchanges as of today, and Refinitiv Eikon holds information about 645 companies. Financial institutions were excluded from the sample, as it is a common procedure in this particular research field (Eccles et al., 2014). This due to their specific regulations and complex accounting in comparison to other sectors (Velte, 2017; Manrique & Martí-Ballester, 2017). We set a criterion that companies

needed to have a history of at least 3 years with ESG-ratings. When removing 105 financial institutions, and 427 companies that do not meet the criterion, our final sample consists of 113 companies.

The time period covered in this thesis is 2009-2019. To evaluate the impact of ESGP on CFP, we use one-year lead variables of ROA and Tobin's Q. This is in line with previous literature, that suggest ESGP will not immediately lead to better CFP (Choi & Wang, 2009; Velte, 2017). This also limits the concern for simultaneous bias and problems with endogeneity, which means that the explanatory variables are correlated with the error term (Manrique & Martí-Ballester, 2017; Wooldridge, 2012). We acknowledge that even if a time lead is included, we cannot prove any causality in the relationship. Therefore, we compare the ESG ratings and control variables of year t covering the period 2009-2019, with the CFP variables of year $t+1$ covering the period from 2010 to 2020. This is similar to Nollet et al. (2016) who use the one-year lagged variables of ESG and controls. The time period is considered to be sufficient to capture the long-term effect of ESGP on CFP.

Dependent variables

The dependent variables in our models are ROA and Tobin's Q, which are commonly used to measure accounting- and market-based performance in previous research (Vishwanathan et al., 2020). ROA is calculated as income after taxes for the fiscal year, divided by the average total assets of the year, and is expressed as a percentage. Tobin's Q is the ratio between the company market value and the replacement value of assets, which ultimately indicates if a company is undervalued or overvalued. Market value is calculated as the listed equity security price multiplied by the number of ordinary shares in issue. It is however common to measure the ratio as market value to asset value, as the replacement value of assets is hard to evaluate (Velte, 2017). Thus, Tobin's Q is measured by market value divided by total assets.

Independent variable

The independent variable is the ESG Combined score (ESGC) which is a rounded and comprehensive score based on the overall ESG Score with a Controversies score overlay. The ESG score consists of the reported information in the environmental, social and governance pillars. The Controversy score is composed of negative events reflected in the media about the company's ESG practices, meaning that a corporate scandal exposed in media should lead to a

lower ESGC score. The ESGC score is weighted after industry, which means the E, S and G factors that are most important for a given industry are weighted thereafter. ESGC is a number between 0 and 100 and can be translated into a letter score (A+, A, ... D-), in similar fashion to credit ratings. The measures used to calculate the ESG score consists of 206 data points which is divided in to 10 ESG category scores (Refinitiv, 2021). For a detailed overview of the scoring system, see Appendix 1. The ESGC score is chosen because it reflects reality to a greater extent than the ESG score. Krüger (2015) found that investors have strong negative responses to negative ESG news, highlighting the significant impact of controversies on ESG performance. Corporate scandals can damage reputation and can cause managers to encourage their ESG strategy to limit the reputational risk (Utz, 2019). Further we move on to present the measures included in the score.

The environmental factor

The environmental factor consists of themes like resource use, emissions and innovation. This means the company is evaluated when it comes to water and energy usage and if they have sustainable packaging and an environmental supply chain. A company is also evaluated when it comes to emissions and waste handling and if they have environmental management systems in place. Companies are also evaluated in regard to how much of their revenues that come from sustainable activities, and how much is spent on innovation and R&D. All of these themes are measured by several underlying metrics, which all together make up the environmental factor score (Refinitiv, 2021).

The social factor

The social factor consists of themes like employees, protecting human rights, good citizenship, care for their employees and customers health and safety. This means the factor measures how the company is respecting human rights, and how good they are at fostering diversity and inclusion for their employees. In addition, the score measures if the company has a career and development program. It measures how good the working conditions are for their employees and whether the company has health and safety policies. The score also evaluates how well the company is taking care of local community, which is equally weighted between industries as it is equally important. The score also measures how responsible the company's products are, which includes measurement of the product quality, how responsible their marketing is, and how the company ensures data privacy for their stakeholders. All of these themes are measured

by several underlying metrics, which all together make up the social factor score (Refinitiv, 2021).

The governance factor

The governance factor consists of themes like management structure, shareholders rights and the company's CSR strategy. The factor measures management diversity, what management compensation systems the company has, and how the company is respecting and including their shareholders. In addition, it measures if a company has a specific CSR strategy, and how well they are at reporting ESG information. It also includes how transparent the company is towards their stakeholders regarding ESG issues. All of these themes are measured by several underlying metrics, which all together make up the governance factor score (Refinitiv, 2021).

Moderator variable

Since this study investigate whether an audit of the ESG report modifies the relationship between ESGP and CFP, a moderator variable is included in the model. Our moderator variable is a dummy variable which has the value 1 if the ESG report is assured by a third party, and 0 if it is not.

Control variables

It is obvious that ESGC cannot explain the differences in financial performance by itself. To ensure that our models are correctly specified with reliable estimates, we include control variables. This makes our models comparable to other studies and increase the explained variance within the models.

The first component we control for is risk, both systematic and unsystematic, as they have an expected negative impact on CFP. In addition, companies with higher ESG performance are considered to be less risky. Beta controls for price changes of the equity in relation to movements in the market and represents systematic risk. For unsystematic risk, leverage is applied, which is calculated by total debt to total assets. Firms with great CFP are assumed to have a lower demand for debt than ones with poor CFP, which is why the relationship between CFP and leverage is expected to be negative. Further, firms with lower leverage are more prone to engage in ESG activities (Velte, 2017; Sassen et al., 2016; Eccles et al., 2014; Nollet et al., 2016).

Firm size is commonly used as a control variable in ESG-CFP studies, because bigger firms tend to have more resources to invest in ESG and receive higher ESG scores. This is also known as size bias of ESG in the literature. However, the direction of the relationship between size and CFP is mixed in previous studies. The negative relationship can be explained due to complex processes in decision making and costly structural changes, while a positive relationship can be explained by economies of scale. To measure size, the natural logarithm of total assets is applied. The reason for putting it on log form is due to the large variation of total assets within the sample, and thus it limits the concern for extreme values (Nirino et al., 2021; Drempeć et al., 2019; Aggarwal et al., 2009; Manrique & Martí-Ballester, 2017).

Previous studies have included R&D as a control variable. The firms in our sample have quite few observations (36% of the sample) of reported R&D expenses and is therefore replaced by capital intensity, which is a percentage calculated as capital expenditures divided by total revenue. Capital expenditures are the funds used by a firm to acquire or upgrade physical assets such as property or equipment, and can affect CFP. The relationship between capital intensity and financial performance is expected to be negative because such improvements and acquisitions are necessary, but costly (Manrique & Martí-Ballester, 2017).

The number of sell side analysts covering the company is included as a control variable in line with previous research (Cai & Pan, 2012). Companies with higher coverage are expected to be positively associated with CFP, especially in terms of higher valuations. Cai & Pan (2012) argue that firms with higher analyst coverage receive more public attention, as well as greater scrutiny, and therefore have a stronger incentive to engage in ESG. Also, Ioannou & Serafeim (2015) found that sell side analysts have shifted towards more optimistic recommendations of companies with good ESG practices.

Sales growth is expected to have a positive impact on CFP, as firms that successfully generate economies of growth also generate profits and higher valuations (Manrique & Martí-Ballester, 2017; Velte, 2019). Firms that voluntarily report on their ESG performance are expected to boost their sales growth (Li et al., 2018). Companies that face declining sales often need to reduce their budget, and their ESG efforts could often be sacrificed under such circumstances. Therefore, companies with poor or declining sales are believed to score lower on ESG as opposed to companies that sustain and improve growth (Nollet et al., 2016). The variable is

calculated as a percentage of growth in revenue from the previous year to the current, and revenue represents all of a company's operating activities after deducting any sales adjustments.

The governance score is included as a control variable as a proxy for management quality. Governance practices is expected to impact CFP positively, as well as it is one of the pillars in the ESG score (Aggarwal, 2009). ESG investments are somewhat discretionary investments, so governance aspects come hand in hand with it. Good governance policies are known to take multiple stakeholders into account, as well as good governance is considered as a prerequisite for good social and environmental scores (Nollet et al., 2016; Li et al., 2018). The governance score is calculated by Refinitiv Eikon as previously described.

It is reasonable to believe that CFP can somewhat be explained by specifics in the Scandinavian context. Therefore, we add dummy variables for country-, year- and industry effects. Country effects are included in line with Duque-Grisales & Aguilera-Caracuel (2019). We use three country dummies for Norway, Denmark and Sweden, respectively. Year specific effects are relevant because black swan events occur from time to time and can have a significant impact on CFP. The late effects from the financial crisis and the crude oil crisis are relevant to the time frame of our sample. A dummy variable for each sample year is therefore added in line with Li et al. (2018) and Velte (2019). Different industries are subject to specific characteristics that affect CFP, such as level of competition (Manrique & Martí-Ballester, 2017). In addition, some industries are more ESG-sensitive compared to others. We therefore control for industry in line with Velte (2017) and Li et al. (2018). This study uses GICS Sector (Global Industry Classification Standard) to determine which industry the companies belong to, with a total of 20 dummies for each industry. An overview of all the variables in our regressions and how they are calculated is found in Appendix 2.

3.3.2 Pooled OLS

Our data has cross sectional observations of firms over time, which makes it is appropriate to apply panel data models. Pooled Ordinary Least Squares (POLS) is a technique where the coefficients are calculated by minimizing the sum of the squared residuals, and it is the first of three models applied in this thesis. The model assumes independent observations, meaning that we ignore the panel data structure of individual differences and heterogeneity (Hammervold, 2020). This is a weakness of POLS, as it is reasonable to believe that company effects are

unique and important to the sample. It is a great model to use when the estimators are BLUE (Best Linear Unbiased Estimators), meaning they fulfill the seven criteria of OLS. It can be a good fit when the estimates are linear with low variance, such that the probability of representative estimates are higher. When this is the case, the estimates are *efficient*. Further, when the estimates are transparent and similar across multiple samples, the estimates are *unbiased* and correspond to true values. The estimates are also *consistent* when the sample size increases, causing the estimates to converge against the true values of the population (Studenmund, 2017). Further, we test whether POLS is a good fit for our data by the seven assumptions.

H1 and **H2** investigate the relationship between CFP and ESGP. The initial model for testing these hypotheses is given by POLS regression model (1). All regressions are executed in the statistical software program STATA 16.

$$CFP (ROA_{i,t+1}, TOBIN'S Q_{i,t+1}) = \alpha + \beta_1 ESGC_{i,t} + \beta_2 BETA_{i,t} + \beta_3 LEVERAGE_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 CAPI_{i,t} + \beta_6 NANALYSTS_{i,t} + \beta_7 SALESGROWTH_{i,t} + \beta_8 GSCORE_{i,t} + \beta_9 INDUSTRY_i + \beta_{10} YEAR_t + \beta_{11} COUNTRY_i + \varepsilon_{i,t} \quad (1)$$

H3 investigates the moderating effect of an audited ESG report and is tested by POLS regression (2). For the readers' notice, the AUDIT_ESGC indicates the interaction term between ESG Combined score and the audit dummy.

$$CFP (ROA_{i,t+1}, TOBIN'S Q_{i,t+1}) = \alpha + \beta_1 ESGC_{i,t} + \beta_2 AUDIT_{i,t} + \beta_3 AUDIT_{i,t} \cdot ESGC_{i,t} + \beta_4 BETA_{i,t} + \beta_5 LEVERAGE_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 CAPI_{i,t} + \beta_8 NANALYSTS_{i,t} + \beta_9 SALESGROWTH_{i,t} + \beta_{10} GSCORE_{i,t} + \beta_{11} INDUSTRY_i + \beta_{12} YEAR_t + \beta_{13} COUNTRY_i + \varepsilon_{i,t} \quad (2)$$

The error term accounts for the variance that is not captured by the model and mitigate measurement error (Studenmund, 2017). It seems reasonable that ROA and Tobin's Q are difficult to predict, and previous studies often maintain a R² ranging between 0.1~0.4 (Velte, 2017; Han et al. 2016; Li et al. 2018). It is therefore expected that the error term will explain a great deal of the change in the dependent variables due to unobserved and unidentified variables. The inclusion of the error term is also in line with the first criteria of OLS which states that the model should be linear in its coefficients, is correctly specified and has an additive error term (Studenmund, 2017). We use scatterplots to detect linearity, and a Ramsey Reset test

checks if the models are correctly specified. For the sake of keeping the assumption testing short, the tests are only conducted for model (1). The scatterplots were also useful to detect outliers in the dataset, which is why all continuous variables are winsorized by the 1st and 99th percentile. This reduce the influence of extreme values and is in line with Li et al. (2018). Problems with outliers can also be reduced by putting all variables on log form (Hammervold, 2020), but since ROA has negative values, the natural choice was winsorizing.

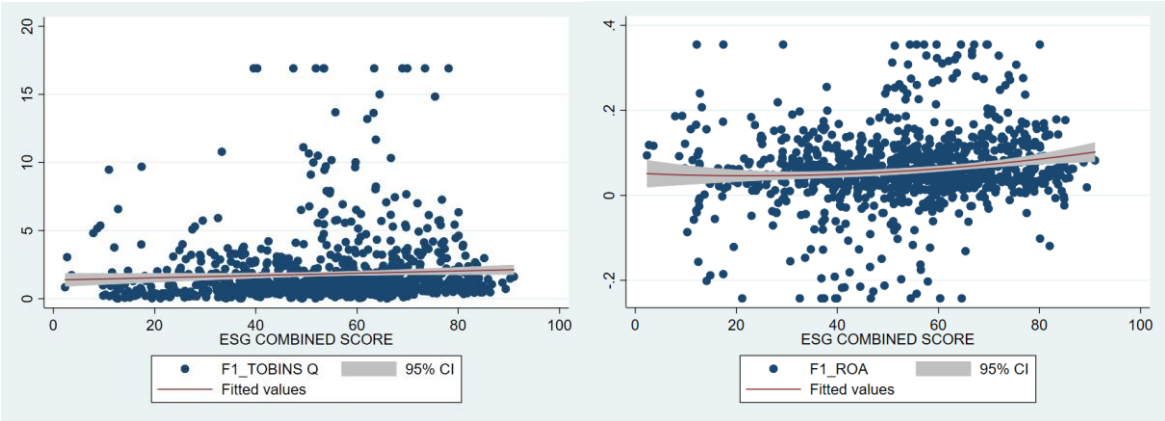


Figure 3.1: Scatterplot of ESGC and Tobin’s Q & ROA.

The scatterplot for Tobin's Q compared to ESGC indicates a gently positive linear relationship, while the relationship seems to be U shaped in the case of ROA and ESG (see Figure 3.1). To model the possible non-linear relationship, the square of ESGC is included in the ROA regression (Rabe-Hesketh & Skrondal, 2008). Thus, $ESGC^2$ is added as a control variable in all ROA regressions. The scatterplots for the control variables are shown in Appendix 3. H_0 in the Ramsey Reset test states that the model has no omitted variables, and is rejected with a p-value of 0.000 in both models. This implies that our models either suffer from misspecification or omitted variables and assumption I is therefore violated.

The second assumption of OLS is that the error term has a zero population mean. Since the error term cannot be observed, it is common to apply the residuals in error term diagnostics (Studenmund, 2017). The best way to test the assumption is by observing the normal distributions of the residuals as in Figure 3.2 below. The residuals are centered around a mean of zero, and assumption II is fulfilled.

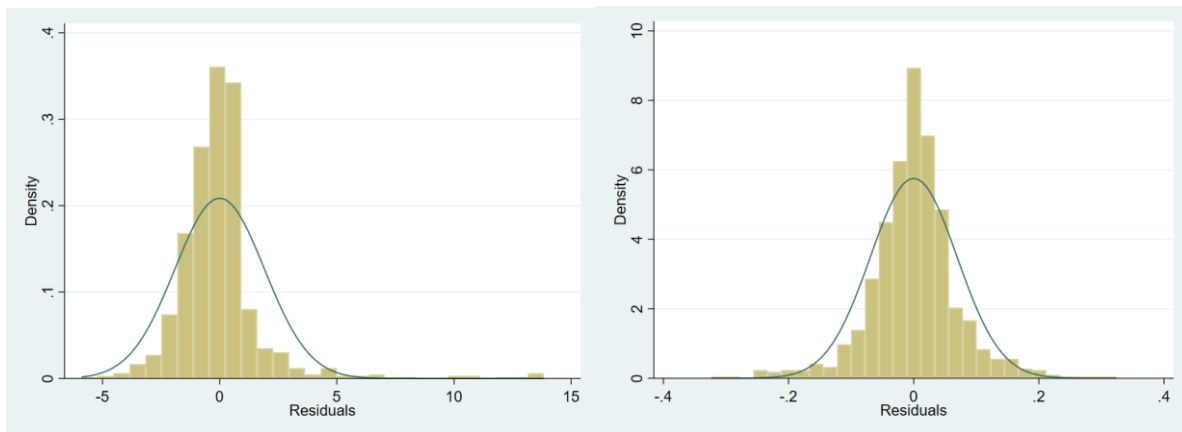


Figure 3.2: Histogram of residuals, Tobin's *Q* to the left and ROA to the right.

The third assumption states that the explanatory variables are uncorrelated with the error term (Studenmund, 2017). This is tested by running a correlation matrix between the residuals and the explanatory variables, where none of the correlations are significant (all p values equal to 1.000). Thus, assumption III is satisfied.

Classical assumption IV is that the observations of the error term are uncorrelated with each other. If assumption IV is violated, the model suffers from autocorrelation, meaning we do not have independent observations. This escalates the variance of the coefficients, but the increase is not captured by the POLS model. Hence, the model typically yields better results than the actual truth, in form of higher F- and T-values, which in turn means lower p-values and significant results (Studenmund, 2017). STATA 16 does not allow to run the Durbin-Watson or Lagrange Multiplier tests for autocorrelation in POLS. There is an alternative way to test for first order autocorrelation by simply running a binary regression with the residuals as the dependent variable, and the lagged residuals as the independent variable. If there is no autocorrelation, the R squared should be close to 0, and the lag should not be significant. That is however not the case in our POLS models, as the R squared is 0.3263 with a significant lag for Tobin's *Q*, and a R squared of 0.2934 with a significant lag for ROA. We therefore conclude that the model suffers from first order autocorrelation, which is a violation of assumption IV.

A prerequisite for OLS is that the error term has constant variance, which translates to homoscedasticity and Assumption V. The opposite is heteroskedasticity which consequently results in escalating variance of the coefficients, an increase that is not captured by the POLS model. Heteroskedasticity can occur due to extreme values and misspecification of the model

and causes the model to yield better results in the same way as autocorrelation does, which is type 1 error (Studenmund, 2017). As previously mentioned, several variables have been winsorised and put on log form to limit the influence of extreme values. To test for heteroskedasticity, we check if the residual plots resemble white noise (dispersion). If that is the case, the residuals have random variation which indicates homoscedasticity.

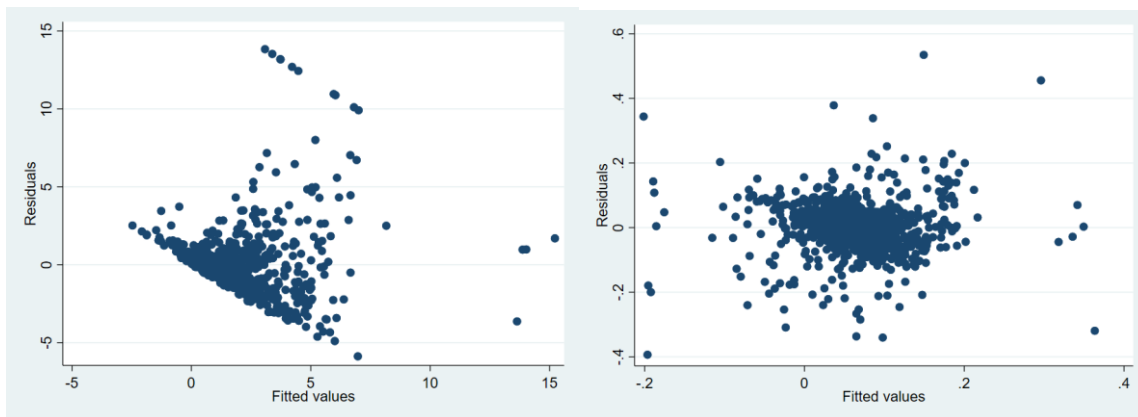


Figure 3.3: Residual plots of Tobin's Q to the left, and ROA to the right.

As we can observe from Figure 3.3, the variation seems to increase for Tobin's Q , while observations are centered in the middle and not randomly spread for ROA either. To further test for heteroskedasticity, the Breuch-Pagan test (both Chi-Square and F-test) and the White test is executed. The null hypothesis of homoscedasticity is rejected with an obtained p-value of 0.000 in both models, indicating significant heteroskedasticity. This means that classical assumption V is breached. To correct for heteroskedasticity, we apply clustered robust standard errors in all regressions. Clustered robust standard errors are also a measure to overcome problems with autocorrelation (Hoechle, 2007).

Assumption VI states that no explanatory variable can be a perfect linear function of another explanatory variable. If two variables are strongly correlated with each other, they suffer from multicollinearity. This can cause an artificially high R squared and makes it hard to tell what variables that causes the effect on the dependent variable (Studenmund, 2017). The VIF index reveals possible problems with multicollinearity, and is calculated as follows:

$$VIF(\hat{\beta}_i) = \frac{1}{(1 - R_i^2)}$$

The VIF index indicates to what degree multicollinearity has increased the variance to an estimated coefficient. The higher the index, the higher the standard error of the coefficients,

and problems with multicollinearity are more severe. The classical statistical rule proposed by Studenmund (2017) is that a VIF above 5 indicates problems with multicollinearity. However, previous research investigating the CFP-ESG link has used 10 as a rule of thumb (Velte, 2017; Li et al., 2018). As for our Tobin's Q and ROA models, the VIF index is 9.47 and 10.46, respectively. The VIF is higher for the ROA model, since $ESGC^2$ is a function of ESGC. The VIF for industry dummies ranges from 5.07~56.35, meaning they are influential. When the industry dummies are excluded, the VIF averages at 1.91 (Tobin's Q) and 3.95 (ROA). We have included as many as 20 industry dummies, and some of the industries have very similar properties and are difficult to separate. Therefore, we are not concerned about problems with multicollinearity, and assumption VI is considered fulfilled.

The last and seventh assumption is that the error term is normally distributed. Assumption VII is optional, and more important for datasets with a lower number of observations (Studenmund, 2017). As we can observe from Figure 3.2 the distribution of the error term is especially centered around the middle for Tobin's Q with a very long right-side tail. The distribution is neither perfectly normal for ROA. When running Skewness/Kurtosis, Shapiro-Wilk and Shapiro-Francia tests for normality, they all reach the same conclusion, namely that the residuals are not normally distributed in either models (p-values of 0.000). We also observed a S-shaped curve from the probability plots in both models, indicating a skewed distribution of residuals.

Overall, the assumption testing has proved that POLS does not seem to be a particularly good model for our data, as several assumptions were violated. The tests have provided valuable insights, such as detecting and dealing with extreme values, the U-shaped relationship between ROA and ESGC, and the need for clustered robust standard errors. The VIF results apply to the fixed and random effect models. The POLS regressions will be included for comparison purposes, but the presentation and discussion of the results will be based on the two panel data models discussed in the next sub chapter.

3.3.3 Panel data models (Fixed and random effects models)

In Fixed (FE) and Random (RE) effects models, firm-specific and time-specific heterogeneity is taken into consideration (Hammervold, 2020). These two models are widely used in ESGP-

CFP research. This subchapter provides a brief insight of the model properties, and results from tests which are conducted to determine what models are the best fit.

The FE model allows the companies in the sample to have different intercepts, as opposed to POLS where the intercepts are constant regardless of the firm and the time. Thus, we can capture the unique characteristics and causes of change within different companies. The model is suited to analyze variables that vary over time, because FE controls for time invariant variables. An assumption of FE models is that time-invariant characteristics are specific and constant for each company, and thus they cannot cause changes within the company. This means that the FE estimates are only produced by time variant variables and are not subject to omitted variable bias. That is why industry and country dummies are omitted from the FE model, as they are time invariant. The FE model removes the time invariant component of the error term (α_i), because it is the same in all periods, which leaves us with the random idiosyncratic error term (u_{it}) (Studenmund, 2017; Chelawat & Trivedi, 2016). In contrast to the FE model, the RE model allows to control for time invariant variables in the model and the intercepts are randomly drawn from a distribution and centered around the mean (Studenmund, 2017). This means the RE models can be subject to omitted variable bias. Also, the RE model assumes that individual effects are uncorrelated with the explanatory variables, while the FE model assumes correlation (Hammervold, 2020).

Tests conducted on panel data

In addition to testing the assumptions of OLS, we have conducted the following tests for our panel data models to make sure that they yield valid estimates.

Stationarity

To ensure that the estimations of the regressions are not spurious it is important to test for stationarity (Studenmund, 2017). This is conducted through a Panel Unit Root Test. A commonly used method is the test proposed by Levin et al. (2002), but due to our panel being unbalanced, we had to conduct a Phillips-Perron Fischer type test. The Phillips-Perron is used because it corrects for any serial correlation and heteroscedasticity. It tests the null hypothesis of all panels containing unit roots, against the alternative hypothesis of stationarity. The P represents the inverse chi-squared and P_m represents the modified inverse chi-square and are

used because the number of panels are finite as proposed by Choi (2001). The tests show significant p-values < 0.05, which indicates that data is stationary.

Variable, Stat, p-value	ROA	Tobin's Q	ESGC	BETA	SIZE	LEV.
P	1431,74	1103,70	1514,34	755,21	573,77	1449,19
Pm	56,76	41,28	60,60	25,10	16,36	57,53
P	0,000	0,000	0,000	0,000	0,000	0,000
Pm	0,000	0,000	0,000	0,000	0,000	0,000
Variable, Stat, p-value	GS	N.AN.	SALES G.	CAPI	AUDIT	
P	1566,32	1223,23	2823,73	1909,81	542,11	
Pm	63,04	46,91	122,19	79,20	14,87	
P	0,000	0,000	0,000	0,000	0,000	
Pm	0,000	0,000	0,000	0,000	0,000	

Table 3.1: Test for stationarity of data through Phillips-Perron Fischer type test.

Autocorrelation, heteroscedasticity and time fixed effects

Further we test for autocorrelation and heteroscedasticity using the Wooldridge test and Wald test. Since the Durbin-Watson test was not possible to conduct on panel data, we use the Wooldridge test. The Wald test for heteroscedasticity can only be used after a Fixed Effects regression in Stata 16, and was therefore conducted after the FE regressions. The test results indicate that autocorrelation and heteroscedasticity is present in our models as p-values are below 0.05 (see Table 3.2 & 3.3). We therefore apply cluster robust standard errors with the command *vce(robust)* in the final panel regression models. This will make the standard errors in the models robust to problems with heteroscedasticity and autocorrelation (Hoechle, 2007). To test if year dummies should be included in the FE models, the *testparm* command is applied. H_0 states that all years are equal to zero. With a p-value below 0.05 in all models, H_0 is rejected, meaning year dummies should be included in all FE models (see Table 3.4).

Modified Wald test $H_0 =$ homoscedastic	MODEL 1: TOBINSQ	MODEL 2: ROA	MODEL 3: TOBINS Q ME AUDIT	MODEL 4: ROA ME AUDIT
chi2	34868,28	2,6e+05	33134,30	3,3e+05
p-value	0,0000	0,0000	0,0000	0,0000

Table 3.2: Modified Wald test results for heteroscedasticity.

Wooldridge test H₀ = no first-order autocorrelation	MODEL 1: TOBINSQ	MODEL 2: ROA	MODEL 3: TOBINS Q ME AUDIT	MODEL 4: ROA ME AUDIT
F	7,988	19,459	7,995	19,949
p-value	0,0056	0,0000	0,0056	0,0000

Table 3.3: Wooldridge test results for autocorrelation.

Time-fixed effects test	MODEL 1: TOBINS Q	MODEL 2: ROA	MODEL 3: TOBINS Q ME AUDIT	MODEL 4: ROA ME AUDIT
F(10,112)	7,91	1,94	7,43	2,04
Prob > F	0,0000	0,0472	0,0000	0,0353

Table 3.4: Test for time fixed effects.

Hausman test and LM test

The Hausman test is used to determine whether a fixed or random effects model is preferred. H₀ states that both estimation models are suitable and yield similar coefficients. If they are similar, the RE model is preferred since it provides more efficient estimates (Studenmund, 2017). This means that when RE is preferred the coefficients of the RE model are not systematically different from the FE model. The alternative hypothesis is that the RE model is inconsistent and that the FE model is unaffected which results in systematically different coefficients. This means that the FE model should be used (Studenmund, 2017). The test results from the Hausman tests conclude that the FE model is preferred in the Tobin's Q regression as the p-value is just below 0.05. The RE model is preferred in both of the ROA regressions and the Tobin's Q regression with the moderating effect of audit, as p-values are over 0.05 (see Table 3.5). This means that the coefficients from these three models are consistent with the FE coefficients. One possible explanation to why the RE models are preferred could be due to time invariant variables being omitted in the FE model. There could therefore be important country and industry differences in the Scandinavian sample. To be sure that the RE model is preferred over POLS we conduct a Breusch-Pagan Lagrange multiplier (LM) test. H₀ in the LM test is that variances across entities is zero, indicating POLS should be used. The tests conclude that the RE models are appropriate (see Table 3.6).

Hausman test	MODEL 1: TOBINSQ	MODEL 2: ROA	MODEL 3: TOBINS Q ME AUDIT	MODEL 4: ROA ME AUDIT
chi2	29,73	14,64	27,39	13,68
p-value	0,0402	0,6862	0,1214	0,8462

Table 3.5: Hausman test results.

Breusch Pagan LM test for random effects	MODEL 1: TOBINS Q	MODEL 2: ROA	MODEL 3: TOBINS Q ME AUDIT	MODEL 4: ROA ME AUDIT
chibar2	258,82	401,21	253,46	398,86
p-value	0,0000	0,0000	0,0000	0,0000

Table 3.6: Breusch Pagan Lagrange Multiplier test results.

3.3.4 Final regression models

The test results have played a critical role in developing the initial regression into the final regression models as preferred by the Hausman tests. These regressions will be used in the remaining chapters, in addition to complementary models for comparison purposes. H1 is tested by FE model (3), H2 by RE model (4), and H3 by RE models (5) and (6). In Appendix 4 we illustrate the moderator model and statistical model concerning the hypotheses.

$$TOB\ddot{I}N'S\ Q_{i,t+1} = \alpha + \beta_1 E\ddot{S}GC_{i,t} + \beta_2 B\ddot{E}TA_{i,t} + \beta_3 LEV\ddot{E}RAGE_{i,t} + \beta_4 S\ddot{I}ZE_{i,t} + \beta_5 C\ddot{A}PI_{i,t} + \beta_6 NANAL\ddot{Y}STS_{i,t} + \beta_7 SALES\ddot{G}ROWTH_{i,t} + \beta_8 GS\ddot{C}ORE_{i,t} + \beta_9 Y\ddot{E}AR_t + \ddot{u}_{i,t} \quad (3)$$

$$ROA_{i,t+1} = \alpha + \beta_1 ESGC_{i,t} + \beta_2 ESGC^2_{i,t} + \beta_3 BETA_{i,t} + \beta_4 LEVERAGE_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 CAPI_{i,t} + \beta_7 NANALYSTS_{i,t} + \beta_8 SALES\ GROWTH_{i,t} + \beta_9 GSCORE_{i,t} + \beta_{10} INDUSTRY_i + \beta_{11} YEAR_t + \beta_{12} COUNTRY_i + u_{i,t} + \varepsilon_{i,t} \quad (4)$$

$$TOB\ddot{I}N'S\ Q_{i,t+1} = \alpha + \beta_1 ESGC_{i,t} + \beta_2 AUDIT_{i,t} + \beta_3 AUDIT_{i,t} - ESGC_{i,t} + \beta_4 BETA_{i,t} + \beta_5 LEVERAGE_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 CAPI_{i,t} + \beta_8 NANALYSTS_{i,t} + \beta_9 SALES\ GROWTH_{i,t} + \beta_{10} GSCORE_{i,t} + \beta_9 COUNTRY_i + \beta_{10} YEAR_t + \beta_{11} INDUSTRY_i + u_{i,t} + \varepsilon_{i,t} \quad (5)$$

$$ROA_{i,t+1} = \alpha + \beta_1 ESGC_{i,t} + \beta_2 ESGC^2_{i,t} + \beta_3 AUDIT_{i,t} + \beta_4 AUDIT_{i,t} - ESGC_{i,t} + \beta_5 BETA_{i,t} + \beta_5 LEVERAGE_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 CAPI_{i,t} + \beta_8 NANALYSTS_{i,t} + \beta_9 SALES\ GROWTH_{i,t} + \beta_{10} GSCORE_{i,t} + \beta_9 COUNTRY_i + \beta_{10} YEAR_t + \beta_{11} INDUSTRY_i + u_{i,t} + \varepsilon_{i,t} \quad (6)$$

3.4 Research design for survey

Our second purpose is to investigate how Scandinavian asset managers use and consider ESG information. To investigate this, a survey was found to be an appropriate data collection method since we wish to investigate multiple individuals across three different countries. The survey is based on prior literature discussed in Section 2.2.3. The survey is mainly inspired by studies of Amel-Zadeh & Serafeim (2018), Eccles et al. (2017) and Van Duuren et al. (2016). The primary objective of the survey is to investigate if professional investors use ESG information systematically, what investment strategies they use, in addition to examining how they consider the ESG reporting framework. We wish to examine what ESG disclosure they require and their evaluation of present ESG reports in regards of assurance, standardization and legislation. The survey is cross sectional as we collect information regarding asset managers response at a particular moment in time (Hammervold, 2020). We chose a web-based survey distributed via mail due to its advantages when it comes to appearances, routing and analysis (Bell et al., 2019).

The population of our survey consists of all asset management companies in Scandinavia. To find an overview of the population we used the Financial Supervisory Authority business register in Norway, Sweden and Denmark. We used a stratified random sampling technique based on country (Bell et al., 2019). This means our sample was divided into the three Scandinavian countries, and then respondents were randomly selected. The final sample of our survey consists of 305 Scandinavian companies. By asking AM to participate regardless of their ESG profile we addressed the threat of selection bias that could distort the results, as proposed by Amel-Zadeh & Serafeim (2018). Still, there is a possibility that asset managers who do not consider ESG declines to participate, because they might believe a survey about ESG only concerns users of such information (non-response bias). That is why we highlighted our interest in receiving responses from both users and non-users. We collected contact info via the companies' web sites, and made direct contact with either CIO, portfolio managers, ESG specialists or employees in other relevant positions. The survey, in addition to information regarding the survey (purpose, participation etc.), was electronically distributed via email to all respondents. The email contained a link to the survey using an anonymous solution provided by Nettskjema. It is a possibility that responders are affected by social desirability bias, meaning that they would modify their responses to what is socially desirable (Bell et al., 2019; Van Duuren et al., 2016). By providing anonymity, we assume that the likelihood for assigning artificially ESG-friendly answers is limited. Lastly, participation in the survey was completely

voluntary, but was incentivized with getting insight into the findings. After 2 weeks, a reminder was sent out to all respondents. We received a total of 74 responses which constitutes a response rate of 24%. We note that the response rates vary between the three countries.

The first draft of the survey was sent to SKAGEN, and we solicited feedback from two ESG experts to make sure it was understandable and relevant. We also got advice from academics to optimize the wording of the questions and to make sure we could address the research questions. First, we sent a request to the companies in the sample, asking if they wanted to participate in the study. We experienced great engagement from the AM, and we got input on topics to include in the questionnaire. This resulted in further modification of the final survey. After getting confirmation from several companies, we initially sent the survey to 10 companies to check that the survey worked by its purpose. Afterwards the survey was sent to everyone in the sample. An outline of the finished survey consists of 9 main socio-demographic questions and 15 main questions concerning the use and assessment of ESG (see Appendix 5). The questions asked in the survey are constructed in line with general and specific rules for designing questions described in Bell et al. (2019, p. 258). Questions 2.1, 2.6 2.9 and 2.9.1a) and b) in Appendix 5 aim to identify whether asset managers use ESG information systematically and how the information is treated systematically. Furthermore, questions 3.3 and 3.4 aim to identify whether asset managers prefer an external audit of the ESG reports and whether they consider it to be more reliable. We tried to keep the survey as short as possible to increase the response rate and avoid participants from losing interest (Bell et al., 2019). The survey is constructed in a way that follow up questions are depending on the respondent's previous answer. The latter means we deploy routing of respondents and that they receive relevant questions depending on whether they use ESG information or not. The survey consist of both free-text, categorical, Likert items and multiple-choice questions. We chose odd number Likert scales with 5 points to provide a neutral response option, and to reduce the chance of response bias. A neutral option can reduce the tendency to favor one response over others (Croasmun & Ostrom, 2011). By using a 5-point Likert scale one can measure the direction and strength of a respondent's opinion (Garland, 1991). Also, we chose a 5-point scale as the literature suggests that it is less confusing for the respondents, and it can increase the response rate (Devlin et al., 1993). When the answers to the questions are given in advance as they are in a survey, it is a possibility that the results might be biased. That is the reason for including the option to leave a free-text answer, which limits this issue. Open questions in the survey were answered by free-text, and it was optional for respondents to reply them.

The survey was analyzed using STATA 16, to get an overview of the descriptive statistics and response rates. We employed both parametric and non-parametric statistical techniques in the analysis. We conducted both two sample t-tests (also referred to as independent samples t-test) and Mann-Whitney U tests (MWU, also known as Wilcoxon Rank Sum test) to see whether there were statistical differences between several groups (e.g., differences between gender and age, small and big AM) (Fay & Proschan, 2010). Independent sample t-test is a parametric technique with several assumptions such as random sampling, independent observations, normal distribution and equal variance (McKnight & Najab, 2010). Random sampling is used in the survey, where we randomly select respondents. We assume the observations are independent, due to the data collection method where one respondent's answer is independent of another since the survey is not conducted in a group setting. We test for normal distribution by using the skewness/kurtosis test for normality on relevant variables (Hammervold, 2020). The test results indicate normal distribution on many variables where p-values are over 0,05 and H_0 states that data are normally distributed (See Appendix 7). The t-tests were based on Levene's test of equal variances, and if the test indicated unequal variance, we used Welch's approximation (Hammervold, 2020). The t-test also require continuous variables, and there is a debate in the literature regarding whether Likert-scales should be treated as categorical or continuous. Norman (2010) argues that Likert scales can be treated as continuous, and that parametric statistical techniques like the t-test are robust to violations of assumptions when Likert scales are treated as continuous. It is highlighted that the choice between t-tests and non-parametric tests should not be based on the assumption of normality, since studies suggest they are robust to such violations (Fay & Proschan, 2010; Norman, 2010). However, due to the many assumptions that the t-test requires we also conduct non-parametric MWU tests. As opposed to the t-test, the basic principle of non-parametric tests is that no particular distributional assumptions are made (Fay & Proschan, 2010). The MWU test can also be conducted on both continuous and categorical variables (McKnight & Najab, 2010). Fay & Proschan (2010) state that the non-parametric test has better properties if data violates assumptions. Therefore, the test results and statistics presented in Chapter 4 is based the MWU test, as it is considered to the most reliable. Non-parametric tests are also believed to be more reliable on relatively small samples (Fagerland, 2012). Considering that certain groups in the sample are below 30 it seems like a reasonable choice. However, we note that the t-tests and the MWU tests gave the same significant differences, indicating robust results. To analyze the free-text answers we used NVivo 12 and created nodes to get an overview of the most important factors. In the next chapter we will move on to present the empirical findings from the regressions and the survey.

Chapter 4. Empirical results

In this chapter we will present the empirical findings from the regressions and the survey. We start by presenting the empirical results to address RQ1 and RQ2, and then move over to presenting the findings to answer RQ3.

4.1 Empirical results from regressions

4.1.1 Descriptive statistics

To get a grip on the data and basis for the results, summarizing statistics of the variables are presented. Firstly, we comment the overview of our variables and then move on to discuss the correlation matrix.

Variables	Mean	Std. Dev.	Min	Max	Observations
Dependent variables – CFP					
ROA	0.0624908	0.0884237	-0.2424939	0.3548119	N = 1219 n = 113 T-bar = 10.7876
TOBINSQ	1.798324	2.506072	0	16.91208	N = 1227 n = 113 T-bar = 10.8584
Independent variable – ESGP					
ESGC	53.88403	18.0484	2.299773	90.99524	N = 983 n = 113 T-bar = 8.69912
Moderator variable – Audit of ESG report					
AUDIT	0.2759453	0.4471693	0	1	N = 1243 n = 113 T = 11
Control variables					
BETA	1.007735	0.4435937	0.17	2.66	N = 1183 n = 113 T-bar = 10.469
LEVERAGE	0.2457141	0.1696811	0	0.7402104	N = 1220 n = 113 T-bar = 10.7965
SIZE	21.67653	1.500817	15.99377	25.70394	N = 1220 n = 113 T-bar = 10.7965
CAPI	0.1143798	0.2438846	0	1.535512	N = 1219 n = 113 T-bar = 10.7876
NANALYSTS	13.04425	9.315916	0	44	N = 1243 n = 113 T = 11
SALESGROWTH	4.782205	24.0885	-58.65177	115.8596	N = 1210 n = 113

					T-bar = 10.708
GSCORE	50.59422	22.26196	3.650794	97.03585	N = 983 n = 113 T-bar = 8.69912

Table 4.1: Descriptive statistics of all variables included in the regression analysis.

From Table 4.1 one can see that the companies in our sample yield a ROA of 6.24% on average. With a standard deviation of 0.08842, we can tell that 95% of the companies are located in the interval between -11.43~23.93 percent ($\mu \pm 2\sigma$). The minimum and maximum of ROA are observed at -24.24% and 35.48%. Examples of companies with utmost negative observations are Bang & Olufsen (Consumer Durables & Apparel) and Eniro AB (Media & Entertainment), while examples of positive observations are Fingerprints Cards AB (Technology Hardware & Equipment) and Novo Nordisk (Pharmaceuticals, Biotechnology & Life Sciences). Tobin's Q has a mean value of 1.79, which indicates that the majority have greater market value as opposed to asset value. We note that the standard deviation is relatively high compared to other variables. Tobin's Q cannot turn negative, so 95% of the companies retrieve a Tobin's Q between 0 and 6.81. The most influential cases have a ratio of 16.91, such as Chr. Hansen Holding AS (Materials) and SimCorp AS (Software & Services).

The explanatory variable of particular interest is ESGC, where the average company in the sample attains a score of 53.88. 95% of the companies acquire a score between 17.78 and 89.98, and the distribution of the ESGC scores are seen below in Figure 4.1. The most influential cases are Svedbergs i Dalstorp AB (Capital Goods) with a score of 2.29 and Alfa Laval AB (Capital Goods) with a score of 90.99. ESGC is the variable with the fewest observations, with 983 in total. This is also expected, as the set minimum requirement is three years of rating. On average, the companies have data on 8.69 out of 11 years, which indicates that the majority have ESG ratings in several consecutive years.

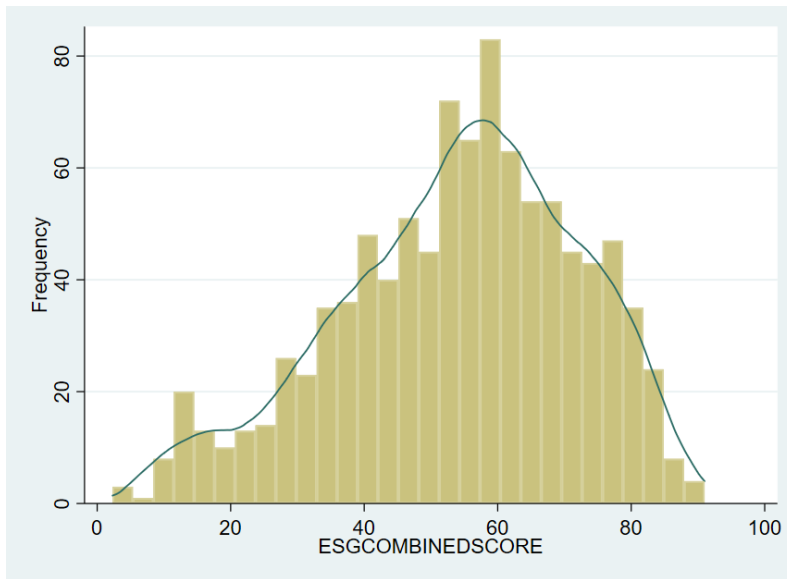


Figure 4.1: Histogram of ESGC scores

The moderating audit variable is a dummy variable, and therefore has the maximum of 1 and minimum of 0. It has a mean of 0.28, indicating that most companies do not have an audited ESG report in the time frame. However, when taking a closer look at the data, we observe that the proportion of audited ESG reports is very low in the first years and that it increases with time. The audited reports are assured by an accounting firm, with few exceptions. The descriptive summary of the control variables will not be discussed thoroughly in order to keep the section short. We note the number of observations ranges between 983~1243. This tells us that our panel is not perfectly balanced, which is also not expected. We notice that the mean beta is 1.007 which is close to a beta of 1, which the market should represent in theory. This indicate that the sample moves with the market. Leverage has a mean value of 0.25, with a maximum of 0.74 and minimum of 0. This implies that some companies in the sample have zero debt. Size has a mean of 21.7, with a maximum of 25.7 and a minimum of 15.6, which indicates that most of our companies are of larger size. We note that the control variable sales growth has a pretty high standard deviation, indicating big dispersion. Also, the mean governance score is lower than the mean ESGC score and has a higher standard deviation. On average 13 sell side analysts cover the stocks in our sample. Finally, capital intensity has a mean of 0.11 with a standard deviation of 0.24, indicating that it is a large spread in relation to how much the companies spend on capital expenditures and gain from revenues.

Furthermore, we move over to the correlation matrix, which is presented in Table 4.2 below.

	ROA	TOBINS Q	ESGC	AUDIT	BETA	LEV.	SIZE	CAPI	N.AN.	SALES G.	GS
ROA	1										
TOBINSQ	0.429***	1									
ESGC	0.127***	0.059*	1								
AUDIT	0.047	-0.021	0.451***	1							
BETA	-0.209***	-0.150***	-0.008	0.001	1						
LEV.	-0.202***	-0.258***	-0.147***	-0.113***	0.070**	1					
SIZE	-0.094***	-0.271***	0.438***	0.457***	0.187***	0.145***	1				
CAPI	-0.133***	-0.124***	-0.131***	0.001	0.057**	0.342***	0.136***	1			
N.AN.	0.107***	-0.011	0.319***	0.392***	0.123***	-0.034	0.704***	0.117***	1		
SALES G.	0.176***	0.117***	-0.064**	-0.058**	-0.048*	0.002	-0.087***	0.101***	-0.038	1	
GS	-0.033	0.040	0.587***	0.271***	0.015	-0.069**	0.274***	-0.012	0.240***	0.001	1

Table 4.2: Pearson's correlation matrix of all variables in the regression analysis.

Note: ***, ** and * indicates significant correlation at 1, 5 and 10 percent, respectively.

As previously tested, the sample does not suffer from multicollinearity. Therefore, it is no surprise that the matrix does not show perfect (± 1), strong (± 0.8) or moderate (± 0.6) correlation, except from one case. There is a significant positive moderate correlation between number of analysts and size, with a coefficient of 0.7043. It seems intuitive since bigger firms are transparent in their reporting, get more attention and have higher trading volumes which makes analytics more prone to monitor them. In terms of the correlations with the dependent variables ROA and Tobin's Q, we observe that ESGC has a positive sign even though the correlations are weak. Beta, leverage and capital intensity have expected negative signs, and sales growth has a positive expected sign, although the correlations are weak. Interestingly size has a negative sign on both ROA and Tobin's Q. In terms of ESGC and size, a positive significant correlation coefficient of 0.4378 indicates a slight size bias. ESGC and governance score are correlated with a coefficient of 0.5866, which is expected since the latter is a product of the former. Further, ROA and Tobin's Q have a significant correlation coefficient of 0.4289, as it is expected that accounting performance and valuation of companies should have some correspondence. Interestingly, the strongest correlations with the audit variable are ESGC (0.4505), size (0.4569) and number of analysts (0.3919). This indicates that companies with audited ESG reports have higher ESG scores, and they are usually of greater size with higher analyst coverage.

4.1.2 Regression results

We first start by presenting the regression results to test H1 and H2 before we move on to presenting the results for the moderating effect of audit that address H3.

Dependent variable: TOBINSQ	Model 1A POOLED OLS	Model 1B RE GLS ROBUST	Model 1C FE ROBUST
Variables	Coef. (Robust Std Err.)	Coef. (Robust Std Err.)	Coef. (Robust Std Err.)
ESGC	0.0196** (0.0085)	0.0185*** (0.006)	0.0196*** (0.0072)
BETA	-0.1581 (0.4024)	0.2034 (0.4012)	0.2849 (0.4313)
LEVERAGE	-0.5318 (0.8144)	-0.5396 (0.8242)	-0.2696 (1.1322)
SIZE	-0.8593*** (0.1686)	-0.7597*** (0.2104)	-0.8598* (0.4777)
CAPI	0.2735 (0.3107)	-0.2377 (0.2417)	-0.3285 (0.2630)
NANALYSTS	0.0919*** (0.0188)	0.0566** (0.0233)	0.0303 (0.0277)
SALESGROWTH	0.0079*** (0.0028)	0.0044* (0.0024)	0.0041 (0.0026)
GSCORE	-0.0067 (0.0071)	-0.0092 (0.0059)	-0.0140** (0.0066)
CONSTANT	18.2521*** (3.2911)	17.2986*** (4.1340)	19.3820* (9.8433)
Industry dummies	YES	YES	-
Year dummies	YES	YES	YES
Country dummies	YES	YES	-
R²			
within		0.1492	0.1541
between		0.6759	0.2094
overall	0.4413	0.4219	0.1769
Rho		0.3541	0.6008
N obs	974	974	974
N groups	113	113	113

Table 4.3: Regressions with Tobin's Q as dependent variable.

Note: The table presents the regression results from POLS (1A), RE (1B) and FE (1C), where FE(1C) is the preferred model by the Hausman test. The first line indicates the coefficient, and the second line reports the robust standard errors. ***, ** and * denotes a significance level of 1, 5 and 10 percent, respectively.

From Table 4.3 one can see that all three regression models yield similar and consistent results with regards to ESGC. The FE model is preferred, indicating that the difference in the coefficients is not systematic (Studenmund, 2017). A R²-within of 0.1541 is deemed satisfying, and ESGC is positive and significant in all models. The results show that an increase in the ESGC score by one point, increases Tobin's Q by approximately 0.02 units when the controls

are held constant. This effect is marginal, but it is also the only significant at 1% level. Alternatively, we can interpret it as an increase of one standard deviation in the ESGC Score leads to an increase of 35.4% in Tobin's Q (0.0196×18.0484). This brings us to the conclusion that H1 is accepted.

The only significant control variable at a 5% in model 1C is the governance score. It is used as a proxy for management quality, and it is expected to have a positive impact because ESG investments are somewhat discretionary. It is therefore surprising that the relationship is negative, which indicate that a company's governance performance negatively affects the valuation of the company. Beta and Tobin's Q have a positive relationship which contradicts our expectations as well, but it is not significant. Interestingly size has a negative significant effect on Tobin's Q in all regressions, which indicates that larger firms tend to have lower valuation. This is only significant at a 10% level in the FE model, which is not a conclusive result. The remaining control variables are not significant, but have the expected signs, as leverage and capital intensity are negative, and sales growth and number of analysts are positive. Rho shows that 60% of the variation is explained by company-specific differences.

Dependent variable:	Model 2A	Model 2B	Model 2C
ROA	POOLED OLS	RE GLS ROBUST	FE ROBUST
Variables	Coef. (Robust Std Err.)	Coef. (Robust Std Err.)	Coef. (Robust Std Err.)
ESGC	-0.0010 (0.0007)	-0.0020*** (0.0008)	-0.0032*** (0.0011)
ESGC²	0.000018** (7.12e-06)	0.000022*** (7.01e-06)	0.0000298*** (9.26e-06)
BETA	-0.0114 (0.0118)	0.0039 (0.0110)	0.0075 (0.0124)
LEVERAGE	-0.0428 (0.0320)	-0.0523* (0.0314)	-0.0414 (0.0420)
SIZE	-0.0259*** (0.0052)	-0.0263*** (0.0064)	-0.0459*** (0.0143)
CAPI	-0.0054 (0.0177)	-0.0134 (0.0225)	-0.0111 (0.0239)
NANALYSTS	0.0047*** (0.0009)	0.0040*** (0.0011)	0.0038** (0.0015)
SALESGROWTH	0.0008*** (0.0002)	0.0007*** (0.0002)	0.0007*** (0.0002)
GSCORE	-0.0008*** (0.0003)	-0.0004* (0.0002)	-0.0003 (0.0003)
CONSTANT	0.6326***	0.6379***	1.0885***

	(0.1023)	(0.1286)	(0.3084)
Industry dummies	YES	YES	-
Year dummies	YES	YES	YES
Country dummies	YES	YES	-
R²			
within		0.1369	0.1504
between		0.5880	0.1118
overall	0.4023	0.3809	0.0892
Rho		0.3368	0.6101
N obs	973	973	973
N groups	113	113	113

Table 4.4: Regressions with ROA as dependent variable.

Note: The table presents the regression results from POLS (2A), **RE (2B)** and FE (2C), where **RE(2B)** is the preferred model by the Hausman test. The first line indicates the coefficient, and the second line reports the robust standard errors. ***, ** and * denotes a significance level of 1, 5 and 10 percent, respectively.

The results from the regression with ROA as the dependent variable confirms a convex U-shaped relationship between ESGC and ROA, which is significant at a 1% level (from Table 4.4). This suggests that the effect of ESGC on ROA is negative at first, and then turns positive. Stated differently, investing in ESG only pays off after a certain threshold level of ESG activities and efforts are accumulated. The turning point can be calculated from the coefficients in models 2B and 2C, and it is 45.45 in model 2B and 53.69 in model 2C ($\frac{-\beta_{ESGC}}{2*\beta_{ESGC^2}}$). For comparison, the mean ESGC score in the sample is 53.88. For the readers notice, we ran the regressions without the squared term in all models, assuming linearity. The relationship was not significant in any models, confirming that the relationship is indeed U-shaped. We conclude that H2 is partially accepted, since our evidence suggests a positive relationship can only be expected above the threshold point.

In regards of the control variables of model 2B, the signs are exactly the same as in model 1C. However, there are several significant controls at a 1% level in 2B. Size has a negative and significant coefficient of -0.0263, which indicate that a one percent increase in total assets on average decrease ROA by 0.000263%, ceteris paribus. It is surprising that the number of sell-side-analysts is significant positive in all ROA models while not significant in 1C, since the literature suggests that this variable is more connected to market-based CFP than accounting-based CFP. Lastly, sales growth has a significant positive, but minor effect on ROA. Model 2B has an overall R² of 0.3809, which means that the model explains just below 40% of the variance

in ROA. The R^2 in the RE models yield higher explanations of variance compared to FE models, highlighting the explanatory power of country and industry dummies.

Dependent variable:	Model 3A	Model 3B	Model 3C
TOBINS Q	POOLED OLS	RE GLS ROBUST	FE ROBUST
Variables	Coef. (Robust Std Err.)	Coef. (Robust Std Err.)	Coef. (Robust Std Err.)
ESGC	0.0213** (0.0086)	0.0205*** (0.0074)	0.0225** (0.0093)
AUDIT	-0.0141 (1.0179)	0.2803 (0.8596)	0.3686 (0.8317)
ESGC*AUDIT	-0.0030 (0.0143)	-0.0056 (0.0122)	-0.0073 (0.0121)
BETA	-0.1712 (0.3980)	0.1951 (0.3977)	0.2682 (0.4252)
LEVERAGE	-0.5855 (0.7371)	-0.5576 (0.8194)	-0.3002 (1.1307)
SIZE	-0.8414*** (0.1720)	-0.7562*** (0.2194)	-0.8631* (0.4823)
CAPI	0.3158 (0.3290)	-0.2319 (0.2472)	-0.3182 (0.2735)
NANALYSTS	0.0930*** (0.0216)	0.0563** (0.0235)	0.0299 (0.0278)
SALESGROWTH	0.0078*** (0.0029)	0.0043* (0.0024)	0.0040 (0.0026)
GSCORE	-0.0066 (0.0070)	-0.0092 (0.0058)	-0.0142** (0.0065)
CONSTANT	17.8127*** (3.3640)	17.1680*** (4.2567)	19.3749* (9.9083)
Industry dummies	YES	YES	-
Year dummies	YES	YES	YES
Country dummies	YES	YES	-
R²			
within		0.1499	0.1548
between		0.6754	0.2117
overall	0.4422	0.4217	0.1776
Rho		0.3439	0.6109
N obs	974	974	974
N groups	113	113	113

Table 4.5: Regressions with moderating effect of audit on dependent variable Tobin's Q.

Note: The table presents the regression results from POLS (3A), **RE (3B)** and FE (3C), where **RE(3B)** is the preferred model by the Hausman test. The first line indicates the coefficient, and the second line reports the robust standard errors. ***, ** and * denotes a significance level of 1, 5 and 10 percent, respectively.

To test H3, an interaction term between ESGC and the audit dummy is included in all models as presented in Table 4.5. The interaction term captures the effect of ESGC on CFP caused by audited ESG reports. As we can observe from model 3B, the interaction term between ESGC and audit is not significant, which brings us to the conclusion that an audit does not positively moderate the relationship between ESGC and Tobin's Q. In fact, the sign is even negative, which indicates that if it was significant a one-point increase in ESGC would lead to an increase of 0.0149 units in Tobin's Q. This is calculated from the coefficients of ESGC and the interaction term in model 3B (0.0205-0.0056). This means that the moderator audit variable decreases the effect of ESGC on Tobin's Q, compared to model 1C. It is noteworthy that after adding the audit dummy to the model, the coefficient of ESGC does not change much compared to 1C. This implies that the relationship between ESGC and Tobin's Q is not subjected to whether the ESG report is audited. Besides from the moderating effect, the model yields similar results to model 1C. Before drawing conclusions regarding H3, we investigate the moderating effect of external audit on the relationship between ESGC and ROA.

Dependent variable:	Model 4A	Model 4B	Model 4C
ROA	POOLED OLS	RE GLS ROBUST	FE ROBUST
Variables	Coef. (Robust Std Err.)	Coef. (Robust Std Err.)	Coef. (Robust Std Err.)
ESGC	-0.00099 (0.0007)	-0.0018** (0.0008)	-0.003*** (0.001)
ESGC²	0.00002** (8.03e-06)	0.00002*** (7.31e-06)	0.00003*** (9.12e-06)
AUDIT	-0.0069 (0.0391)	-0.0224 (0.0359)	-0.0247 (0.0351)
ESGC*AUDIT	0.00004 (0.0006)	0.0003 (0.0005)	0.0003 (0.0005)
BETA	-0.0116 (0.0117)	0.0043 (0.0111)	0.0079 (0.0126)
LEVERAGE	-0.0441 (0.0308)	-0.0513 (0.0315)	-0.0397 (0.0419)
SIZE	-0.0255*** (0.0052)	-0.0261*** (0.0065)	-0.0452*** (0.0143)
CAPI	-0.0045 (0.0180)	-0.0129 (0.0226)	-0.0104 (0.0240)
NANALYSTS	0.0047*** (0.0009)	0.0040*** (0.0012)	0.0038** (0.0015)
SALESGROWTH	0.0008*** (0.0009)	0.0007*** (0.0002)	0.0007*** (0.0002)
GSCORE	-0.0008*** (0.0003)	-0.0004* (0.0002)	-0.0002 (0.0003)

CONSTANT	0.6233*** (0.1045)	0.6314*** (0.1314)	1.0683*** (0.3076)
Industry dummies	YES	YES	-
Year dummies	YES	YES	YES
Country dummies	YES	YES	-
R²			
within		0.1382	0.1514
between		0.5864	0.1063
overall	0.4026	0.3798	0.0850
N obs	973	973	973
N groups	113	113	113

Table 4.6: Regressions with moderating effect of audit on ROA.

Note: The table presents the regression results from POLS (4A), **RE (4B)** and FE (4C), where **RE(4B)** is the preferred model by the Hausman test. The first line indicates the coefficient, and the second line reports the robust standard errors. ***, ** and * denotes a significance level of 1, 5 and 10 percent, respectively.

Once again, the interaction term is not significant, but the coefficient is slightly positive in 4B as opposed to negative in 3B (see Table 4.5 and 4.6). Similar to model 3B, the inclusion of the audit dummy does not result in any major changes of the ESGC coefficient. Otherwise, the results from model 4B yield pretty much the same results as model 2B. The aggregated results from model 3B and 4B brings us to the conclusion of rejecting H3, implying that the relationship between ESGP and CFP is not moderated by an external audit of the ESG report.

4.1.3. Robustness checks

To test the sensitivity of our models we perform several robustness checks. As suggested by Orlitzky et al. (2003), inconsistent results are often due to different definitions of variables. Thus, we replace the dependent variables with other proxies for CFP. Secondly, we perform a two stage least squares model (2SLS), to control for potential endogeneity problems. Finally, we test if CFP Granger cause ESGC.

Replace dependent variables

First, we apply the Price to Book ratio (P/B) for market-based CFP, which is in line with Marsat & Williams (2013). While Tobin's Q is often used by academics, P/B is popular among asset managers. Return on Capital Employed (ROCE) is used as a proxy for accounting-based CFP, as proposed by Chelawat & Trivedi (2016). P/B is calculated by dividing the company's latest closing price by its book value per share, and ROCE is measured as EBIT divided by total assets minus current liabilities.

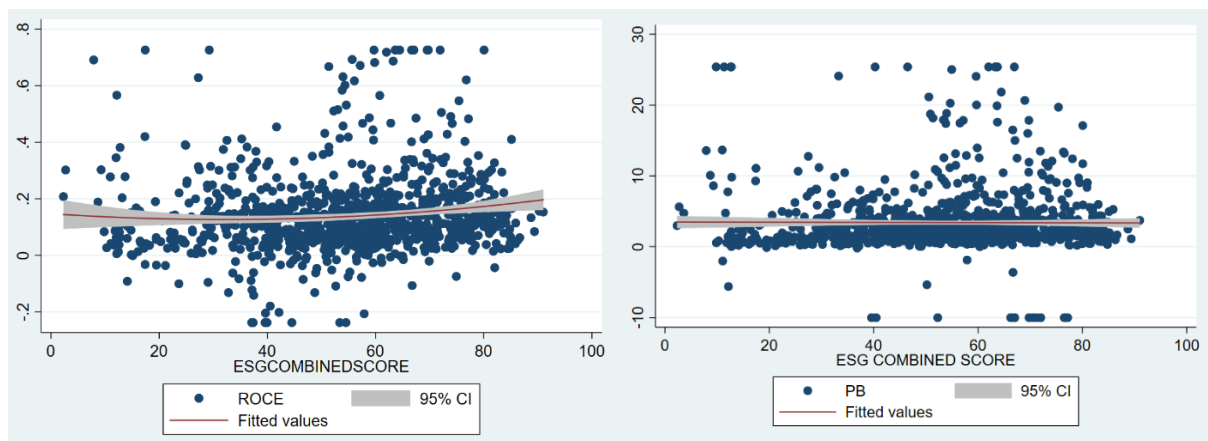


Figure 4.2: Scatterplot of ESGC and ROCE & P/B.

First, we take a look at the scatterplots between ESGC and the replacement variables. Similar to the scatterplot of ROA one can observe a slightly U-shaped relationship between ROCE and ESGC in Figure 4.2. We therefore decided to put model 5A and 5B in Table 4.7 on quadratic form. We checked for a linear relationship without including the quadratic term, and ESGC was not significant. Further we conducted a Hausman test to determine which of FE and RE is preferred. The RE model was preferred for P/B with p-value over 0.05, and FE model was preferred for ROCE with p-value below 0.05.

	Model 5A	Model 5B	Model 5C	Model 5D
	ROCE	ROCE	P/B	P/B
	RE GLS	FE	RE GLS	FE
	Coef.	Coef.	Coef.	Coef.
Variables	(Robust Std Err.)	(Robust Std Err.)	(Robust Std Err.)	(Robust Std Err.)
ESGC	-0.0043** (0.0017)	-0.0055** (0.0022)	0.0218** (0.0094)	0.0260** (0.0111)
ESGC ²	0.0000413*** (0.000015)	0.000049*** (0.000018)	-	-
BETA	0.0128 (0.0157)	0.0185 (0.0162)	0.1889 (0.5461)	0.1763 (0.5700)
LEVERAGE	-0.0583 (0.0459)	-0.0346 (0.0534)	-3.4778 (3.2365)	-3.5220 (3.9132)
SIZE	-0.0229** (0.0113)	-0.0312 (0.0237)	-0.9342** (0.3754)	-1.1864 (0.7986)
CAPI	-0.0542*** (0.0205)	-0.0507** (0.0216)	3.031* (1.6411)	3.1145* (1.7088)
NANALYSTS	0.0038** (0.0018)	0.0025 (0.002)	0.0590 (0.0508)	0.0361 (0.0591)
SALES	0.0006* (0.0003)	0.0006* (0.0003)	0.0011 (0.0006)	0.001 (0.0006)

GROWTH	(0.0003)	(0.0003)	(0.0082)	(0.0088)
GSCORE	-0.0004 (0.0003)	-0.00033 (0.0003)	-0.0183* (0.0095)	-0.0215** (0.0097)
CONSTANT	0.7446*** (0.2526)	0.9581* (0.5327)	24.4722*** (7.3797)	28.9598* (16.2729)
Industry dummies	YES	-	YES	-
Year dummies	YES	YES	YES	YES
Country dummies	YES	-	YES	-
R²				
within	0.0979	0.1057	0.0777	0.0797
between	0.4651	0.0941	0.5406	0.1319
overall	0.3186	0.0729	0.3432	0.0904
N obs	974	974	974	974
N groups	113	113	113	113

Table 4.7: Results of robustness tests with ROCE and P/B as dependent variables.

Note: The table presents the regression results, where **FE(5B)** and **RE(5C)** is the preferred models by the Hausman test. The first line indicates the coefficient, and the second line reports the robust standard errors. ***, ** and * denotes a significance level of 1, 5 and 10 percent, respectively.

As one can see from Table 4.7, there is a significant U-shaped relationship between ROCE and ESGC, and there is a significant positive relationship between P/B and ESGC. We calculate the turning point based on the coefficients to be 56.12, which is close to the mean value of ESGC of 53.88. The ESGC coefficients in the P/B models is slightly higher, but very close to those obtained in the Tobin's Q models. The sign of the coefficients and the overall diagnostics from model 5B and 5C are very similar to our previous models and supports our findings. The exception is capital intensity which now has a positive sign in the P/B models. The biggest difference is a drop in R² in 5A, 5B, 5C and 5D compared to the prior models.

Two stage least squares model

Two stage least squares (2SLS) is a good method to get rid of simultaneous bias and omitted variable bias caused by endogeneity problems. 2SLS use instrumental variables (IV) to replace endogenous variables, and make them appear as explanatory variables (Studenmund, 2017). We assume that ESGC is endogenous to the model, as prior research suggests some correlation exists between ESG and the error term (Li et al. 2018). We will provide an explanation of our choices of IVs, and present the first and second stage 2SLS results, as well as post estimation statistics.

The criteria for an IV is that it must be uncorrelated with the error term, and partially and sufficiently correlated with the variable we test for. In addition, the IV cannot be explained by or correlated with the dependent variable (Studenmund, 2017). First, we use the one-year lagged variable of ESGC (L1_ESGC) as our first IV, which is in line with Ali et al. (2020) and Zhang et al. (2020). L1_ESGC has a significant strong correlation coefficient of 0.8639 to ESGC but is not correlated with the dependent CFP variables. Since the ROA model is quadratic and $ESGC^2$ is a function of ESGC, it is assumed to be endogenous as well. The same procedure is performed with $ESGC^2$, where the lagged variable meets the IV criteria. This eventually means we have a time lag of 2 years ($t+2$), while all previous models have a time lag of one year ($t+1$). Second, we include a dummy variable which takes the value of one if the company is a UN Global Compact (UNGC) signatory, as an IV. This has not been done in prior research to our knowledge, and it has a significant correlation coefficient of 0.4456 to ESGC, and it is not correlated with CFP. Our rationale for using it is that UNGC signatories show particular commitment towards improving their ESG efforts voluntarily. Additionally, shareholder engagement in Scandinavia was originally founded on UNGC guidelines (Bengtsson, 2008). Third and finally, we use the mean-industry-year ESGC score as an IV, in line with El Ghouli et al. (2011). It has a significant correlation coefficient of 0.5415 to ESG and is not correlated with the CFP variables. Proceeding to the first step of 2SLS, we run regressions with ESGC as the dependent variable, and the IVs and other controls as independent variables. All the IVs are significant at 1%. Next, we run regressions with ROA and Tobin's Q as dependent variables, with controls and the new estimations of ESGC based on the IVs. The results from the 2SLS regressions are seen in Table 4.8 below.

	Model 6A	Model 6B	Model 6C	Model 6D
	ESGC	ROA	ESGC	TOBINS Q
	First stage	Second stage	First stage	Second stage
	Coef.	Coef.	Coef.	Coef.
Variables	(Robust Std Err.)	(Robust Std Err.)	(Robust Std Err.)	(Robust Std Err.)
ESGC	-	-0.0022** 0.0010	-	0.0208* (0.0120)
ESGC²	-	0.000033*** (0.000009)	-	-
BETA	-1.2377* (0.7383)	-0.0081 (0.0122)	-0.9717 (0.7160)	-0.1005 (0.4119)
LEVERAGE	-3.9733 (2.5106)	-0.0443 (0.0344)	-5.7275** (2.6595)	-0.5541 (0.8577)

SIZE	0.3590 (0.3838)	-0.0279*** (0.0057)	0.2724 (0.4308)	-0.8465*** (0.1813)
CAPI	-2.3611 (1.7843)	-0.0042 (0.0171)	-3.1199* (1.5931)	0.3510 (0.3448)
NANALYSTS	0.0988 (0.0730)	0.0051*** (0.0009)	0.0694 (0.0673)	0.0959*** (0.0214)
SALES GROWTH	0.0054 (0.0105)	0.0007*** (0.0002)	0.0030 (0.0106)	0.0069** (0.0034)
GSCORE	0.1514*** (0.0211)	-0.0010*** (0.0003)	0.1445*** (0.0204)	-0.0077 (0.0081)
Instrumental variables				
L1_ESGC	1.0655*** (0.0960)	-	0.6041*** (0.0438)	-
L1_ESGC²	-0.0046*** (0.0009)	-	-	-
Mean-industry- year ESGC	0.3273*** (0.0603)	-	0.3633*** (0.0580)	-
UNGC	2.5501*** (0.7666)	-	3.2321*** (0.8364)	-
Industry dummies	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES
Country dummies	YES	YES	YES	YES
R²	0.8079	0.4097	0.7993	0.4290
N obs	862	862	862	862

Table 4.8: 2SLS model with ESGC and ESGC² as endogenous variables.

Note: The table presents the 2SLS regression results where model 6A and 6B is the first and second stage for accounting-based models, while 6C and 6D is the first and second stage for market-based models. The first line indicates the coefficient, and the second line reports the robust standard errors. ***, ** and * denotes a significance level of 1, 5 and 10 percent, respectively.

The 2SLS estimations yield similar results as the previous POLS, FE and RE models in terms of the strength and sign of the relationship. ROA has a significant U-shaped relationship with ESGC in model 6B, while ESGC is only significant positive at the 10% level in model 6D. In terms of control variables, beta now has the expected sign as opposed to previous models, but it is still not significant. We notice that number of sell side analysts has a significant positive relationship with valuation in the 2SLS model, which is in line with the literature, but opposed to our previous models. Finally, we provide post estimation statistics about endogeneity with the Wu-Hausman test and weak instruments with a Wald test in Table 4.9 and 4.10 below:

Wu-Hausman test	MODEL 6B ROA	MODEL 6D Tobin's Q
F-statistic	1.5849	0.0043
p-value	0.2056	0.9479

Table 4.9: Wu-Hausman test results for endogeneity.

CRITICAL VALUES					
WALD TEST	F-statistic	5%	10%	20%	30%
MODEL 6B (ROA)	112.892	11.04	7.56	5.57	4.73
MODEL 6D (TOBINS Q)	111.318	13.91	9.08	6.46	5.39

Table 4.10: Wald test results for weak instruments.

The results from Table 4.9 reveals that ESGC is not endogenous in our models with p-values over 0.05, which is a bit surprising as it contradicts the findings and assumptions in previous literature (Li et al., 2018; Velte, 2019; Manrique & Martí-Ballester, 2017). We initially added a time lag ($t+1$) on the dependent variables, because we assumed it would solve or reduce problems with endogeneity. However, we ran the entire 2SLS procedure once again without the initial time lag ($t+1$) and reached the same conclusion. This is good, as it suggests that ESGC is not simultaneously determined with CFP, making the estimates more reliable. From the critical values in Table 4.10, we observe that the F-statistics are far above the critical values, meaning that the instrumental variables are strong. Overall, the results from 2SLS are consistent with our previous results, and they suggest that our results are not driven by endogeneity.

Causality

Granger causality test whether one variable consistently and predictably changes before another variable (Studenmund, 2017). The test is only conducted to justify and substantiate our assumption that ESGP can affect CFP. We therefore apply this test to see whether ROA and Tobin's Q Granger cause ESGC in our sample. A test by Dumitrescu & Hurlin (2012) is often used to test causality in panel data, but it is addressed that the test should be carefully interpreted as it cannot prove actual causality (Lopez & Weber, 2017). A constrain of the test is the fact that it is based on only one dependent continuous variable and one independent continuous variable (Studenmund, 2017). Also, the test requires a balanced panel, which was not our case, since there were several missing values on ESGC, ROA and Tobin's Q. We used the command

xtbalance to be able to compute the test. Once again this can bias the results, which highlights that it should not be put much emphasis on this test as a robustness check. One can see from Table 4.11 that even is rejected one must be careful to interpret the results as real causality. We use the Z-bar tilde statistics as proposed by Lopez & Weber (2017).

H ₀ : ROA does not Granger cause ESGC	Z-bar	p-value
H ₁ : ROA does granger cause ESGC for at least one panel	tilde:	
	1.5368	0.1243
H ₀ : Tobin's Q does not Granger cause ESGC	Z-bar	p-value
H ₁ : Tobin's Q does granger cause ESGC for at least one panel	tilde:	
	1.4320	0.1521

Table 4.11: Granger causality test results.

As one can see from the test results H₀ is not rejected in the two tests and indicate that ROA and Tobin's Q does not Granger cause ESGC. However, it is important to highlight that the purpose of this study is not to identify any causal links, but rather investigate whether there is a relationship between ESGP and CFP. This test can give us an indication of the direction of our variables, although it cannot prove causality in any rigorous way (Studenmund, 2017).

4.2 Empirical results from survey

4.2.1 Descriptive statistics

Individual Demographics		Company Demographics	
Gender	Proportion	Country	Proportion
Male	71.6%	Norway	59.5%
Female	28.4%	Sweden	35.1%
		Denmark	17.6%
Age	Proportion	AUM (in billion USD)	Proportion
20-29	14.9%	<1	41.9%
30-39	27.0%	1-5	23.0%
40-49	18.9%	6-10	13.5%
50-59	37.8%	11-50	12.2%
>60	1.4%	51-100	5.4%
		>100 billion USD	4.1%
Job Title	Proportion	Asset class	Proportion
Asset/Portfolio M.	24.3%	Stocks	75.7%
ESG/RI Specialist	21.6%	Fixed Income	54.1%
Other	16.2%	Real Assets	6.8%
CEO	13.5%	Private Equity	6.8%
Analyst	12.2%	Others	6.8%
CIO	12.2%		

N of years in the business	Proportion	Collaborates with ESG initiative	Proportion
<5 years	28.4%		
5-10 years	17.6%	Yes	60.8%
11-15 years	12.2%	No	39.2%
16-20 years	14.9%		
		Company profile	Proportion
		Mutual fund	40.5%
		Other	17.6%
		Alternative investment fund	12.2%
		Pension fund	10.8%
		Hedge fund	9.5%
		Bank	6.8%
		Foundation	2.7%

Table 4.12: Descriptive statistics from survey.

Note: Some percentages do not add up to 100% because more than one option can be chosen.

We divide the descriptive statistics into individual and company demographics because asset managers act on behalf of a company (see Table 4.12). 59.5% of companies operate in Norway, 35,1% in Sweden and 17,6% in Denmark. Our sample mostly consist of companies with a mutual fund profile (40,5%). The main asset class managed by the companies are stocks (75,7%) and fixed income (54,1%). Most respondents are male (71,6%) and aged between 50-59 (37,8%). Also, 60,8% of the companies are collaborating with an ESG initiative. UNPRI (48.6%), SWESIF (31.1%) and UN Global Compact (27%) are the initiatives most AM collaborate with. 21.6% of responders are ESG/RI specialists, which indicates that many companies have dedicated positions to address their ESG efforts.

4.2.2 Survey results

In this section we will present and highlight the findings from the study on AM. We will focus on the overall results, and more detailed results of statistically significant differences between groups are attached in Appendix 5 and 6. We mention that the results from the independent samples t-tests and Mann-Whitney U tests yield the same results with the same significance level. Note that we only report significant differences in Appendix 5 and 6.

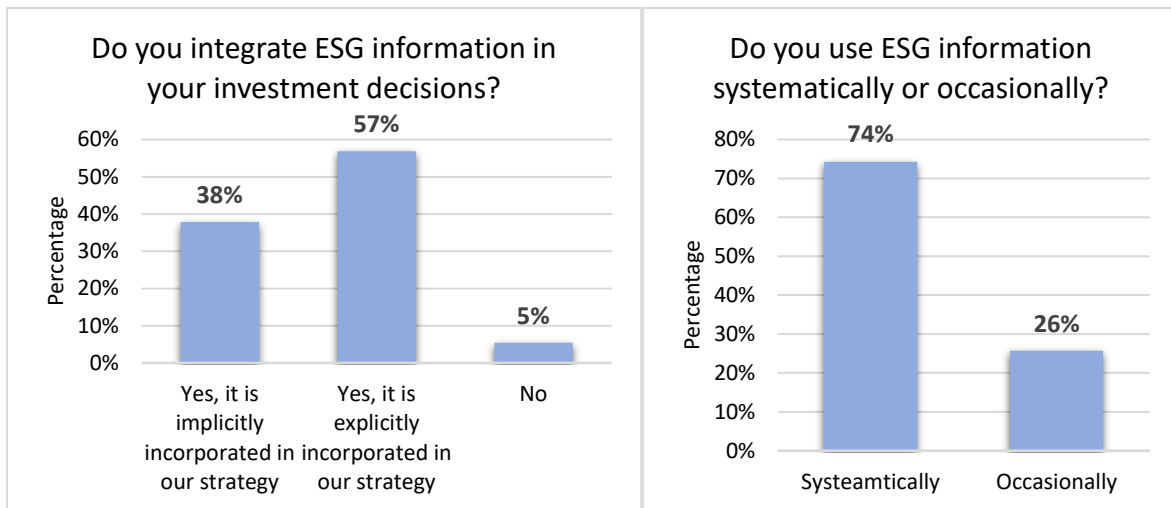


Figure 4.3: Shows percentage of respondents who integrate ESG, and whether they use it systematically or occasionally.

As one can see from Figure 4.3, 95% of respondents integrate ESG in investment decisions, where 38% incorporate it implicitly and 57% incorporate it explicitly. In addition, 74% of respondents use ESG information systematically in investment decisions. Systematic usage refers to planned processes and routines where all material issues are covered by relevant staff, while occasional usage describe ad-hoc processes (UNPRI, 2018). The respondents were made familiar with these definitions. Further, we asked an open question on how asset managers carry out systematic and occasional usage. Figure 4.4 below present the most frequent words in the replies for systematic users.



Figure 4.4: Word cloud of respondents explaining how they treat the information systematically.

Systematic users perform sustainability analysis of every investment decision, relies heavily on screening strategies and the portfolios are often monitored on a quarterly basis. They identify material ESG risks which are then incorporated into their own tailored valuation models. As one respondent neatly put it: *“In our view, sustainability risks and industrial trends are intrinsically linked (...) Different asset classes, investment strategies and investment universes may require different approaches to the integration of such risks”*. Systematic users say they have defined ESG-personnel to deal with these topics, so it is no surprise that every single ESG/RI specialist in the survey use ESG information systematically. Occasional users only consider ESG information in cases where they believe it is an influential risk. One responder replied, *“Without G, no ESG”*, so the factors are not equally weighted. Also, some replied that they are transitioning to a more systematic process. Overall, most Scandinavian asset managers who integrate ESG systematically, include it into traditional financial analysis. Further, we investigate whether there are differences between different groups when it comes to systematic and occasional usage (see Appendix 5 and 6). Companies that collaborate with an ESG initiative use ESG information more systematically (89%) compared to those who do not collaborate (48%). Also, we look at differences between big and small AM measured by assets under management (AUM). Small AM are defined as those with assets are worth less than 6 billion USD, and big AM above 6 billion USD. Big AM use ESG information more systematically (88%) than small AM (66%), and this difference is statistically significant at 1% level.

We find that most AM retrieve ESG information from third party research (75,6%), public information (71,6%) and company reports (60,8%). Analysis at company level (68,9%), ESG ratings (62,2%) and raw data (50%) are the most frequently used information. Responders added that annual reports, news and company presentations are their main sources to information. Among the providers of ESG ratings, the most used ones are Sustianalytics (35.1%), Bloomberg (31.1%) and MSCI (29.7%). Responders added that they also use the metric providers TruCost, ISS and Morningstar. Big AM use ESG ratings to a larger extent (80.1%) than small AM (52%), and this is significant at 1% level. This difference is also significant between those who collaborate with ESG initiatives (75.6%) compared to those who do not (41.4%).

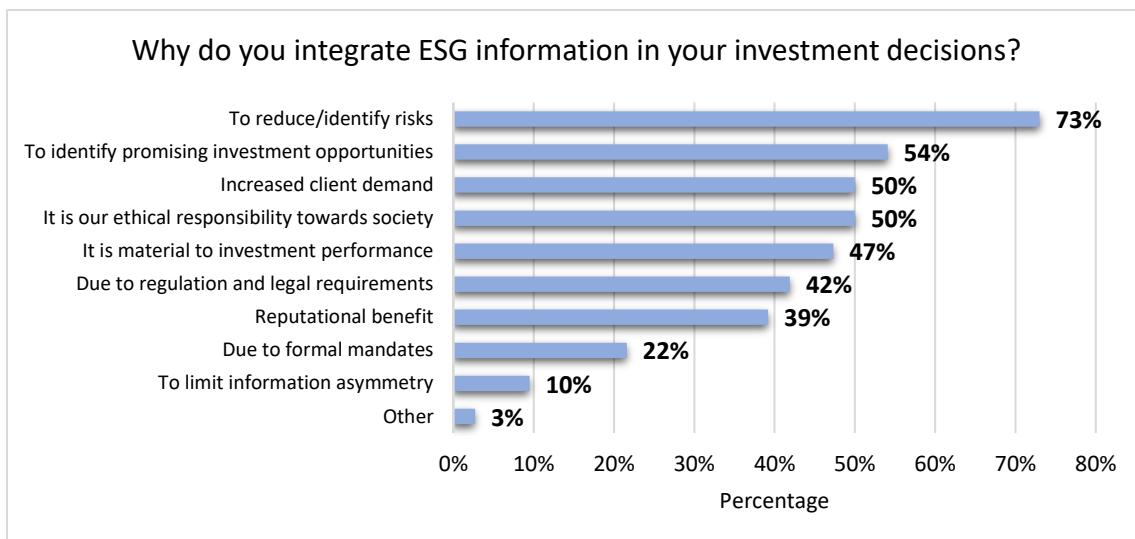


Figure 4.5: Reasons for integrating ESG in investment decisions.

Note: Percentages do not add up to 100% because more than one option can be chosen.

From Figure 4.5, one can see that the most important reasons for integrating ESG in investment decisions are to reduce or identify risks (73%), to identify promising opportunities (54%), as well as increased client demand and because of ethical responsibility (50%). Responders who do not use ESG information say they experience a lack of client demand, and that it is not material to investment performance. We find that big AM integrate ESG information because it is material to investment performance and to identify promising opportunities, to a larger extent than small AM (See Appendix 5, Figure A5.2). These differences are significant at 1% level. Also those who collaborate with an ESG initiative are more prone to integrate ESG because it is their ethical responsibility compared to those who do not collaborate (p -value <0.01). Interestingly, AM that prefer externally audited ESG reports are equally concerned about information asymmetry as those who do not prefer an audit. It is however significant different between big AM (19%) and small AM (5%). When asked what impact they believe ESG integration has, 93% of respondents expect it will lead to increased sustainable development and 84% expect it will lead to increased long term value creation. 49% believe it will increase return and decrease risk (50%) compared to a reference index. Since this question explores individual expectations, we look further into differences between gender and age. We find that there are significant differences in expectations when it comes to return, risk and long term value creation, where female respondents expect lower risk, higher return and increased long term value creation compared to men ($p<0.05$). We also divided respondents into two groups according to age, and differentiated between those who are under 40 as young, and those

over 40 as old. We only found significant differences when it comes to expected return, where younger respondents expect higher returns from ESG integration compared to older respondents ($p < 0,05$).

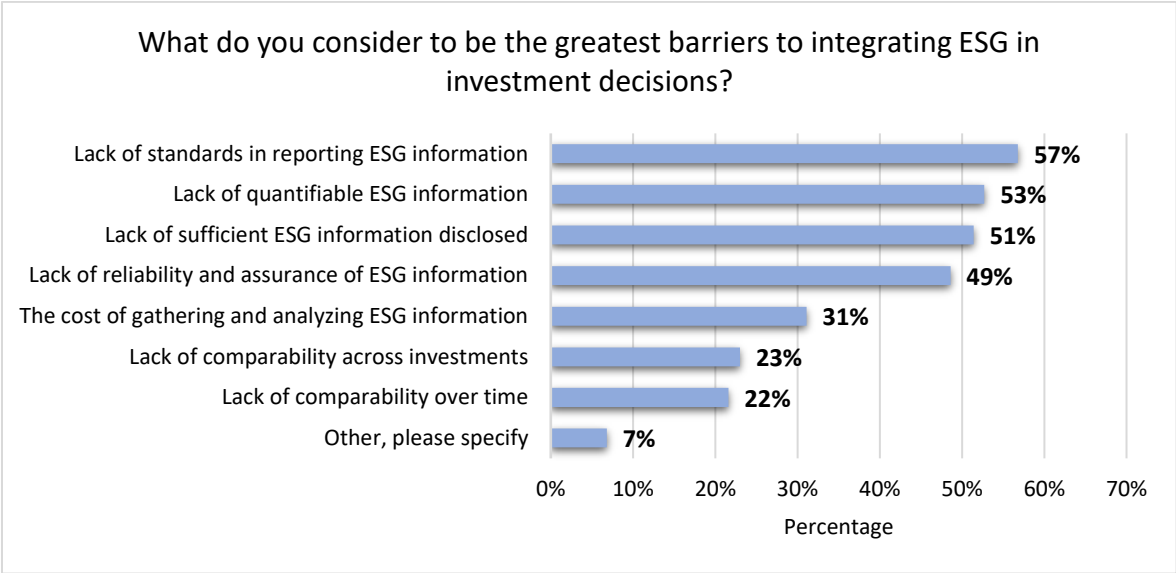


Figure 4.6: Barriers to integrating ESG in investment decisions.

Note: Percentages do not add up to 100% because more than one option can be chosen.

Lack of standards in reporting (57%), lack of quantifiable (53%) and sufficiently disclosed (51%) ESG information are considered the greatest barriers to integrating ESG. Big AM finds lack of sufficient information to be a greater barrier compared to small AM (88% vs 31%) (p -value <0.01). Interestingly, 49% of respondents consider lack of reliability and assurance to be a barrier. Lack of standards in reporting are considered a greater barrier for those who consider externally audited ESG reports differently compared to those who do not (70% vs 37%) (p -value <0.01). When looking at individual differences, we find that female respondents considers lack of sufficient information to be a greater barrier compared to men. Younger respondents find the cost of gathering ESG information to be a greater barrier compared to older ($p < 0.05$).

concern increased quality of the reported data together with better reliability and trustworthiness. Some respondents also highlight that an external audit reduces bias from self-reporting, and therefore prevents greenwashing by companies. Other important factors are higher commitment and transparency. Of those who answered no, they replied that assurance does not make much sense without common standards, and that they rather rely on other third-party providers. Some also state that they are critical towards the auditors' ability to assess the scientific claims. One respondent said that even though assurance is important, it is even more important that the ESG budget is spent on sustainable actions rather than audits.

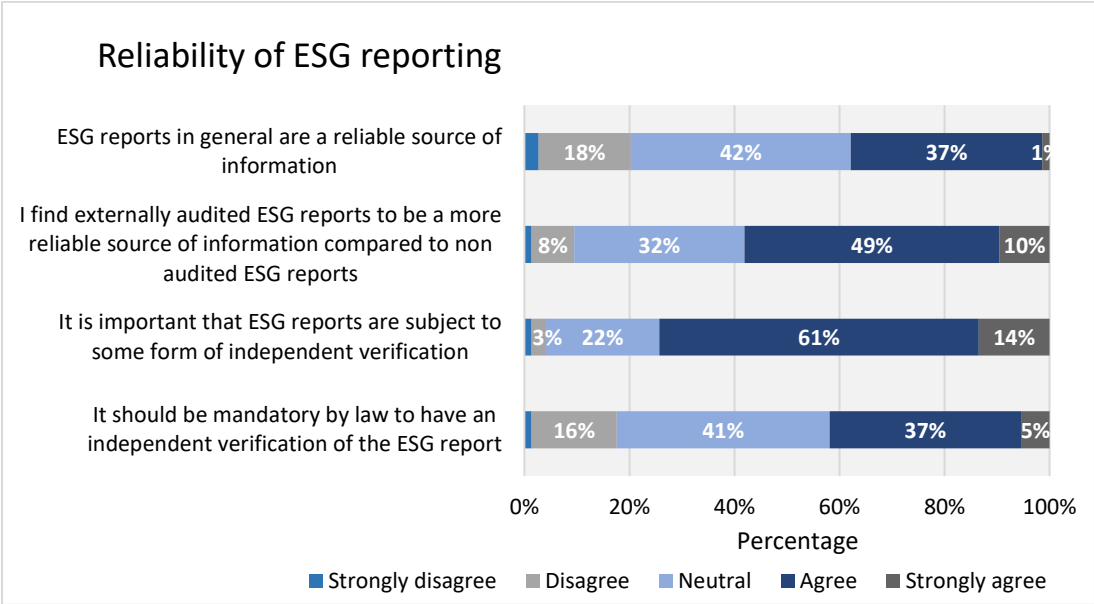


Figure 4.9: Considerations regarding reliability and assurance of ESG reports.

Note: The figure presents the percentage of respondents in each category.

From Figure 4.9 one can see that 38% of AM generally find ESG reports to be reliable, and 59% find externally audited ESG reports to be more reliable compared to non-audited ESG reports. Interestingly 75% believe it is important that ESG reports are subject to some form of independent verification, and 42% believe such verification should be mandatory by law. 37.8% believe professional firms with relevant ESG expertise (advisory, research) is best suited to provide independent assurance, compared to 35.1% preferring accounting firms. 24.3% have no preference, and the remaining 2.7% believe other providers could provide assurance. One respondent pointed towards government owned, because private companies have accumulated a bad reputation from the financial crisis and are hard to trust. Some responders meant that accounting firms have conflicting financial interests and have zero to offer. A replier with a

different point of view stated that “*accounting firms are normally unbiased and have no vested interests compared to consultants*”. Others claim ESG assurance is a natural extension of the auditors’ business model, and they have a reputational incentive to provide proper audits. In question 3.1 from Appendix 5, 44% disagrees that present ESG reports have sufficient information. Also 66% agrees that there is a lack of clarity over ESG terminology. 56% of respondents agree or strongly agrees that ESG reporting should be mandatory by law.

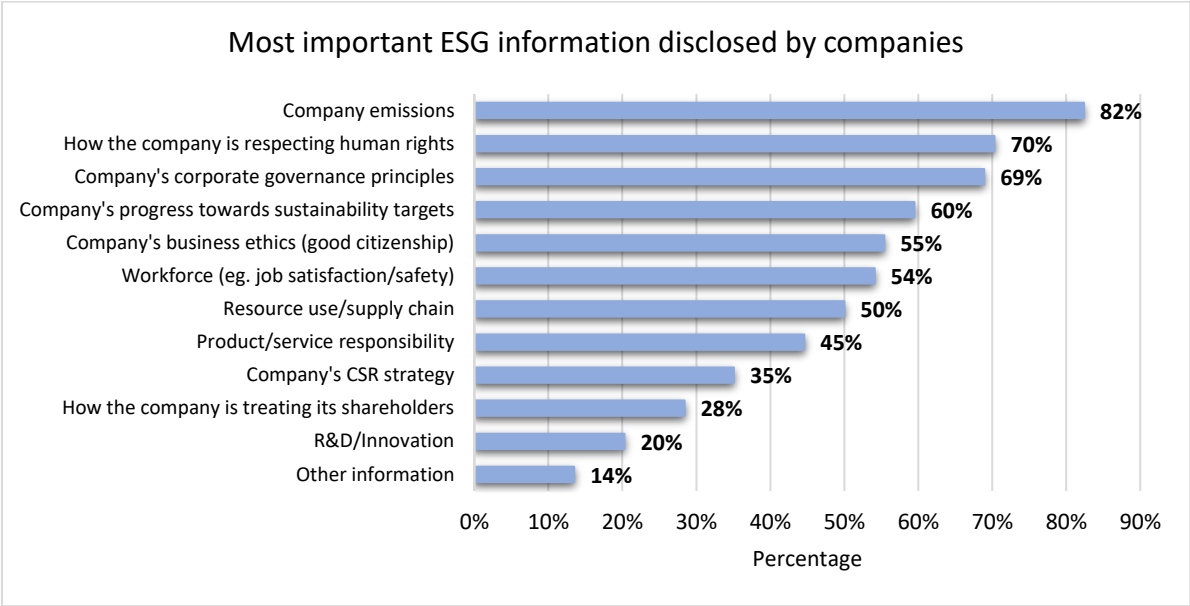


Figure 4.10: What is considered the most important ESG information disclosed by companies.

Note: Percentages do not add up to 100% because more than one option can be chosen.

From Figure 4.10, one can see that information regarding emissions (82%), human rights (70%) and corporate governance (69%) is generally considered to be the most important information disclosed by companies. These each represent E, S and G factors and shows that all dimensions of ESG are important. This highlights the fact that companies should focus on all aspects of ESG, and not just one. Information regarding a company’s progress towards its sustainability targets area also considered to be important by 60% of respondents. Respondents choosing “other information” highlighted the importance of materiality, and that companies should focus on the factors that are material to their sector and industry.

Chapter 5. Analysis and discussion

In this chapter we will analyze and discuss the empirical findings from Chapter 4. We will analyze the results in light of the theoretical frameworks and discuss and compare our findings to previous literature. Our discussions are based on the *assumption* that ESGP affects CFP and must not be misinterpreted as actual causality.

5.1 ESG and CFP

Our findings support a multi-stakeholder point of view where ESGP is significantly connected to CFP. It seems like the benefits associated with ESG activities outweighs the costs connected to ESG investments in the Scandinavian context. This holds particularly true for market-based CFP, where we find a positive, significant and robust relationship. We therefore find the stakeholder theory to give a better explanation of value creation in contrast to shareholder theory. Companies that engage in ESG activities creates value for both shareholders and other stakeholders such as employees, customers, suppliers and local communities. This implication is drawn because the ESG score measures factors that concern these particular stakeholder groups (See Appendix 1 and Section 3.3.1). Our findings suggest that by balancing stakeholders' interests, and not just taking the shareholders' interests into consideration, a company can increase profits and create value (Freeman, 2010; Smith, 2003). In contrast, the shareholder theory suggests that all funds which are spent upon activities that are not directly connected to maximizing profits, result in opportunity losses for the shareholders (Friedman, 1970; Smith, 2003). This indicates that shareholders need to bear the cost of the company's ESG investments, as they are not considered as profit maximizing activities by shareholder theory (Friedman, 1970). Our results do not indicate any significant negative relationship between ESGP and CFP, on the contrary we find a positive relationship. This implicates that ESG activities creates a situation where several stakeholders, such as shareholders, employees, customers and local communities, benefit from the company's efforts. These findings implicate that investors should appreciate the ESG efforts put down by companies, as it results in higher valuation. Whether or not it is a proper valuation is however up to the investors to determine in each business case. It also implicates that corporate management in Scandinavian companies should focus on a successful stakeholder management, and view ESG as a strategic management tool as it can attract new capital.

Market-based CFP

While most previous meta studies conclude that accounting-based performance is more correlated to ESGP than market-based performance, we find the opposite to be true (Orlitzky, 2003; Wang et al., 2016; López-Arceiz et al., 2018; Lu & Taylor, 2016). Our findings are in line with Friede et al. (2015) who reported a significant positive relationship in 46.7% of European based studies, as opposed to 8.9% being significant negative. We also draw similar conclusions as Wiklund & Dahlberg (2018) who found market-based performance to be superior to accounting-based performance in the Nordic countries (ROA not significant). The ESGC coefficients in our Tobin's Q regressions have a size of 0.0185~0.0208, which is very close to the ones obtained by Li et al. (2018) of 0.016~0.019 in the UK market. However, our results are different from Velte (2017) who found no significant relationship between Tobin's Q and ESGP in the German market. This raises the question of whether there are possible explanations to the different results achieved across contexts. Therefore, we move on to discussing *possible* explanations.

First of all, the Scandinavian countries are characterized by their stakeholder-oriented approach and a feminine culture, where conflicts are best resolved through cooperation and negotiation. Germany on the other hand, is known for its masculine culture where corporate advantages are achieved through harsh competition (Strand et al., 2015). This relates to ESG because Strand et al. (2015) found that feminine cultures have higher ESG performance as opposed to masculine. However, the UK is considered as a masculine culture as well, where Li et al. (2018) found a significant positive relationship. Therefore, it seems like there must be more than just cultural differences that explain the varying ESGP-CFP link. Gjøølberg (2009) found that UK and Scandinavian companies had higher sustainability performance when adjusted for adherence to both demanding and less demanding ESG initiatives. German companies did however receive low sustainability scores. Thus, a possible explanation could be that companies that are clustered in sustainable networks receive greater approval from their stakeholders. And as it happens, companies from countries with feminine cultures adhere to ESG initiatives (Gjøølberg, 2009). For example, if we observe the numbers of GRI and UNGC signatories relative to country size, Scandinavia is represented to a much greater extent compared to Germany (GRI, 2020; UN Global Compact, 2021). When looking at the differences within Scandinavia using our own dataset, we find that the Scandinavian UNGC signatories have a higher mean ESGC score, with a lower standard deviation compared to non-signatories.

The big exception from our argument is the US, where Friede et al. (2015) found that a greater proportion of US studies report a significant positive relationship compared to Europe. USA is well known for its masculine culture, and they have fewer GRI and UNGC signatories relative to the Scandinavian countries and their size (Strand et al., 2015; GRI, 2020; UN Global Compact, 2021). If anything, it could be the different focus on ESG that explains this exception. While Scandinavian countries are more concerned about actual performance and “*walking the walk*”, the US has a greater focus on disclosure and “*talking the talk*” (Strand et al., 2015). It is possible that US firms are better at raising awareness about their efforts, and that their explicit stakeholder communication pays off.

Another explanation could be that the commitment to RI strategies among Scandinavian investors influence the demand for ESG stocks and increase their valuations. This can be aligned with our survey findings, as the majority of Scandinavian asset managers collaborate with ESG initiatives, and systematically integrate ESG. The number of UNPRI signatories is higher in Scandinavia compared to for example Germany, relative to country size (UNPRI, 2021b). RI is a rather niche market in Germany, in contrast to Scandinavia where for example pension funds are targeted towards sustainable criteria (Hebb et al. 2016). Therefore, it seems like investors and companies in Scandinavia collaborate in addressing sustainability issues, as both parties are heavily involved in ESG initiatives. This can suggest that Scandinavians’ collaborative approach towards sustainable development, rather than a competitive approach, is valued by investors and various stakeholder groups which could be a possible explanation for the significant positive relationship. Another possible explanation to why market-based CFP is superior to accounting-based CFP in Scandinavia, could be that stakeholders with financial interests have an appetite for high ESG performing stocks because they are subject to lower risks and lower cost of capital (Eccles et al., 2014; Sassen et al., 2016). Our survey results suggest that identifying and reducing risks is the main reason for ESG investing among Scandinavian AM, and investor demand could therefore drive up the numerator of Tobin’s Q.

Accounting-based CFP

In terms of the link between ESGP and accounting-based CFP, we find a significant and robust U-shaped relationship. Our findings contradict previous studies, as most of them report a linear relationship between ESGP and accounting-based CFP (Velte, 2017; Li et al., 2018). This is interesting as according to PwC (2020b), the majority of companies are located in the middle tier which is considered as a “safe zone”. However, our findings suggest that companies have

an incentive to increase their ESG efforts and advance from the safe zone in terms of accounting-based CFP. The mean ESGC score is located just above the calculated turning point for the U-shaped relationship between ROA and ESGC. The middle tier might not be a very safe zone for Scandinavian companies as it might appear, but rather a dangerous zone where they are stuck in the middle, which comes with costs without the ability to gain operational financial benefits from their ESG activities. It seems like the front runners located after the turning point manage to increase their ROA with the cooperative advantages they accumulate from ESG investments and improved stakeholder relations. The laggards with low ESG scores do not carry the same costs nor reap the same benefits from their ESG activities, but still have a better ROA compared to the middle tier. Laggards might realize their limited capacity to influence stakeholders and relinquish their ESG activities.

The U-shaped relationship can also indicate that investing in ESG activities does not pay off immediately, but only after a threshold amount of ESG activities has been carried out. This is similar to Han et al. (2016) and Nollet et al. (2016) who also found a U-shaped relationship between ESGP and accounting-based measures. Our findings are especially comparable to Nollet et al. (2016) who use the same data structure, but with a different overall ESG score (Bloomberg), and slightly different controls. Han et al. (2016) on the other hand, only look at the individual E, S and G pillar scores. Nollet et al. (2016) found a U-shaped relationship between overall ESG score and ROA and Return on Capital for US listed companies. The turning point was 2.5 for the ROA model and 14.4 for the ROC model, far below the mean ESG score of 25. Han et al. (2016) found the turning point for Korean firms to be greater than the mean environmental score. We find that the turning point is located just below the mean score, indicating that an above average ESG performance can result in positive effects on ROA for Scandinavian companies. This suggests Scandinavian firms have a larger incentive to improve their ESG score from below average to above average, compared to Korean companies. On the other hand, US companies have greater incentives to improve their ESGP, compared to Scandinavia.

The results should however be interpreted with caution, as different companies most likely will experience different benefits from exceeding the turning point. Our results could indicate that certain industries or companies with other common characteristics are more sensitive with regards to the relationship between ESGP and ROA. This could therefore be a potential red flag for these companies, and their investments in ESG activities should be carefully considered.

Certain industries might experience greater benefits than industries where the stakeholders find ESG to be less material. As stated by Scandinavian AM, materiality is key. An explanation could also be that companies who do not disclose information regarding their ESG activities are not able to accumulate the same benefits. Another potential explanation could be that firms with high ESG performance are simply greater at utilizing their assets efficiently, and that a company with poor resource utilization will not experience better accounting-based performance if they simply increase their ESG budget. Without the proper ability to take their stakeholders into consideration, it is also likely that they will struggle to harvest from increased ESGP.

Considering that Tobin's Q is a market-based and forward-looking measure, our findings suggest that shareholders invest in Scandinavian companies with a long-term perspective. Even though the relationship between ESGP and accounting-based CFP is U-shaped, companies are rewarded by investors with higher valuations for every increase in their ESG score. This could imply that investors have expectations of future earnings and sustainable development from improved ESG efforts, which positively affects the valuation. This is in contrast to ROA where a certain threshold of ESG has to be accumulated in order for it to have positive effects. Overall, our findings implicate that strategic management need to plan for ESG as a long-term process and allocate sufficient amount of resources in ESG, in order for it to positively affect accounting-based performance. It also implicates that ESG can serve as a strategic management tool to attract new capital and increase firm valuation. As for investors, our findings implicate that ESG efforts put down by companies should be appreciated, and that material ESG factors should be integrated into investment decisions. If investors interests are purely financial, they should seek to invest in ESG front runners, given the U-shaped relationship between ESGP and accounting-based CFP.

5.2 Moderating role of audited ESG reports

Our findings suggest that an audited ESG report does not moderate the ESGP-CFP link in Scandinavia. This implies that the cost is greater than the benefits if an external audit is used as a tool to improve financial performance. If we use shareholder theory to discuss the findings, it states that a company does not have any obligations towards involving in ESG activities beyond maximizing profits. Through shareholder theory, one would therefore expect a negative moderating effect of an audit, since an audit comes with a cost. Thus, shareholder theory implies

that this cost has to be carried by the shareholders, since it is not considered a profit maximizing activity. This is supported by the fact that an audit of the ESG report is voluntary, and not essential for the company to obtain. However, our results indicate no significant negative effect of an external audit on the ESGP-CFP link. If we apply stakeholder and legitimacy theory, one can assume that an external audit of the report can increase the quality, and thus improve stakeholder communication and firm legitimacy. We have argued that this can consequently lead to improved CFP, but our findings show no support for this. A possible explanation for this, can be aligned with the findings of Alon & Vidovic (2015) who found that an external audit of the ESG report does not affect firm reputation. They concluded that an external audit is more frequently used as a managerial tool in line with internal processes, rather than a differentiating signal to external stakeholders. Another possible explanation to why the moderating effect is not significant, could be due to the lack of consistent use of standards, methods and frameworks among companies, but also among the auditors. In a jungle of information providers, standards and frameworks, it is easy to lose track of what is really important. Another possibility is the fact that the Scandinavian companies operate in advanced economies with effective market supervision and governmental regulation. Thus, the effect from an audited ESG report might be too marginal in the link between ESGP and CFP, while it possibly could make a bigger difference in a developing country where the credibility gap is assumed to be larger.

It could however be that the motives for acquiring an audited ESG report are different from improving CFP. According to our survey, the majority of Scandinavian AM prefer an independently assured ESG report, and considers externally audited ESG reports differently from non-audited reports. This is due to increased quality, trust, transparency, and limiting self-reporting bias. This can be important in order to meet sustainability targets, portfolio criteria and enable an active ownership. Scandinavian companies place great emphasis on investors opinions, and they should be treated as a primary stakeholder group (Dhaliwal et al., 2012). The AM do again act on behalf of their client's interests, which must be maintained as well. Half of the responders in our survey says that increased client demand is an important reason to why they use ESG information. The fact that investors prefer an audit of the ESG report could therefore be a possible explanation to why companies obtain an audit, even though it does not affect CFP. It could also be that it is in the interests of suppliers and customers to have an independent verification of the report. Suppliers and customers can be concerned with a sustainable supply chain and have requirements for their subcontractors. An independent

verification of the ESG report, can therefore be important in terms of verifying if a company meets the specific criteria. For example, Norsk Hydro has a supplier code of conduct which states that all suppliers must comply to their principles regarding ESG, such as corruption, data privacy and labor rights (Norsk Hydro, 2020). Stakeholder theory implies that the expenditures associated with an external audit should be obtained if it is in the stakeholders' interests. The fact that we find no significant negative effect further supports that companies should obtain an external audit if it is in the stakeholders' interests.

It could also be that perceived legitimacy is the motive of the company, so they assure their ESG report to increase reputation and get approval from stakeholders (Frynas & Yamahaki, 2016). There is a possibility that companies that only have an intention to assure their report, do so. For example, Alon & Vidovic (2015) found that companies with better sustainability performance were more likely to obtain an external audit of their ESG report. This can be aligned with what we find in our correlation matrix, where ESGC and audit is significant positively correlated. This can indicate that high ESG performers obtain an independent verification as opposed to low ESG performers, since the risk of discovering misstatements and errors are reduced. However, it could also be that companies in sensitive ESG industries obtain an external audit to bridge credibility and trust. For example, Del Giudice & Rigamonti (2020) found that companies with audited ESG reports mitigated the impact of a corporate scandal on their ESG score. If an external audit was mandatory by law, it would be more likely that misstatements and errors had been detected, which again could impact our empirical results (Chen et al., 2019). Our correlation matrix show that audit is correlated to both size and number of analysts. A possible explanation to this could be that larger companies with higher analyst coverage receive greater media attention as proposed by Cai & Pan (2012), and might obtain an audit to sustain or improve reputation. Interestingly, leverage has a significant negative, but not very strong correlation with audit. This relationship could at best be a weak indication of the risk-averse appetite of accounting firms to avoid high leverage clients (Simnett et al. 2009). Lastly, an audit might serve as a tool to prevent scandals from ever happening at all. The likelihood of such events to happen are reduced when the report is externally audited, because an audit limits misstatement and ensure that sustainability targets are well defined (Chen et al., 2019).

The result showing no significant moderating effect of an external audit has practical implications for both corporate management and investors. Our findings highlight the fact that

strategic management should carefully consider the expenses with an independent verification. The motivations behind such assurance should be addressed, in addition to carefully examining the interests of stakeholders. As for investors investment decisions, the implications are that it is not material to look at whether a report is subject to an external audit in terms of profits. However, if the concern lies in the reliability and quality of the report, an audit could seem reasonable to evaluate.

5.3 Use and consideration of ESG information

Our response rate of 24% can be considered acceptable compared to previous studies ranging between 14% to 50% (Amel-Zadeh & Serafeim, 2018; Przychodzen et al., 2016; Van Duuren et al., 2016). Similar to Amel-Zadeh & Serafeim (2018) (82%), we find that 95% of AM integrate ESG information in decision making. We also find that 74% use ESG information systematically, and most AM integrate it as part of an explicit strategy. This means ESG is integrated as part of their policy and investment process, and we find that a greater proportion of dedicated personnel deals with ESG in Scandinavia compared to global findings (Amel-Zadeh & Serafeim, 2018). We find that a higher percentage use ESG systematically compared to CFA (2017) (51%), but they highlight that European investors (62%) use it more systematically compared to other continents. When looking at differences in company demographics, we find that large AM use ESG information more systematic compared to small ones. In terms of reasons to integrating ESG we find reducing or identifying risks (73%) to be most important, followed by identifying promising investment opportunities (54%), which is similar to Amel-Zadeh & Serafeim (2018), Van Duuren et al. (2016) and Przychodzen et al. (2016). According to SF, there has been increased regulatory pressure directed towards the investors to contribute to a more sustainable society. Our results indicate that Scandinavian AM do not integrate ESG primarily due to legislation, but rather because they realize the opportunity and potential that comes along with it. Interestingly, few Scandinavia AM use ESG because it limits information asymmetry, which is one of the cornerstones in RI according to Hebb et al. (2016).

Amel-Zadeh & Serafeim (2018) find that smaller AM are more likely to consider ESG integration in investment decisions as an ethical responsibility. We do not find the same results when it comes to differences between big and small AM. However, we find that companies who collaborate with an ESG initiative are more likely to see ESG integration as their ethical

responsibility. When looking at the greatest barriers to integrating ESG in investments, we find lack of standards, quantifiable and sufficient information to be most important. This is in line with both Amel-Zadeh & Serafeim (2018) and Eccles et al. (2017), and highlight the importance of reporting in line with international standards, in addition to reporting material ESG issues. The Scandinavian AM emphasize the need for one common international standard in the reporting, and the majority even believe ESG reporting should be mandatory by law. Similar to Amel-Zadeh & Serafeim (2018) we find that negative screening, active ownership and full integration are the most common RI strategies. The two latter and more advanced strategies are very common among AM that collaborate with ESG initiatives and big AM. This could imply that AM have developed improved methods to incorporate ESG metrics and information, which in turn provides support to the positive relationship between ESGP and Tobin's Q. We also find that most Scandinavian investors believe ESG integration will lead to increased return, which is in line with Amel-Zadeh & Serafeim (2018) and Van Duuren et al. (2016). Interestingly, we find that female AM expect that ESG integration will lead to higher returns and increased long-term value creation in addition to lower risk compared to male respondents. This is in line with CFA (2017) who also find that female respondents are more positive towards ESG integration compared to men. In contrast Przychodzen et al. (2016) find that gender does not affect propensity to integrate ESG.

Similar to Amel-Zadeh & Serafeim (2018), CFA (2017) and De Villiers & Van Staden (2010) we find the same opinions regarding audit of ESG reports. 60% of respondents considers an externally audited report differently from a non-audited report, and 69% believe they are more reliable compared to non-audited ones. 75% believe it is important that ESG reports are subject to some form of independent verification, where 42% also think such verification should be mandatory. Similarly, CFA (2017) find that 69% believe an independent verification is important, and Amel-Zadeh & Serafeim (2018) found that respondents experienced lack of assurance and reliability of ESG information. Furthermore, we find that professional firms with relevant ESG expertise is slightly favored in terms of providing an independent verification. This is similar to CFA (2017) who also find professional firms to be preferred over accounting firms. In contrast to previous research, our study looks further into explanations to why an external audit is considered valuable, where quality, reliability, trust and mitigating self-reporting bias are the most important factors. In addition, we explore what information AM believe is most important by companies to disclose. The results indicate that all E, S and G factors, in addition to disclosure on the company's process towards its sustainability targets, are

considered most important. Respondents highlight that materiality is key, indicating that companies should focus on the most important ESG issues concerning their business operations.

Our findings support the viewpoints of SF and RI which are based on a stakeholder perspective and long-term value is created by bringing sustainability and finance (risk and return in particular) together (Schoenmaker and Schramade, 2019). Instead of going at the expense of each other, AM believes they create synergies. This contradicts traditional finance theory, which suggests that financial agents should only strive to maximize shareholder profits, since it will contribute towards market efficiency and thereby societal wellbeing (Sandberg, 2018). In addition, our results have managerial as well as regulatory implications. As for strategic management, our findings suggest that reporting and disclosing sufficient ESG information is important. It also seems like reporting in line with international standards are helpful towards improving stakeholder communication. In terms of external audit, it is favored among Scandinavian AM, indicating that it can be a tool to bridge credibility and trust. Management should be aware that shareholders use and consider ESG information differently, especially in terms of big compared to small AM, and those who collaborate with ESG initiatives as opposed to those who does not. As for policy makers, our results suggest that regulation regarding reporting and standardization is requested. We find strong favor for a common international standard among Scandinavian AM, and we highlight that this could be a possible solution for addressing the greatest barriers to integrating ESG.

Chapter 6. Conclusions

The main objective of this study was to investigate the relationship between ESGP and CFP in a Scandinavian context, and whether an external audit of the ESG report moderate the relationship. The second objective was to investigate how Scandinavian AM use and consider ESG information and reporting. To fulfill the objectives, we first conducted regression analyses to examine the relationship between ESGP and both accounting-based and market-based CFP in the period 2009-2019. Secondly, we collected data through a survey to examine how AM use and consider ESG information. Both theoretical contributions and practical implications will be discussed. The two studies provide the following conclusions to the three research questions in Section 1.3.

First, we find that ESGP has a positive and significant relationship with Tobin's Q, when controlling for unsystematic and systematic risk, size, capital intensity, sales growth, analyst coverage and management quality. This suggests that a company's ESG activities are rewarded by the market and that it positively affects the valuation of the company. With regards to ROA, we find a U-shaped relationship, which indicates that companies need to invest a certain amount in ESG activities in order for it to pay off. In other words, before this point is reached, the ESG expenditures may act to decrease ROA at an early stage. Still, our findings suggest that ESG activities ultimately will be beneficial for Scandinavian companies. This implicates that ESGP positively affects accounting-based CFP when a certain threshold amount of ESG investments have been carried out by the company. Furthermore, the results from the main analysis holds true in robustness tests. The findings support a stakeholder view of the firm, considering we do not find any significant negative relationship, which the shareholder theory implies. Stakeholder theory states that a company is creating value for both shareholders and stakeholders by balancing their interests and operating a successful stakeholder management. The conclusions drawn from this, indicates that companies who focus on effective stakeholder management and ESG strategy will increase both market-based and accounting-based financial performance in the long run. We therefore conclude that it is in the best economic interest for strategic management and investors to integrate ESG in their decision-making process. Investors have a profitable incentive to integrate ESG, which consequently gives management an incentive to implement effective ESG strategies to attract capital from investors.

With regards to whether an audit of the ESG report moderates the relationship, we find no statistically significant results in our moderator model. This indicates that an audit does not affect the link between ESGP and CFP. We highlight the fact that there is neither a significant negative nor positive effect. According to shareholder theory there should be a negative effect on CFP, which brings us to the conclusion that our results do not support this theory. In light of stakeholder theory, we suggested that an external audit could improve stakeholder communication, which might lead to improved CFP. Since our results show no significant effect, the stakeholder theory implies that an audit should only be obtained if it is in the stakeholder's interests. The conclusions drawn from this theory, is therefore that company management should thoroughly address the costs and the interests of their stakeholders regarding an external audit. Our findings suggest that a company will not gain any financial benefits from having their ESG report assured by a third party. This indicates that investors might not require an audit if their interests are purely financial. Interestingly, the study on asset managers implies otherwise, which brings us over to the conclusions from the survey.

Scandinavian AM use ESG information in their investment decisions and most use it systematically to reduce and identify risks. They use different investment strategies, where negative screening is most common. Our findings support sustainable finance theory, as responders believe financial and sustainable value creation goes hand in hand. We find that the greatest barriers of integrating ESG are lack of standards in reporting, and lack of quantifiable and sufficient information disclosed. AM find disclosure on all aspects of ESG important and request reporting on the progress towards material sustainability targets. They are also concerned with lack of reliability and assurance of ESG information. We find that the majority require one common international standard of ESG reporting, and they believe it is important that ESG reports are subject to independent verification. A great proportion of responders finds externally audited ESG reports to be more reliable compared to non-audited reports. This indicates that regulation and standardization in both reporting and assurance can be key factors for good stakeholder relations. According to stakeholder theory, these findings implies that management should consider obtaining an independent verification of the ESG report, even though it does not lead to better CFP. This is because it is beneficial for the company to take all stakeholders interests into consideration. The conclusions drawn from this study is that Scandinavian AM strongly relies on ESG in their decision making, which highlights the importance of corporate management to focus on addressing and reporting on ESG issues. The conclusions drawn are also that future regulation and standardization is important towards

helping companies report on ESG matters, in addition to helping investors overcome the barriers of integration.

This thesis has societal implications as well. Our results can provide incentives for Scandinavian companies to reduce their negative externalities and contribute to sustainable development. Companies can among other things improve employee conditions, reduce emissions, focus on sustainable resource utilization, counter corruption, respect human rights and help the local community that are affected by their business operations. By focusing on ESG activities companies can create positive ripple effects for multiple stakeholders without compromising profits. The ESG activities can positively affect customers who receive more responsible and better-quality products, employees who get better working conditions and development opportunities, and communities who benefit from lower emissions and better resource utilization.

6.1 Limitations and future research

There are several limitations of this study. First of all, there is a debate whether ESGP leads to actual sustainability. We have previously accounted for why we believe the ESGC score is assumed to represent a firm's actual sustainability performance (Papoutsi & Sodhi, 2020; Alsayegh et al., 2020; Hummel & Schlick, 2016). However, we are aware that this can be a possible limitation, and that this drawback is commonly shared with other measurements of CSR as well (Han et al., 2016; Nollet et al., 2016). Furthermore, a limitation of this study is the fact that we only use one ESG score in the analysis. A subject for future research could therefore be to conduct the same study, with different ESG measures. Another limitation is the fact that a regression cannot prove any causal links. The only conclusion that can be drawn with certainty is the fact that there is a relationship between ESGP and CFP. To prove any causal links, an event study could be conducted to see whether and how a change in ESG score impacts CFP. We have however used a time lag and conducted robustness tests to account for the assumption that ESGP affects CFP. A final limitation is the possibility that other variables could affect CFP, which makes our model sensitive to under-specification. A call for future research is therefore to identify and include more control variables that can improve the model.

Limitations regarding the survey relates to selection bias, as our sample probably consists of more ESG aware investors. Another potential limitation is the fact that the survey involves self-

assessment, which can result in problems with response bias. This makes the survey results sensitive to the difference between what respondents say they do, compared to what they actually do. Respondents' answers can also be affected by how questions are framed, which is a possible limitation of this study. We used filtering questions based on the respondents' answers, which could affect the possible framing effects. However, the filtering questions are consistent with each other, which indicates that the potential framing bias should be equal and independent of the routing of respondents. We have previously mentioned the measures we have done to reduce several biases. Another limitation is that some of the assumptions regarding the t-tests were questionable, concerning both normal distribution and continuous variables. We therefore conducted nonparametric Mann-Whitney U tests to make sure the results were reliable and robust. With regards to future research, it would be beneficial to investigate differences between institutional and individual investors when it comes to ESG integration and considerations. It would also be interesting to investigate if future regulation and standardization can affect the results.

Regarding future research on ESG assurance, a suggestion could be to investigate the moderating effect of internal audits. It could also be interesting to see whether the moderating effect of audited ESG reports vary between contexts, especially in developing countries where the credibility gap is assumed to be larger. Future research can investigate how upcoming regulations and standardizations can affect the relationship between ESGP and CFP.

References

- Aggarwal, R., Erel, I., Stulz, R., & Williamson, R. (2009). Differences in governance practices between US and foreign firms: Measurement, causes, and consequences. *The Review of financial studies*, 22(8), 3131-3169.
- Ahlklo, Y., & Lind, C. (2019). *E, S or G? A study of ESG score and financial performance*. [Master thesis]. KTH.
- Ali, R., Sial, M. S., Brugni, T. V., Hwang, J., Khuong, N. V., & Khanh, T. H. T. (2020). Does CSR Moderate the Relationship between Corporate Governance and Chinese Firm's Financial Performance? Evidence from the Shanghai Stock Exchange (SSE) Firms. *Sustainability*, 12(1), 149.
- Alon, A., & Vidovic, M. (2015). Sustainability performance and assurance: Influence on reputation. *Corporate Reputation Review*, 18(4), 337-352.
- 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.
- Alsayegh, M. F., Abdul Rahman, R., & Homayoun, S. (2020). Corporate economic, environmental, and social sustainability performance transformation through ESG disclosure. *Sustainability*, 12(9), 3910.
- Barbier, E. B., & Burgess, J. C. (2017). The Sustainable Development Goals and the systems approach to sustainability. *Economics: The Open-Access, Open-Assessment E-Journal*, 11(2017-28), 1-23.
- Bartels, W., Iansen-Rogers, J., & Kuszewski, J. (2008). *Count me in: the readers' take on sustainability reporting*. Retrieved from: <https://bit.ly/3fpYzch> (Accessed: 20.03.2021).
- Bayoud, N. S., Kavanagh, M., & Slaughter, G. (2012). Factors influencing levels of corporate social responsibility disclosure Libyan firms: A mixed study. *International Journal of Economics and Finance*, 4(4), 13-29.

- Bedard, J. C., Johnstone, K. M., & Smith, E. F. (2010). Audit quality indicators: A status update on possible public disclosures and insights from audit practice. *Current Issues in Auditing*, 4(1), 12-19.
- Bengtsson, E. (2008). Socially responsible investing in Scandinavia—a comparative analysis. *Sustainable Development*, 16(3), 155-168.
- Blackrock (2021). *Larry Fink's 2021 letter to CEOs*. Retrieved from: <https://bit.ly/3uptUQg> (Accessed: 19.03.2021).
- Bloomberg (2021). *Sustainable Finance Bloomberg Professional Services*. Retrieved from: <https://bloom.bg/3hWSJ3E> (Accessed: 02.03.2021).
- Boffo, R., & Patalano, R. (2020). *ESG investing: Practices, progress and challenges*. Retrieved from: <https://bit.ly/2RNffkS> (Accessed: 23.03.2021).
- Boerner, H. (2007). Your company's ESG-environmental, social, and governance factors are mattering more now to institutional investors. *Corporate Finance Review*, 12(2), 40.
- Bourne, L., & Walker, D. H. (2005). Visualising and mapping stakeholder influence. *Management decision*. 40(5), 649-660.
- Bowen, H. (1953). *Social responsibilities of the businessman*. Harper.
- Branco, M. C., & Rodrigues, L. L. (2006). Corporate social responsibility and resource-based perspectives. *Journal of business Ethics*, 69(2), 111-132.
- Branco, M. C., & Rodrigues, L. L. (2008). Factors influencing social responsibility disclosure by Portuguese companies. *Journal of business Ethics*, 83(4), 685-701.
- Bell, E., Bryman, A. & Harley, B. (2019). *Business Research Methods*. (5th ed.). Oxford University Press.

- Cai, Y., Jo, H., & Pan, C. (2012). Doing well while doing bad? CSR in controversial industry sectors. *Journal of Business Ethics*, 108(4), 467-480.
- Carrington, T. (2019). A Critical Perspective on Sustainability Assurance. In: Arvidsson S. (Ed.) *Challenges in Managing Sustainable Business*. (p. 155-176). Palgrave Macmillan, Cham.
https://doi.org/10.1007/978-3-319-93266-8_7
- CAQ (2021a). *The Basics on Today's ESG Reporting*. Retrieved from: <https://bit.ly/3umEhog> (Accessed: 15.03.2021).
- CAQ (2021b). *ESG reporting and attestation: A roadmap for audit practitioners*. Retrieved from: <https://bit.ly/3oUtmkg> (Accessed: 15.03.2021).
- Carroll, A. B. (1991). The pyramid of corporate social responsibility: toward the moral management of organizational stakeholders. *Business Horizons*, 34(4), 39–48.
- CFA (2017). *ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) SURVEY*. Retrieved from: <https://bit.ly/2TakoUj> (Accessed: 23.03.2021).
- Chelawat, H., & Trivedi, I. V. (2016). The business value of ESG performance: the Indian context. *Asian journal of business ethics*, 5(1), 195-210.
- Chen, L., Srinidhi, B., Tsang, A., & Yu, W. (2016). Audited financial reporting and voluntary disclosure of corporate social responsibility (CSR) reports. *Journal of Management Accounting Research*, 28(2), 53-76.
- Chen, P. C., Ballou B., Grenier J. H. & Heitger D. L. (2019). Sustainability assurance's link to reporting quality. *Journal of Accountancy*. Retrieved from: <https://bit.ly/3vr7XSf>
- Choi, I. (2001). Unit root tests for panel data. *Journal of international money and Finance*, 20(2), 249-272.
- Choi, J., & Wang, H. (2009). Stakeholder relations and the persistence of corporate financial performance. *Strategic management journal*, 30(8), 895-907.

- Clark, G. L., & Viehs, M. (2014). The implications of corporate social responsibility for investors: An overview and evaluation of the existing CSR literature. <http://dx.doi.org/10.2139/ssrn.2481877>
- Clark, G. L., Feiner, A., & Viehs, M. (2015). From the stockholder to the stakeholder: How sustainability can drive financial outperformance. <https://dx.doi.org/10.2139/ssrn.2508281>
- Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, organizations and society*, 33(4-5), 303-327.
- Croasmun, J. T., & Ostrom, L. (2011). Using Likert-Type Scales in the Social Sciences. *Journal of Adult Education*, 40(1), 19-22.
- Dahlberg, L., & Wiklund, F. (2018). *ESG Investing In Nordic Countries: An analysis of the Shareholder view of creating value*. [Master thesis]. Umeå School of Business, Economics and Statistics.
- Dahlsrud, A. (2008). How corporate social responsibility is defined: an analysis of 37 definitions. *Corporate social responsibility and environmental management*, 15(1), 1-13.
- Dando, N., & Swift, T. (2003). Transparency and assurance minding the credibility gap. *Journal of Business Ethics*, 44(2), 195-200.
- Daub, C. H. (2007). Assessing the quality of sustainability reporting: an alternative methodological approach. *Journal of Cleaner Production*, 15(1), 75-85.
- DeAngelo, L. E. (1981). Auditor independence, 'low balling', and disclosure regulation. *Journal of Accounting and Economics*, 3(2), 113-127.
- Del Giudice, A. D., & Rigamonti, S. (2020). Does Audit Improve the Quality of ESG Scores? Evidence from Corporate Misconduct. *Sustainability*, 12(14), 5670.

- Deloitte (2020). *Sustainability reporting and KPI services*. Retrieved from: <https://bit.ly/3bW2IIM> (Accessed: 16.03.2021).
- De Villiers, C., & Van Staden, C. J. (2010). Shareholders' requirements for corporate environmental disclosures: A cross country comparison. *The British Accounting Review*, 42(4), 227-240.
- Devlin, S. J., Dong, H. K., & Brown, M. (1993). Selecting a scale for measuring quality. *Marketing research*, 5(3).
- Dhaliwal, D. S., Radhakrishnan, S., Tsang, A., & Yang, Y. G. (2012). Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. *The accounting review*, 87(3), 723-759.
- Dierkes, M., & Antal, A. B. (1985). The usefulness and use of social reporting information. *Accounting, organizations and society*, 10(1), 29-34.
- Diez-Cañamero, B., Bishara, T., Otegi-Olaso, J. R., Minguez, R., & Fernández, J. M. (2020). Measurement of corporate social responsibility: A review of corporate sustainability indexes, rankings and ratings. *Sustainability*, 12(5), 2153.
- Dixon-Fowler, H. R., Slater, D. J., Johnson, J. L., Ellstrand, A. E., & Romi, A. M. (2013). Beyond "does it pay to be green?" A meta-analysis of moderators of the CEP–CFP relationship. *Journal of business ethics*, 112(2), 353-366.
- Drempetic, S., Klein, C., & Zwergel, B. (2019). The influence of firm size on the ESG score: Corporate sustainability ratings under review. *Journal of Business Ethics*, 167, 333-360.
- Dumitrescu, E. I., & Hurlin, C. (2012). Testing for Granger non-causality in heterogeneous panels. *Economic modelling*, 29(4), 1450-1460.
- Duque-Grisales, E., & Aguilera-Caracuel, J. (2019). Environmental, social and governance (ESG) scores and financial performance of Multilatinas: Moderating effects of geographic international diversification and financial slack. *Journal of Business Ethics*, 168, 315-334.

- Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60(11), 2835-2857.
- Eccles, R. G., Kastropeli, M. D., & Potter, S. J. (2017). How to integrate ESG into investment decision-making: Results of a global survey of institutional investors. *Journal of Applied Corporate Finance*, 29(4), 125-133.
- El Ghouli, S., Guedhami, O., Kwok, C. C., & Mishra, D. R. (2011). Does corporate social responsibility affect the cost of capital?. *Journal of Banking & Finance*, 35(9), 2388-2406.
- Escrig-Olmedo, E., Muñoz-Torres, M. J., & Fernandez-Izquierdo, M. A. (2010). Socially responsible investing: sustainability indices, ESG rating and information provider agencies. *International journal of sustainable economy*, 2(4), 442-461.
- European Commission (2011). *A renewed EU strategy 2011-14 for Corporate Social Responsibility*. Retrieved from: <https://bit.ly/2QTp0NR> (Accessed: 20.02.2021).
- European Commission (2018). *Renewed sustainable finance strategy and implementation of the action plan on financing sustainable growth*. Retrieved from: <https://bit.ly/3yEaydN> (Accessed: 16.03.2021)
- European Commission (2020). *Summary Report of the Public Consultation on the Review of the Non-Financial Reporting Directive*. Retrieved from: <https://bit.ly/34ihH5u> (Accessed: 20.02.2021)
- European Commission (2021). *Overview of sustainable finance*. Retrieved from: <https://bit.ly/3upisEn> (Accessed 18.02.2021).
- Eurosif (2021). *Responsible investment strategies*. Retrieved from: <https://bit.ly/3ulMhWp> (Accessed: 18.03.2021).
- EY (2019). *How ESG creates long-term value Sustainability's new frontier*. Retrieved from: <https://go.ey.com/34kzA3D> (Accessed: 16.03.2021).

- EY (2020). *How will ESG performance shape your future?* Retrieved from: <https://go.ey.com/2TfJFMR> (Accessed: 15.03.2021).
- EY (2021). *Nonfinancial reporting advisory and assurance*. Retrieved from: <https://go.ey.com/2QVw5O7> (Accessed: 15.03.2021).
- Fagerland, M. W. (2012). t-tests, non-parametric tests, and large studies—a paradox of statistical practice?. *BMC medical research methodology*, 12(1), 1-7.
- Farooq, M. B., & De Villiers, C. (2017). The market for sustainability assurance services. *Pacific Accounting Review*, 29(1), 79-106.
- Fay, M. P., & Proschan, M. A. (2010). Wilcoxon-Mann-Whitney or t-test? On assumptions for hypothesis tests and multiple interpretations of decision rules. *Statistics surveys*, 4, 1.
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
- Freeman, R. E. (2010). *Strategic management: A stakeholder approach*. Cambridge university press.
- Freeman, R. E., & Reed, D. L. (1983). Stockholders and stakeholders: A new perspective on corporate governance. *California management review*, 25(3), 88-106.
- Freeman, R. E., Harrison, J. S., & Wicks, A. C. (2007). *Managing for stakeholders: Survival, reputation, and success*. Yale University Press.
- 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.
- Friedman, M. (1970). "A Friedman doctrine - The social responsibility of business is to increase its profits". New York Times Magazine.

- Frynas, J. G., & Yamahaki, C. (2016). Corporate social responsibility: Review and roadmap of theoretical perspectives. *Business Ethics: A European Review*, 25(3), 258-285.
- Garcia, A. S., Mendes-Da-Silva, W., & Orsato, R. J. (2017). Sensitive industries produce better ESG performance: Evidence from emerging markets. *Journal of cleaner production*, 150, 135-147.
- Garland, R. (1991). The mid-point on a rating scale: Is it desirable. *Marketing bulletin*, 2(1), 66-70.
- Gibson, R., Krueger, P., & Schmidt, P. S. (2019). ESG rating disagreement and stock returns. Swiss Finance Institute Research Paper, (19-67). <https://dx.doi.org/10.2139/ssrn.3433728>
- GISA (2018). *Global sustainable investment review 2018*. Retrieved from: <https://bit.ly/2SyOEb5> (Accessed: 12.03.2021).
- Gjølberg, M. (2009). Measuring the immeasurable?: Constructing an index of CSR practices and CSR performance in 20 countries. *Scandinavian journal of management*, 25(1), 10-22.
- GRI (2020). *Sustainability Disclosure Database*. Retrived from: <https://bit.ly/3bXn3qZ> (Accessed: 12.05.2021).
- Hammami, A., & Zadeh, M. H. (2019). Audit quality, media coverage, environmental, social, and governance disclosure and firm investment efficiency. *International Journal of Accounting & Information Management*, 28(1), 45-72.
- Hammervold, R. (2020) *Multivariate analyser med stata*. (1st ed.). Fagbokforlaget.
- 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.

- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of accounting and economics*, 31(1-3), 405-440.
- Hebb, T., Hawley, J. P., Hoepner, A. G., Neher, A. L., & Wood, D. (Eds.). (2016). *The Routledge handbook of responsible investment*. Routledge.
- Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. *The stata journal*, 7(3), 281-312.
- Hummel, K., & Schlick, C. (2016). The relationship between sustainability performance and sustainability disclosure—Reconciling voluntary disclosure theory and legitimacy theory. *Journal of accounting and public policy*, 35(5), 455-476.
- IAASB (2012). International Standard on Assurance Engagements (ISAE) 3410, Assurance Engagements on Greenhouse Gas Statements. International Auditing and Assurance Standards Board. Retrieved from: <https://bit.ly/2QTcpu6> (Accessed: 29.04.2021).
- IAASB (2013). ISAE 3000 (Revised), Assurance Engagements Other than Audits or Reviews of Historical Financial Information. International Auditing and Assurance Standards Board. Retrieved from: <https://bit.ly/2SwNAEU> (Accessed: 29.04.2021).
- In, S. Y., Rook, D., & Monk, A. (2019). Integrating alternative data (also known as ESG data) in investment decision making. *Global Economic Review*, 48(3), 237-260.
- Ioannou, I., & Serafeim, G. (2015). The impact of corporate social responsibility on investment recommendations: Analysts' perceptions and shifting institutional logics. *Strategic Management Journal*, 36(7), 1053-1081.
- Jackson, G., Bartosch, J., Avetisyan, E., Kinderman, D., & Knudsen, J. S. (2020). Mandatory non-financial disclosure and its influence on CSR: An international comparison. *Journal of Business Ethics*, 162(2), 323-342.

- Junior, R. M., Best, P. J., & Cotter, J. (2014). Sustainability reporting and assurance: A historical analysis on a world-wide phenomenon. *Journal of business ethics*, 120(1), 1-11.
- Knechel, W. R. (2016). Audit quality and regulation. *International Journal of Auditing*, 20(3), 215-223.
- Kolk, A., & Perego, P. (2010). Determinants of the adoption of sustainability assurance statements: An international investigation. *Business strategy and the environment*, 19(3), 182-198.
- KPMG (2020). *The time has come. The KPMG Survey of Sustainability Reporting 2020*. Retrieved from: <https://bit.ly/3fo7JWH> (Accessed: 17.03.2021).
- KPMG (2021). *Environmental, Social and Governance (ESG) reporting*. Retrieved from: <https://bit.ly/3ulNwox> (Accessed: 17.03.2021).
- Krueger, P., Sautner, Z., & Starks, L. T. (2020). The importance of climate risks for institutional investors. *The Review of Financial Studies*, 33(3), 1067-1111.
- Krüger, P. (2015). Corporate goodness and shareholder wealth. *Journal of financial economics*, 115(2), 304-329.
- Lagoarde-Segot, T. (2019). Sustainable finance. A critical realist perspective. *Research in International Business and Finance*, 47, 1-9.
- Langeland, J. A., & Ugland, L. K. (2019). *ESG rating and financial performance in the Nordic market*. [Masters thesis]. Handelshøyskolen BI. Retrieved from: <https://bit.ly/3oQAUor>
- La Torre, M. L., Sabelfeld, S., Blomkvist, M., Tarquinio, L., & Dumay, J. (2018). Harmonising non-financial reporting regulation in Europe: Practical forces and projections for future research. *Meditari Accountancy Research*, 26(4), 598-621.

- Li, Y., Gong, M., Zhang, X. Y., & Koh, L. (2018). The impact of environmental, social, and governance disclosure on firm value: The role of CEO power. *The British Accounting Review*, 50(1), 60-75.
- Levin, A., Lin, C. F., & Chu, C. S. J. (2002). Unit root tests in panel data: asymptotic and finite-sample properties. *Journal of econometrics*, 108(1), 1-24.
- Lopez, L., & Weber, S. (2017). Testing for Granger causality in panel data. *The Stata Journal*, 17(4), 972-984.
- López-Arceiz, F. J., Bellostas, A. J., & Rivera, P. (2018). Twenty years of research on the relationship between economic and social performance: A meta-analysis approach. *Social Indicators Research*, 140(2), 453-484.
- Lu, W., & Taylor, M. E. (2016). Which factors moderate the relationship between sustainability performance and financial performance? A meta-analysis study. *Journal of International Accounting Research*, 15(1), 1-15.
- Manrique, S., & Martí-Ballester, C. P. (2017). Analyzing the effect of corporate environmental performance on corporate financial performance in developed and developing countries. *Sustainability*, 9(11), 1957.
- Maignan, I., & Ralston, D. A. (2002). Corporate social responsibility in Europe and the US: Insights from businesses' self-presentations. *Journal of International Business Studies*, 33(3), 497-514.
- Marsat, S., & Williams, B. (2013). CSR and market valuation: International evidence. *Bankers Markets & Investors: an academic & professional review*, 123, 29-42.
- Martinez, A. D., Russell, Z. A., Maher, L. P., Brandon-Lai, S. A., & Ferris, G. R. (2017). The sociopolitical implications of firm reputation: Firm financial reputation× social reputation interaction on firm financial performance. *Journal of Leadership & Organizational Studies*, 24(1), 55-64.

- McKnight, P. E., & Najab, J. (2010). Mann-Whitney U Test. *The Corsini encyclopedia of psychology*. <https://doi.org/10.1002/9780470479216.corpsy0524>
- Moroney, R., Windsor, C., & Aw, Y. T. (2012). Evidence of assurance enhancing the quality of voluntary environmental disclosures: An empirical analysis. *Accounting & Finance*, 52(3), 903-939.
- Nilsson, J. (2008). Investment with a conscience: Examining the impact of pro-social attitudes and perceived financial performance on socially responsible investment behavior. *Journal of business ethics*, 83(2), 307-325.
- 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.
- Nollet, J., Filis, G., & Mitrokostas, E. (2016). Corporate social responsibility and financial performance: A non-linear and disaggregated approach. *Economic Modelling*, 52, 400-407.
- Norman, G. (2010). Likert scales, levels of measurement and the “laws” of statistics. *Advances in health sciences education*, 15(5), 625-632.
- Norsk Hydro. (2020). *Supplier Code of Conduct*. Retrieved from: <https://bit.ly/3bW7MXx> (Accessed: 20.05.2021).
- Omran, M. A., & Ramdhony, D. (2015). Theoretical perspectives on corporate social responsibility disclosure: a critical review. *International Journal of Accounting and Financial Reporting*, 5(2), 38-55.
- Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization studies*, 24(3), 403-441.
- Papoutsis, A., & Sodhi, M. S. (2020). Does disclosure in sustainability reports indicate actual sustainability performance? *Journal of Cleaner Production*, 260, 121049.

- Peloza, J. (2009). The challenge of measuring financial impacts from investments in corporate social performance. *Journal of Management*, 35(6), 1518-1541.
- Perego, P., & Kolk, A. (2012). Multinationals' accountability on sustainability: The evolution of third-party assurance of sustainability reports. *Journal of business ethics*, 110(2), 173-190.
- Porter, M. & Kramer, M. R. (2019). Creating shared value. In Lenssen, G.G & Smith, N. C. (Ed.), *Managing Sustainable Business* (p. 223-347). Springer.
- Przychodzen, J., Gómez-Bezares, F., Przychodzen, W., & Larreina, M. (2016). ESG Issues among fund managers—Factors and motives. *Sustainability*, 8(10), 1078.
- PwC (2020a). *Mind the gap?* Retrieved from: <https://pwc.to/3fLJPDw> (Accessed: 15.03.2021).
- PwC (2020b). *ESG oversight: The corporate directors guide*. Retrieved from: <https://pwc.to/2SwNXiM> (Accessed 16.03.2021).
- PwC (2021). *ESG reporting*. Retrieved from: <https://pwc.to/3fRHJC9> (Accessed: 16.03.2021).
- Rabe-Hesketh, S., & Skrondal, A. (2008). *Multilevel and longitudinal modeling using Stata*. STATA press.
- Refinitiv (2021). *Environmental, Social and Governance (ESG) scores from Refinitiv*. Retrieved from: https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf (Accessed: 29.03.2021)
- RobecoSAM (2021) *Country sustainability ranking..* Retrieved from: <https://bit.ly/3bWCz6C> (Accessed: 02.03.2021).
- Roberts, R. W. (1992). Determinants of corporate social responsibility disclosure: An application of stakeholder theory. *Accounting, organizations and society*, 17(6), 595-612.

- Sandberg, J. (2018). Toward a Theory of Sustainable Finance. In Walker T., Kibsey S., Crichton R. (Ed.) *Designing a Sustainable Financial System* (pp. 329-346). Palgrave Macmillan, Cham.
- Sassen, R., Hinze, A. K., & Hardeck, I. (2016). Impact of ESG factors on firm risk in Europe. *Journal of business economics*, 86(8), 867-904.
- Schoenmaker, D., & Schramade, W. (2019). *Principles of sustainable finance*. Oxford University Press.
- Scholtens, B. (2008). A note on the interaction between corporate social responsibility and financial performance. *Ecological economics*, 68(1-2), 46-55.
- Scholtens, B. (2014). Indicators of responsible investing. *Ecological Indicators*, 36, 382-385.
- Scholtens, B., & Sievänen, R. (2013). Drivers of socially responsible investing: A case study of four Nordic countries. *Journal of business ethics*, 115(3), 605-616.
- Simnett, R., Vanstraelen, A., & Chua, W. F. (2009). Assurance on sustainability reports: An international comparison. *The accounting review*, 84(3), 937-967.
- Smith, H. J. (2003). The shareholders vs. stakeholders debate. *MIT Sloan Management Review*, 44(4), 85-90.
- Soppe, A. (2004). Sustainable corporate finance. *Journal of Business Ethics*, 53(1), 213-224.
- Stellner, C., Klein, C., & Zwergel, B. (2015). Corporate social responsibility and Eurozone corporate bonds: The moderating role of country sustainability. *Journal of Banking & Finance*, 59, 538-549.
- Steurer, R. (2010). The role of governments in corporate social responsibility: Characterising public policies on CSR in Europe. *Policy sciences*, 43(1), 49-72.

- Strand, R., & Freeman, R. E. (2015). Scandinavian cooperative advantage: The theory and practice of stakeholder engagement in Scandinavia. *Journal of business Ethics*, 127(1), 65-85.
- Strand, R., Freeman, R. E., & Hockerts, K. (2015). Corporate social responsibility and sustainability in Scandinavia: An overview. *Journal of business Ethics*, 127(1), 1-15.
- Studenmund, A. H. (2017). *A practical guide to using econometrics*. (7th ed.). Pearson Education Limited.
- Su, W., Peng, M. W., Tan, W., & Cheung, Y. L. (2016). The signaling effect of corporate social responsibility in emerging economies. *Journal of business Ethics*, 134(3), 479-491.
- United Nations (1987). *Our Common Future (Brundtland Report)*. Retrieved from: <https://bit.ly/3uSo2jO> (Accessed: 20.02.2021).
- UN Global Compact (2021). *Our participants*. Retrieved from: <https://bit.ly/3uSn337> (Accessed: 16.05.2021)
- UNPRI (2018). *PRI Reporting Framework 2019*. UNPRI Association. Retrieved from: <https://bit.ly/2SvjWQe> (Accessed: 06.05.2021).
- UNPRI (2021a). *What is responsible investment?* Available at: <https://bit.ly/2StmsGH> (Accessed: 18.03.2021).
- UNPRI (2021b). *Signatory directory*. Available at: <https://bit.ly/3fmjNrq> (Accessed: 15.05.2021).
- Utz, S. (2019). Corporate scandals and the reliability of ESG assessments: Evidence from an international sample. *Review of Managerial Science*, 13(2), 483-511.
- Van Duuren, E., Plantinga, A., & Scholtens, B. (2016). ESG integration and the investment management process: Fundamental investing reinvented. *Journal of business Ethics*, 138(3), 525-533.

- Van Marrewijk, M. (2003). Concepts and definitions of CSR and corporate sustainability: Between agency and communion. *Journal of business Ethics*, 44(2), 95-105.
- Velte, P. (2017). Does ESG performance have an impact on financial performance? Evidence from Germany. *Journal of Global Responsibility*, 80(2), 169-178.
- Velte, P. (2019). Does CEO power moderate the link between ESG performance and financial performance? A focus on the German two-tier system. *Management Research Review*, 40(5), 497-520.
- Vishwanathan, P., van Oosterhout, H., Heugens, P. P., Duran, P., & Van Essen, M. (2020). Strategic CSR: A concept building meta-analysis. *Journal of Management studies*, 57(2), 314-350.
- Walter, I. (2019). Sense and Nonsense in ESG Scoring. *NYU Stern School of Business*.
<https://dx.doi.org/10.2139/ssrn.3480878>
- Wang, Q., Dou, J., & Jia, S. (2016). A meta-analytic review of corporate social responsibility and corporate financial performance: The moderating effect of contextual factors. *Business & Society*, 55(8), 1083-1121.
- Wilson, C. (2010). Why should sustainable finance be given priority? Lessons from pollution and biodiversity degradation. *Accounting Research Journal*, 23(1), 267-280.
- Wilson, J. (2014). *Essentials of business research: A guide to doing your research project*. (2nd ed.). Sage.
- Wooldridge, J.M. (2012). *Introductory econometrics a modern approach*. (5th ed.). South-Western Cengage Learning.
- Zhang, F., Qin, X., & Liu, L. (2020). The interaction effect between ESG and green innovation and its impact on firm value from the perspective of information disclosure. *Sustainability*, 12(5), 1866.

Appendix

A1 ESGC scoring

Score range	Grade	Description
0.0 <= score <= 0.083333	D -	“D” score indicates poor relative ESG performance and insufficient degree of transparency in reporting material ESG data publicly.
0.083333 < score <= 0.166666	D	
0.166666 < score <= 0.250000	D +	
0.250000 < score <= 0.333333	C -	“C” score indicates satisfactory relative ESG performance and moderate degree of transparency in reporting material ESG data publicly.
0.333333 < score <= 0.416666	C	
0.416666 < score <= 0.500000	C +	
0.500000 < score <= 0.583333	B -	“B” score indicates good relative ESG performance and above average degree of transparency in reporting material ESG data publicly.
0.583333 < score <= 0.666666	B	
0.666666 < score <= 0.750000	B +	
0.750000 < score <= 0.833333	A -	“A” score indicates excellent relative ESG performance and high degree of transparency in reporting material ESG data publicly.
0.833333 < score <= 0.916666	A	
0.916666 < score <= 1	A +	

Table A1.1: Table of Refinitiv Eikon ESG score grading system.

Pillar	Category	Themes
Environment	Resource Use	Water Energy Sustainable packaging Environmental supply chain
	Emissions	Emissions Waste Biodiversity Environmental management systems
	Innovation	Product innovation Green revenues R&D Capital Expenditure
Social	Workforce	Diversity and inclusion Career development and training Working conditions Health and safety

	Human Rights	Respecting human rights
	Community	Taking care of local community Equally important to all industry groups, hence a median weight of five is assigned to all.
	Product Responsibility	Responsible marketing Product quality Data privacy
Governance	Management	Structure (independence, diversity, committees) Compensation
	Shareholders	Shareholder rights Takeover defenses
	CSR Strategy	CSR strategy ESG reporting and transparency

Table A1.2: ESGC in Refinitiv Eikon. Table of categories included in ESGC score.

Each category is weighted based on materiality, which means category weighting is industry dependent as some ESG topics are more relevant and material to companies within the same industries.

A2 List of variables

Variable	Description
ROA	$\frac{\text{Income After Tax}}{\text{Total Assets}}$
TOBINSQ	$\frac{\text{Market Value}}{\text{Total Assets}}$
ESGC	A score between 0 and 100 calculated by Refinitiv Eikon, which is the overall ESG score minus the Controversies Score.
AUDIT	A dummy variable which takes the value of 1 if the ESG report is externally audited, and a value of 0 otherwise.
BETA	$\frac{\text{Cov}(r_i, r_m)}{\text{Var}(r_m)}$
LEVERAGE	$\frac{\text{Total Debt}}{\text{Total Assets}}$

SIZE	$\log (Total\ Assets)$
CAPI	$\frac{Capital\ Expenditures}{Total\ Revenue}$
NAnalysts	Number of sell-side analysts covering the company.
SALES GROWTH	$\frac{Total\ Revenue_t - Total\ Revenue_{t-1}}{Total\ Revenue_{t-1} * 100}$
GSCORE	A Governance score between 0 and 100 which calculated by Refinitiv Eikon. The score is composed of three factors (Management, Shareholders, CSR strategy) with multiple sub-factors.
Country	A dummy variable for each country: Norway, Sweden and Denmark
Year	A dummy variable for each year in the sample from 2009-2020.
Industry	A dummy variable for each GICS Sector: Energy, Capital Goods, Health Care Equipment & Services, Food & Staples Retailing, Real Estate, Materials, Consumer Durables & Apparel, Food, Beverage & Tobacco, Retailing, Transportation, Automobiles & Components, Technology Hardware & Equipment, Pharmaceuticals, Biotechnology & Life Sciences, Commercial & Professional Services, Consumer Services, Media & Entertainment, Utilities, Semiconductors & Semiconductor Equipment, Software & Services and Telecommunication Services.

Table A2.1: List of variables included in the regressions.

A3 Scatterplots between variables

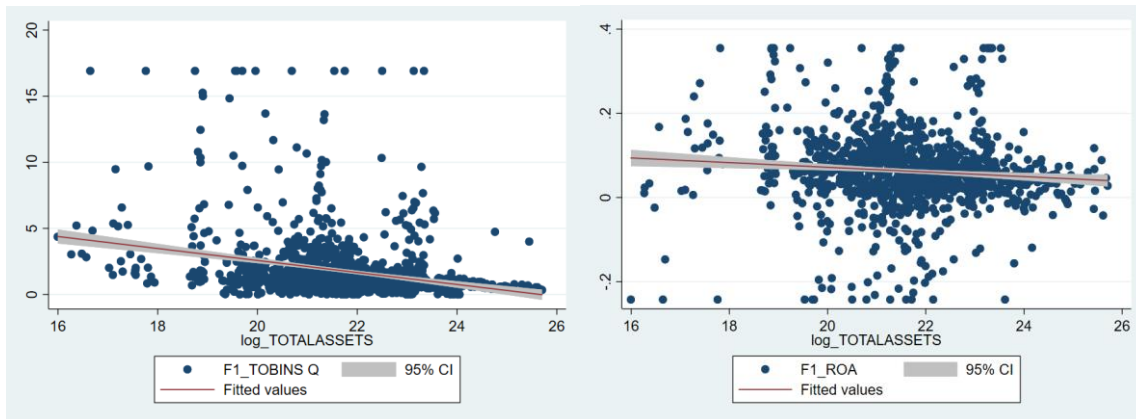


Figure A3.1: Scatterplot between SIZE and ROA/Tobin's Q.

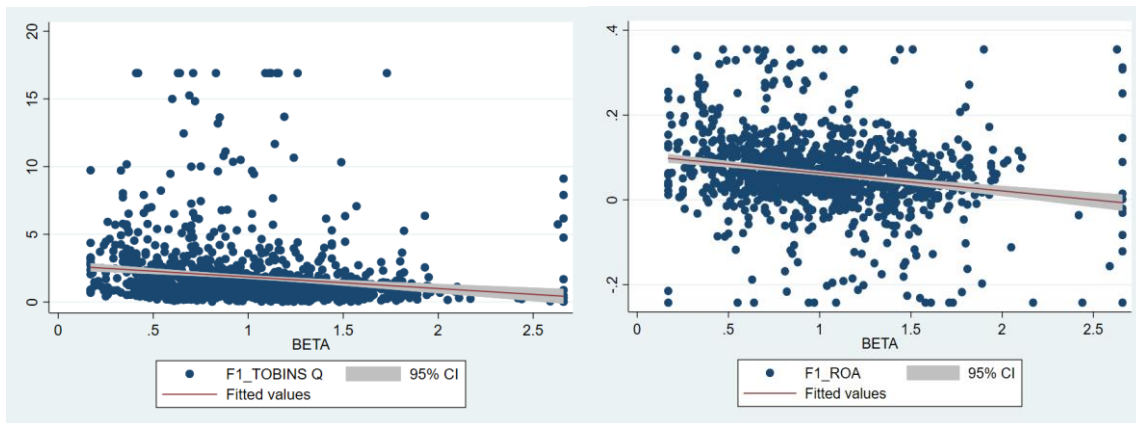


Figure A3.2: Scatterplot between BETA and ROA/Tobin's Q.

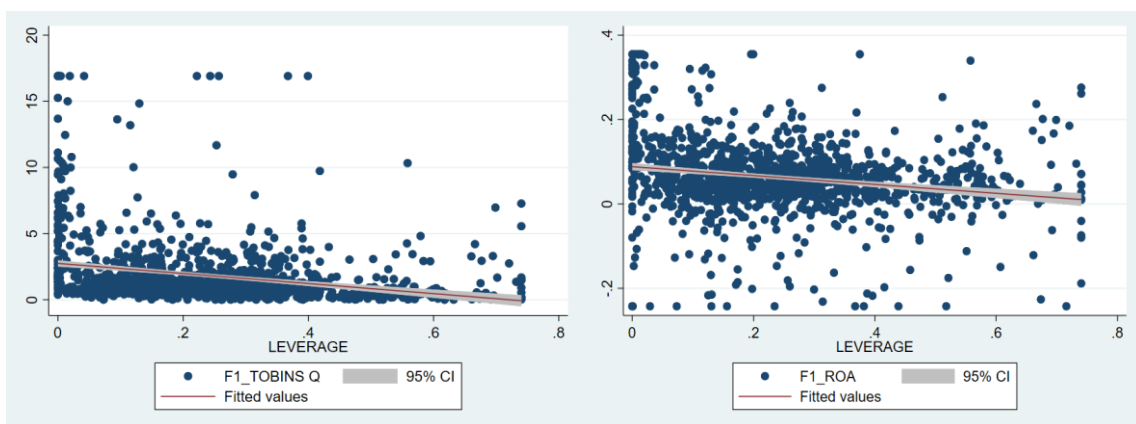


Figure A3.3: Scatterplot between LEVERAGE and ROA/Tobin's Q.

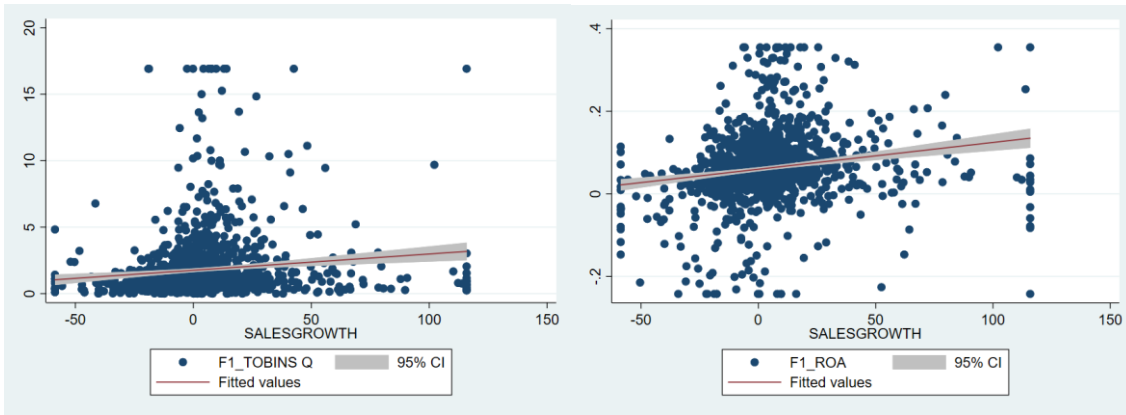


Figure A3.4: Scatterplot between SALES GROWTH and ROA/Tobin's Q .

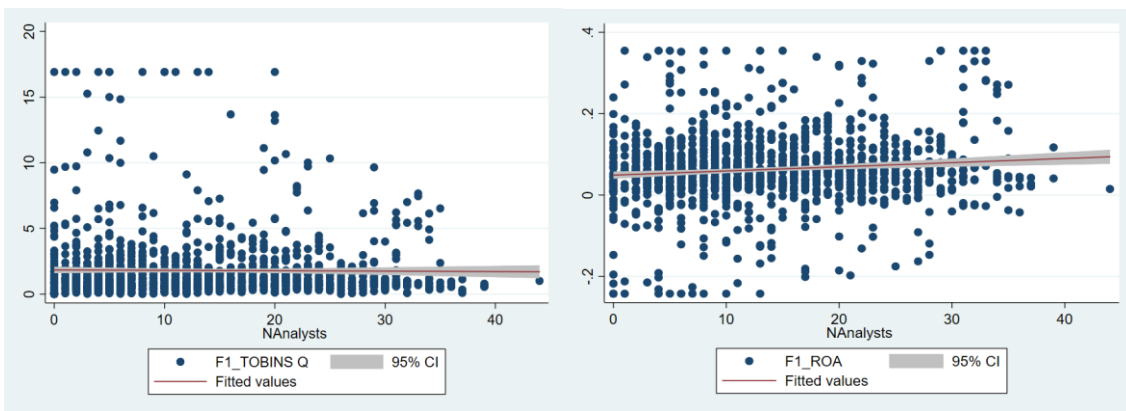


Figure A3.5: Scatterplot between NAnalysts and ROA/Tobin's Q .

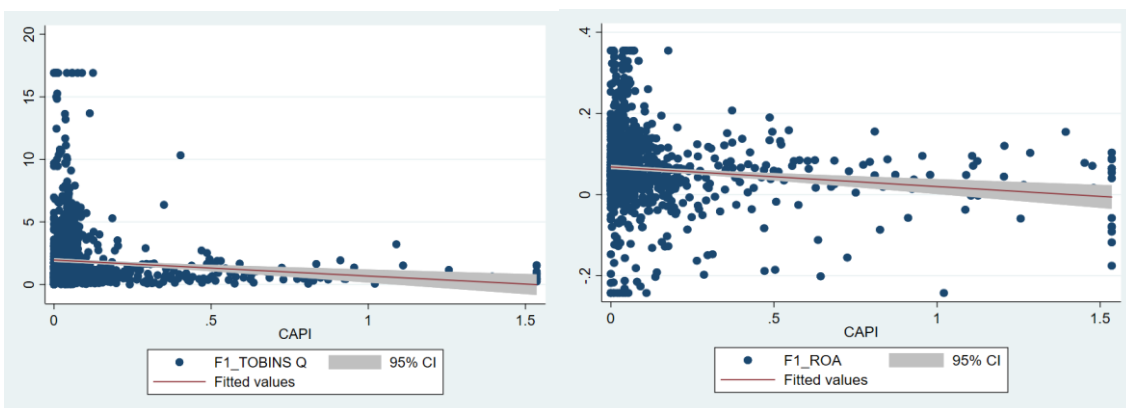


Figure A3.6: Scatterplot between CAPI and ROA/Tobin's Q .

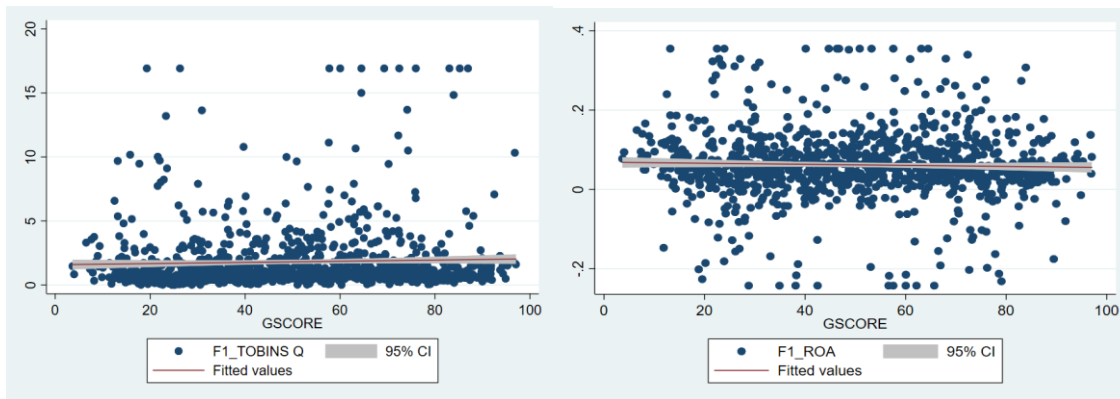


Figure A3.7: Scatterplot between GSCORE and ROA/Tobin's Q.

A4 Moderator model

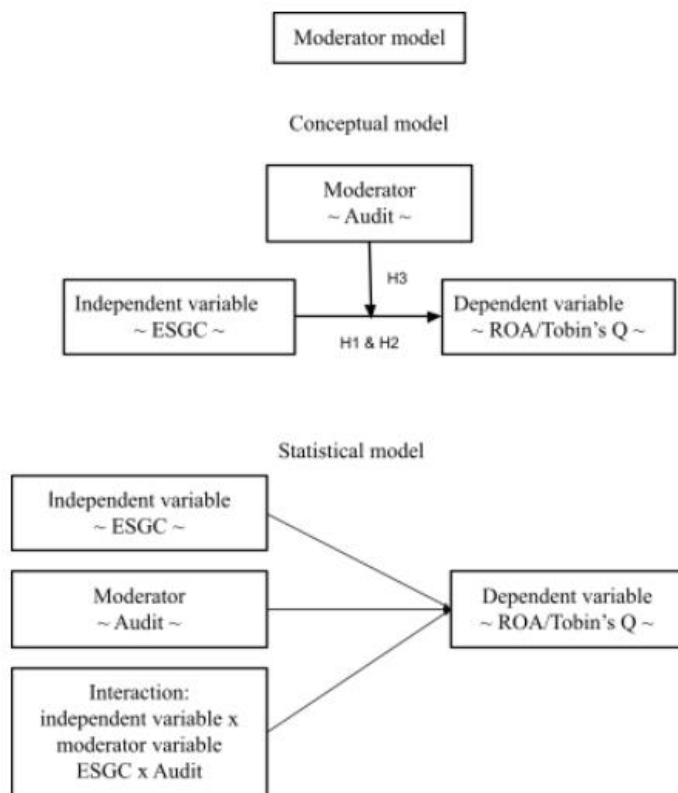


Figure A3.1: Moderator model with statistical model.

A5 Survey in English

How asset management use and consider ESG information

This questionnaire is distributed in conjunction with a master thesis completed by two students at NTNU Business School. The topic of the survey deals with usage and consideration of ESG information.

Your feedback will be valuable as this will provide insight into how ESG information is integrated and assessed. The questionnaire takes about 10-15 minutes to complete, and all answers are anonymous.

We hope you find the survey interesting and thank you for taking the time to respond!

* Indicates a mandatory question

Square shaped box indicates multiple options

Circle shaped box indicates single option

Section 1 | Demographics

1.1 What gender are you?

- a) Female
- b) Male

1.2 How old are you?

- a) 20-29
- b) 30-39
- c) 40-49
- d) 50-59
- e) 60+

1.3 What is your job title?

Choose what you consider to be the most appropriate.

- a) Asset Manager/Portfolio Manager
- b) ESG Specialist/Responsible Investment Specialist
- c) Analyst
- d) CEO
- e) CIO
- f) CFO
- g) Other

1.4 How many years have you been in the asset management business?

- a) Under 5 years
- b) 5 to 10 years
- c) 11 to 15 years
- d) 16 to 20 years
- e) Over 20 years

1.5 What country is your organization associated with?

- a) Norway
- b) Sweden
- c) Denmark

1.6 What is your company profile?

- a) Bank
- b) Mutual fund
- c) Pension fund
- d) Hedge fund
- e) Alternative investment fund
- f) Foundation
- g) Other

1.7 What is the value of your assets under management (in \$)?

Referring to total assets under management of your company.

- a) Less than 1 billion USD
- b) Between 1-5 billion USD
- c) Between 6-10 billion USD
- d) Between 11-50 billion USD
- e) Between 51-100 billion USD
- f) Over 100 billion USD

1.8 What assets do you manage?

Choose up to two options. If you manage several of the listed assets, please choose those who account for the biggest proportion of your portfolio.

- a) Stocks
- b) Fixed Income
- c) Real Assets
- d) Private Equity
- e) Other, please specify:

1.9 Do you collaborate with an organization that provide you with guidelines and insight on how to incorporate ESG in your investing?

- a) Yes
- b) No

1.9.1 Do you collaborate with any of the following?

- a) PRI (UN Principles for Responsible Investment)
- b) UN Global Compact
- c) TCFD (Task Force on Climate-related Financial Disclosure)
- d) NORSIF
- e) SWESIF
- f) DANSIF
- g) Others

Section 2 | Use of ESG information

2.1 Do you integrate ESG information in your investment decisions?

- a) Yes, it is implicitly incorporated in our strategy
- b) Yes, it is explicitly incorporated in our strategy
- c) No

2.1.1.a) For how long has your company incorporated ESG in decision making?

- a) 1-2 years
- b) 3-5 years
- c) 6-9 years
- d) 10+ years

2.1.1.b) Are you considering to integrate ESG in your investment decisions?

- a) Yes
- b) No

2.1.1.b) a) Please briefly explain why

2.2.a) Why do you integrate ESG in your investment decisions?

- a) Increased client demand
- b) To identify promising investment opportunities
- c) To limit information asymmetry
- d) To reduce/identify risks
- e) It is material to investment performance
- f) Due to formal mandates

- g) Due to regulation and legal requirements
- h) It is our ethical responsibility towards society
- i) Reputational benefit
- j) Other, please specify:

2.2.b) Why are you not integrating ESG in your investment decisions?

- a) Lack of client demand
- b) Lack of access to reliable ESG data
- c) Hard to identify and implement relevant ESG factors
- d) It is not material to investment performance
- e) It is not our ethical responsibility towards society
- f) It violates our duty to stakeholders
- g) The cost associated is too high
- h) Unclear regulation and legislation
- i) We have a passive investment strategy
- j) Other, please specify:

2.3 What do you consider to be the greatest barriers to integrating ESG in investment decisions?

- a) Lack of comparability over time
- b) Lack of comparability across investments
- c) Lack of standards in reporting ESG information
- d) The cost of gathering and analyzing ESG information
- e) Lack of sufficient ESG information disclosed
- f) Lack of quantifiable ESG information
- g) Lack of reliability and assurance of ESG information
- h) Other, please specify:

2.4 What is the expected impact of ESG integration on the following:

	Decreased	Neutral	Increased	Irrelevant factor
Return (compared to a reference index)	1	2	3	4
Risk (compared to a reference index)	1	2	3	4
Long-term value creation	1	2	3	4
Sustainable development	1	2	3	4

2.5 ESG factors

Take a position on the following statements

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I consider environmental factors in my investments	1	2	3	4	5
I consider social factors in my investments	1	2	3	4	5
I consider governance factors in my investments	1	2	3	4	5

2.6 Do you apply any of the following strategies in your ESG investing?

Several options can be chosen if they apply.

- a) Engagement/Active ownership (influence, communicate, vote)
- b) Full integration (ESG factors in conjunction with financials)
- c) Negative screening (“red-flagging”, exclusion)
- d) Positive screening (“meet-minimum-requirements” inclusion)
- e) Best-in-class screening (best ESG performance inclusion)
- f) Sustainability themed (investments related to specific ESG factors)
- g) Impact investing (generate value for society, environment etc.)
- h) Norms-based screening (compliance with international standards)
- i) Others, please specify:

2.7 Where do you retrieve ESG information?

- a) Public information
- b) Third party research
- c) Direct engagement
- d) Company reports
- e) Regulatory filings
- f) Collaboration with peers
- g) Others, please specify

2.7.1 Please specify your sources

E.g. News, annual reports, general meetings, name of third parties

2.8 What kind of ESG information do you use?

- a) Raw data (e.g. annual reports)
- b) ESG ratings
- c) Analysis at company level
- d) Analysis at sector level
- e) Analysis at country level

f) Other, please specify

2.8.1 What provider of ESG ratings do you use?

- a) Bloomberg
- b) Thomson Reuters Eikon
- c) MSCI
- d) Sustainalytics
- e) RobecoSAM
- f) Other

2.9 Do you use ESG information systematically or occasionally?

The term "systematic" is used to describe planned processes and routines that have been designed to cover all material issues or factors, and which are carried out by all relevant staff.

The term "occasional" is used to describe ad-hoc processes, which are not a routine part of day to day operations, or which are carried out by some, but not all, relevant staff.

- a) Systematically
- b) Occasionally (case-to-case)

2.9.1.a) Please briefly explain how the information is treated systematically

2.9.1.b) Please briefly explain how the information is treated occasionally

Section 3 | ESG reporting

3.1 Opinions regarding ESG reporting

Please take a position on the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Present ESG reports are of good quality	1	2	3	4	5
Present ESG reports have sufficient information	1	2	3	4	5
There is a lack of clarity over ESG terminology	1	2	3	4	5
ESG reporting should have one common international standard	1	2	3	4	5
ESG reporting should be mandatory by law	1	2	3	4	5

3.2 In general, what do you consider to be the most important ESG information disclosed by companies?

- a) Information about resource use/supply chain
- b) Information about company emissions
- c) Information related to R&D/Innovation
- d) Information related to workforce (e.g. job satisfaction/safety)
- e) Information about how the company is respecting human rights
- f) Information about the company’s business ethics (good citizenship)
- g) Information related to product/service responsibility
- h) Information regarding the company’s corporate governance principles
- i) Information regarding how the company is treating its shareholders
- j) Information about the company's CSR strategy
- k) Information about the company’s progress towards its sustainability targets
- l) Other information, please specify

3.3 Do you consider externally audited ESG reports differently from non-audited ESG reports?

- a) Yes
- b) No

3.3.1.a) Please briefly explain why

3.3.1.b) Please briefly explain why not

3.4 Reliability of ESG reporting?

Please take a position on the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
ESG reports in general are a reliable source of information	1	2	3	4	5
I find externally audited ESG reports to be a more reliable source of information compared to non-audited ESG reports	1	2	3	4	5
It is important that ESG reports are subject to some form of independent verification	1	2	3	4	5
It should be mandatory by law to have an independent verification of the ESG report	1	2	3	4	5

3.5 If the ESG reports are to be independently verified, who do you think is best positioned to provide it?

- a) Professional firms with relevant ESG expertise (advisory, research)
- b) Accounting firms with relevant ESG expertise
- c) Others
- d) No preference

3.5.1 Please briefly explain your choice

3.6 If the ESG reports are to be independently verified, how much should be spent to obtain an independent verification?

- a) As much as the cost of the audit of the financial statements
- b) Less than 75% of the cost of the audit of the financial statements
- c) Less than 50% of the cost of the audit of the financial statements
- d) Less than 25% of the cost of the audit of the financial statements
- e) Do not have an opinion on the subject

A5 Survey results: Differences between groups

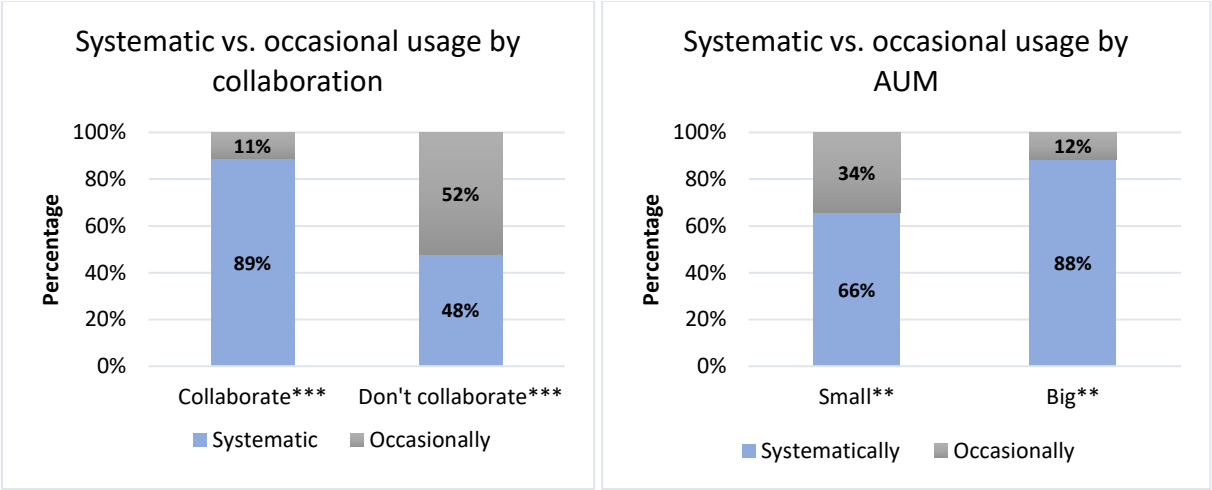


Figure A5.1: Differences in usage between collaboration and big/small AM.

*** (1%), ** (5%), and *(10%) denotes if there is significant differences in systematic and occasional usage of ESG information between those who collaborate as opposed to those who does not and between small and big investors measured by AUM.

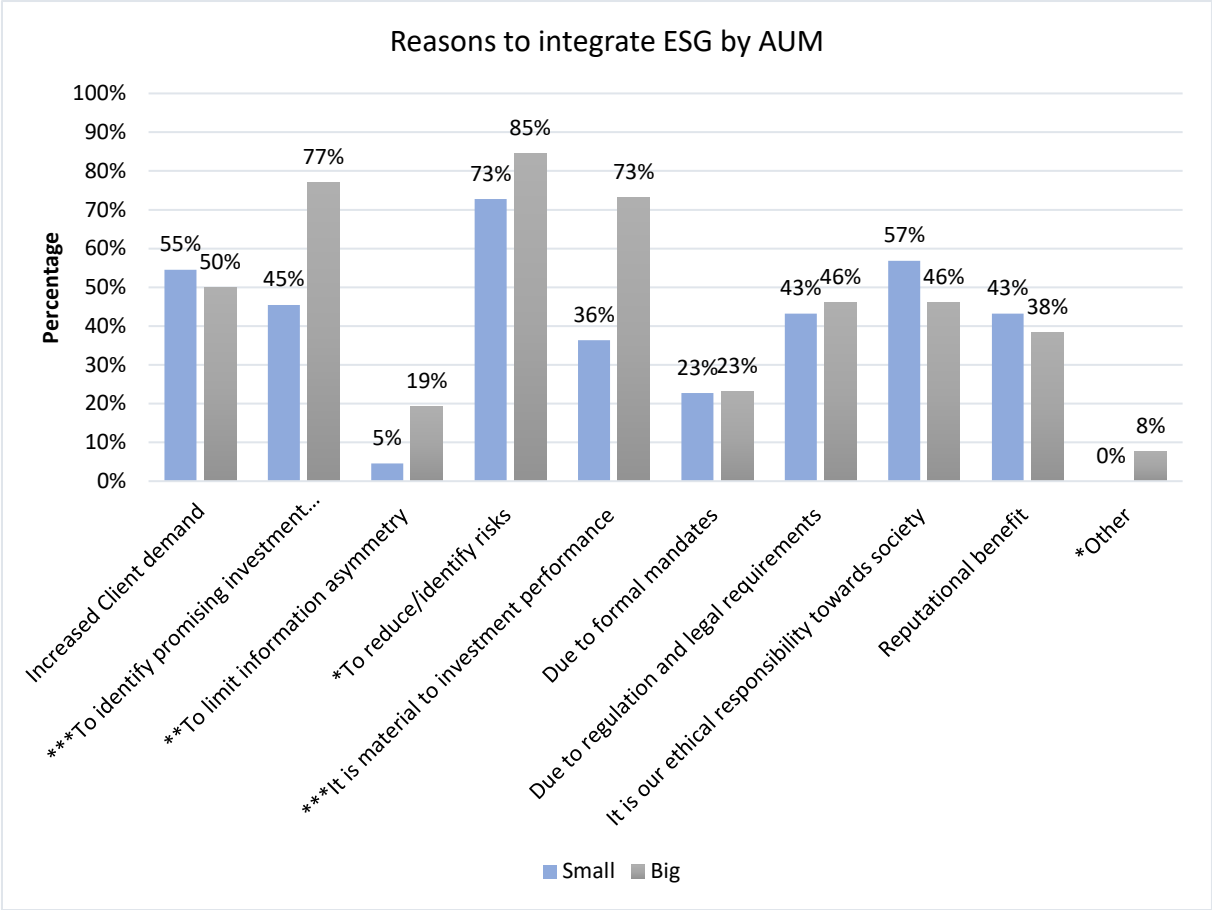


Figure A5.2: Differences in reasons between big and small AM.

*** (1%), ** (5%), and *(10%) denotes if there are significant differences in reasons to integrate ESG between small and big investors measured by AUM.

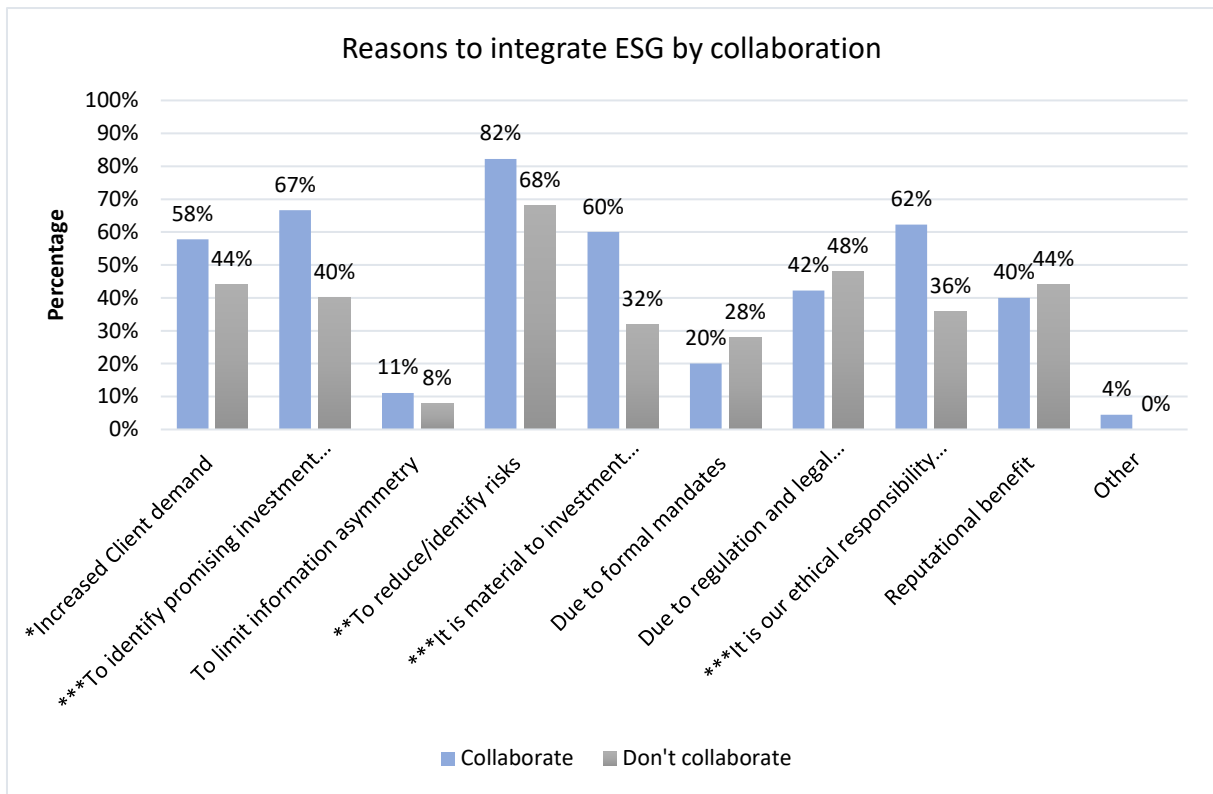


Figure A5.3: Differences in reasons between collaboration.

*** (1%), ** (5%), and *(10%) denotes if there are significant differences in reasons to integrate ESG between those who collaborate as opposed to those who does not.

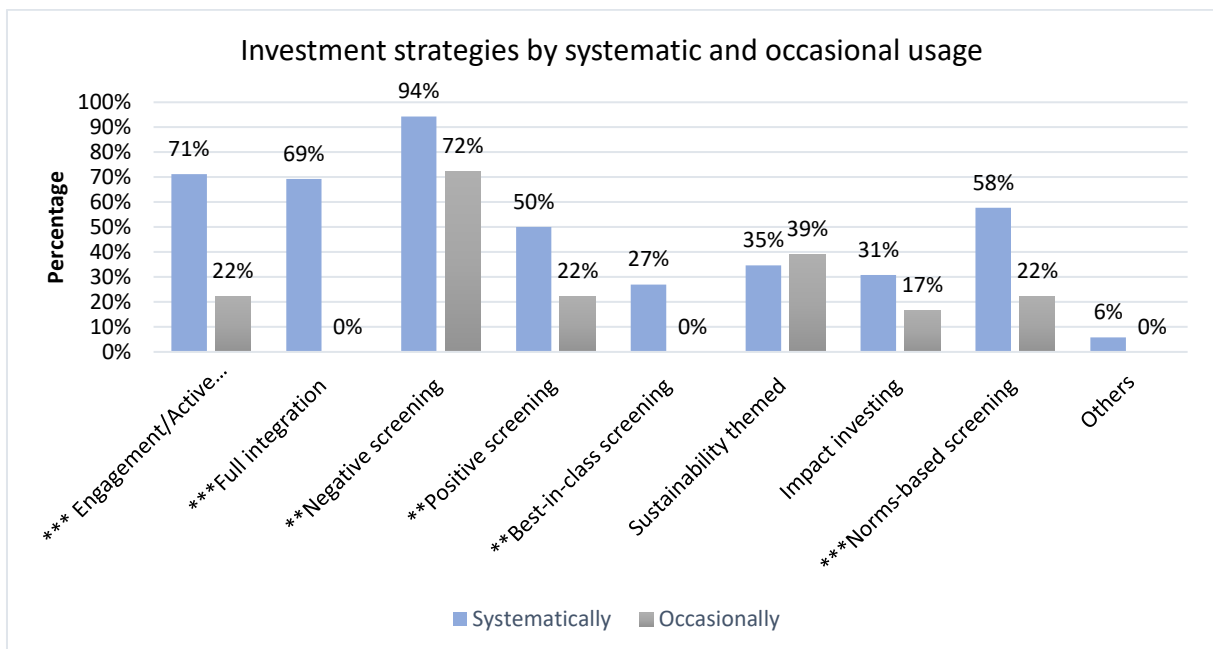


Figure A5.4: Differences in investment strategies between systematical and occasional users.

*** (1%), ** (5%), and *(10%) denotes if there are significant differences in investment strategies between those who use ESG information systematically as opposed to those who does it occasionally.

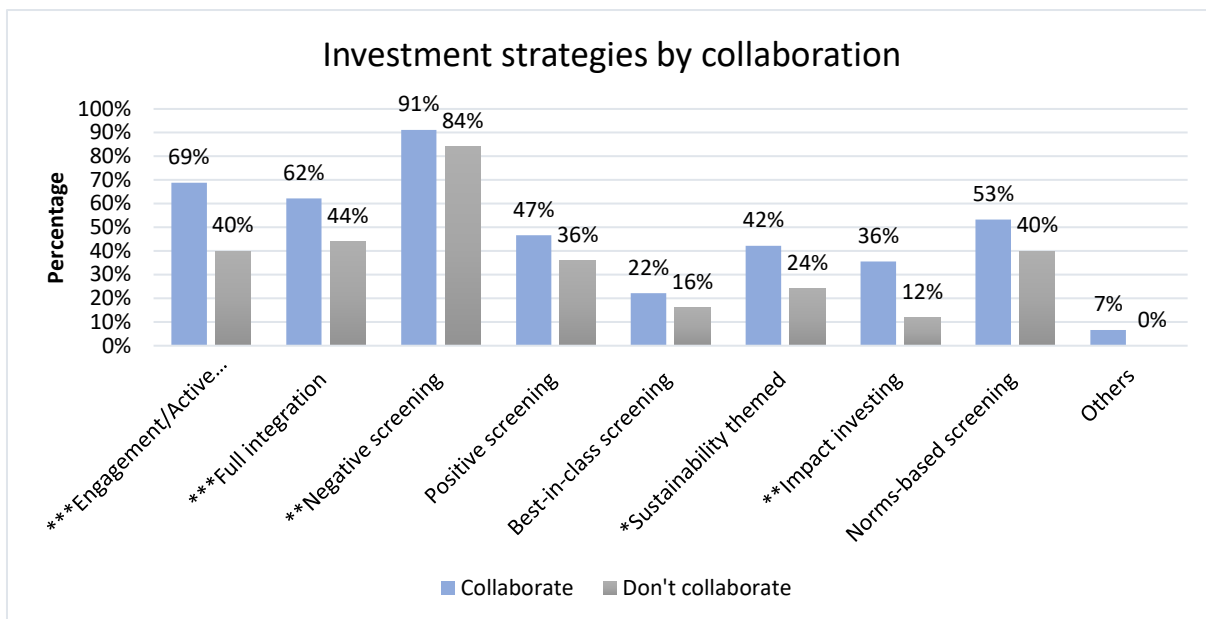


Figure A5.5: Differences in investment strategies between collaboration.

*** (1%), ** (5%), and *(10%) denotes if there are significant differences in investment strategies between those who collaborate as opposed to those who does not.

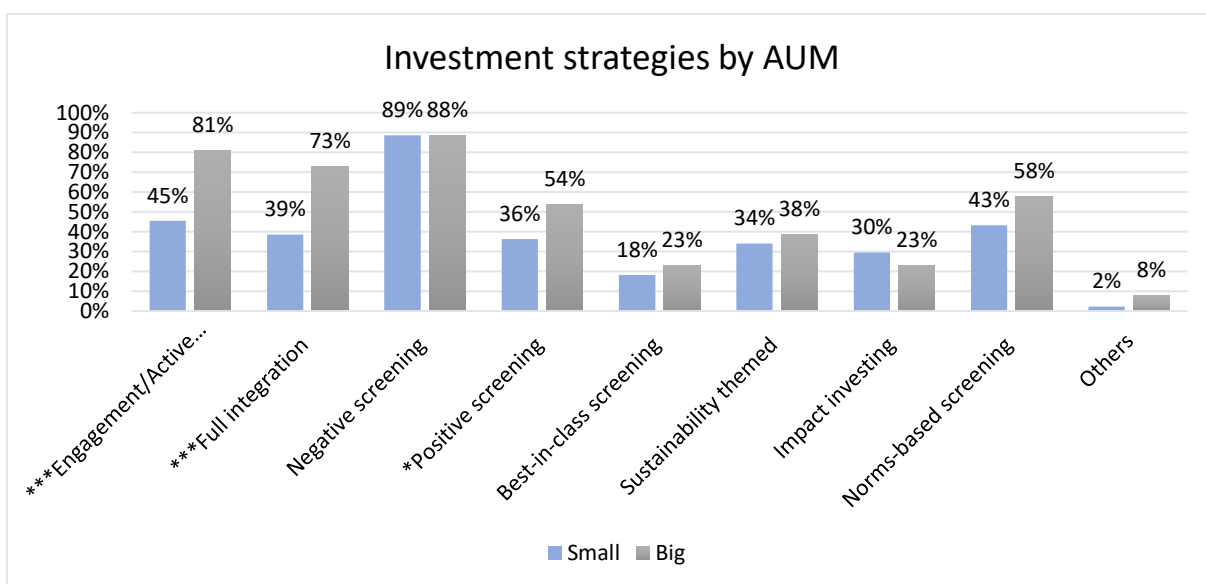


Figure A5.6: Differences in investment strategies between small and big AM.

*** (1%), ** (5%), and *(10%) denotes if there are significant differences in investment strategies between small and big investors measured by AUM.

A6 Results from Mann-Whitney U test

Note: The tables only present the findings that were statistically significant between different groups.

Variable	Big AM N	Small AM N	Z	p-value
Material to investment performance	26	48	3.247	0.0012
To limit information asymmetry	26	48	2.100	0.0358
Identify promising investment opportunities	26	48	2.886	0.0039
Lack of sufficient information	26	48	4.669	0.0000
Full integration	26	48	3.073	0.0021
Active ownership	26	48	3.209	0.0013

Table A6.1: Significant differences between big and small AM from Mann-Whitney U.

Variable	Collaborate N	Do not collaborate N	Z	p-value
To reduce or identify risks	42	29	2.217	0.0266
Identify promising investment opportunities	42	29	2.694	0.0071
It is our ethical responsibility	42	29	2.602	0.0093
Material to investment performance	42	29	2.708	0.0068
Active ownership	45	29	2.887	0.0039
Negative screening	45	29	2.116	0.0344
Full integration	45	29	2.890	0.0038
Impact investing	45	29	2.407	0.0161

Table A6.2: Significant differences between collaboration from Mann-Whitney U.

Variable	Systematically N	Occasionally N	Z	p-value
AUM	52	18	-2.071	0.0384
Collaboration	52	18	-3.724	0.0002
Active ownership	52	18	3.606	0.0003
Full integration	52	18	5.029	0.0000
Negative screening	52	18	2.511	0.0120
Positive screening	52	18	2.038	0.0416
Best in class screening	52	18	2.444	0.0145
Norms based screening	52	18	2.577	0.0100

Table A6.3: Significant differences between systematic and occasional users from Mann-Whitney U.

Variable	Consider audited differently N	Do not consider audited differently N	Z	p-value
Lack of standards in reporting	44	30	2.861	0.0042

Table A6.4: Significant differences between consideration of audit from Mann-Whitney U.

Variable	Male N	Female N	Z	p-value
Return	53	21	3.233	0.0012
Risk	53	21	-2.100	0.0357
Long term value creation	53	21	1.969	0.0489
Lack of sufficient information disclosed	53	21	2.160	0.0307

Table A6.5: Significant differences between male and female from Mann-Whitney U.

Variable	Young N	Old N	Z	p-value
Return	31	41	-2.751	0.0059
Cost of gathering ESG information	31	41	-2.207	0.0273

Table A6.6: Significant differences between young and old from Mann-Whitney U.

A7 Test for normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	Prob>chi2
Return	74	0.4980	0.8821	0.7829
Risk	74	0.0004	0.3796	0.0042
Long-term value creation	74	0.0000	0.0070	0.0001
Sustainable development	74	0.0000	0.0000	0.0000
E-factor	70	0.4975	0.0906	0.1771
S-factor	70	0.0010	0.0133	0.0011
G-factor	70	0.1847	0.1306	0.1232
ESG reports quality	74	0.7741	0.6130	0.8444
ESG reports information	74	0.6534	0.2364	0.4368
ESG terminology	74	0.0074	0.5599	0.0323
ESG reporting standardization	74	0.0065	0.2012	0.0183
ESG reporting legislation	74	0.0554	0.5216	0.1214
ESG reports reliability	74	0.0961	0.8071	0.2303
ESG reports reliability if audited	74	0.0649	0.3601	0.1136
ESG reporting independent verification	74	0.0024	0.0086	0.0015
Independent verification legislation	74	0.5086	0.7221	0.7503

Table A7.1: Results from skewness/kurtosis test of normality.

Note: If Prob>chi2 is over 0,05 we can assume normality.

