Norwegian School of Economics
Bergen, Spring 2019

The Impact of State Ownership on Companies' Sustainability

An Empirical Analysis of the ESG Scores of Companies in the EU/EEA

Helene Sagstad and Marit S. Schiefloe

Supervisor: Justin Valasek

Master thesis, Economics and Business Administration

Major: Business Analysis and Performance Management

NORWEGIAN SCHOOL OF ECONOMICS

Acknowledgements

From the beginning, we knew that we wanted to write our thesis about sustainability, since sustainable development is one of the greatest challenges for current and future generations. The courses *Sustainable Business Models* and *CSR* were also a source of motivation for choosing this topic. Moreover, we wanted to write a quantitative paper, enabling us to make use of technical skills we have learned in *Applied Programming and Data Analysis for Business*, and *Predictive Analytics with R*. We were thrilled when this year's Student Symposium, *Business for Life*, addressed ESG scores which are a quantitative measure of sustainability. As a result, we managed to develop our research question: whether state ownership affects companies' sustainability performance.

We want to express our sincere gratitude to our supervisor Justin Valasek for his valuable feedback and support. Special thanks should also be given to Ian Lydall and Rory Sagstad for giving our thesis a touch of British English perfection, and for teaching us the correct use of the word "with": it is nice with a coffee in the morning, but *what* is with the coffee? A *croissant* is nice with a coffee in the morning.

Norwegian School of Economics

Bergen, May 2019

Helene Sagstad

Marit S. Schiefloe

Abstract

According to a recent survey by McKinsey (2010), over 50 per cent of executives consider sustainability to be very important to their company. Despite this, companies vary greatly in their focus on sustainability, and we know relatively little about how the ownership structure of a business affects its decision to take a more sustainable approach. In this paper, we analyse the impact of state ownership on companies' corporate social performance (CSP), using environmental, social and governance disclosure scores (ESG score) compiled by Bloomberg. Even after controlling for confounding variables such as company size and sector, we find that companies partially owned by the state (SOEs) perform significantly better than non-SOEs when it comes to ESG scores. In addition to the average effects, we find that ESG scores increase with the size of the share owned by the state. We also gather qualitative data from semi-structured interviews of six Norwegian companies. The data suggests that our results can be explained by shareholders' effect on companies' sustainability and governments' promotion of sustainability through policies and expectations for companies in their ownership. Moreover, as investors, the state often has a more long-term perspective than private actors, and thus prioritises sustainable development of the company over time.

Keywords – Environmental, Social and Governance (ESG) factors; Corporate Social Responsibility (CSR); Corporate Social Performance (CSP); Sustainability; State-Owned Enterprises (SOEs); Stakeholder Theory

Acronyms

ESG	Environmental, Social and Governance
SOE	State-Owned Enterprise
CSR	Corporate Social Responsibility
CSP	Corporate Social Performance
UNGC	United Nations Global Compact
GRI	Global Reporting Initiative
SDGs	Sustainable Development Goals
SRI	Socially Responsible Investment
EU	European Union
EEA	European Economic Area
OLS	Ordinary Least Squares
OVB	Omitted Variable Bias

Contents

List of Figures

List of Tables

1 Introduction

1.1 Motivation and Purpose

As companies have increasingly started to adopt and implement a range of sustainability activities, a number of independent agencies such as Bloomberg, S-Ray and Thomson Reuters have started to rate and rank companies based on their corporate social performance (CSP), using non-financial performance measurements related to environmental, social and governance (ESG) factors (Crane and Matten, 2016). Companies' ESG scores vary, and many studies have tried to explain why. While previous papers have focused on the role of nation-level institutions on the ESG score (Ioannou and Serafeim, 2012), the link between ESG and corporate financial performance (Eccles et al., 2014; Nollet et al., 2016; Waddock and Graves, 1997), and the difference in ESG scores between public and private businesses before and after CSR engagements (Li and Wu, 2018), we believe type of ownership plays a crucial role in explaining differences in ESG scores. State ownership is found to be an important factor influencing sustainability reporting and may also play a strategic role in driving growth that is both socially, financially and environmentally sustainable (Castelo Branco et al., 2014; PwC, 2015). This can have a direct impact on the ESG score.

State-owned enterprises (SOEs) and non-SOEs have many similarities, such as creating shareholder value, they are responsible to stakeholders, they operate in local, national and/or global markets, and they have to follow laws and regulations. However, there are also some important differences. In particular, SOEs have different purposes, missions and objectives which are related to public value creation (PwC, 2015). Despite these differences, there is relatively little causal evidence on the impact of state ownership on a company's ESG performance. This thesis therefore aims to add to the understanding of sustainability performance by investigating the impact of state ownership on a company's sustainability, using ESG disclosure scores and interviews. We investigate data from 392 companies across 17 countries and 11 sectors in the European Union (EU) and the European Economic Area (EEA) as companies in these countries face many of the same regulations (e.g. EU directive 2014/95/EU).

We use a regression analysis to look at the relationship between the ESG score and SOE. More specifically, we first compare ESG scores among SOEs and non-SOEs, where a company is considered state-owned if the state owns more than ten per cent of the shares. Secondly, we investigate whether the ESG score increases in the share of state ownership. By controlling for country and sector fixed effects, company size and company performance, our estimates aim to give the causal effect of state ownership on the ESG score. We use data from the Bloomberg Terminal to gather cross-sectional data from 2018 on ESG, state ownership and other variables which we believe have an impact on companies' ESG score. In order to develop a deeper understanding of the topic we also conduct interviews with six Norwegian companies.

Our findings show that SOEs perform significantly better than non-SOEs when it comes to ESG performance, and we also show that the ESG score increases with the share of state ownership. While we find that both SOEs and non-SOEs emphasise the need to adopt sustainable practices for reasons related to short-term performance, e.g. establishing a positive reputation with customers and attracting good employees, SOEs differ from non-SOEs in that their owners have a more long-term perspective than private owners, and that state owners demand that the companies focus on sustainability for intrinsic (moral) reasons.

This suggests that the objective of shareholders are key to explaining the increased focus on sustainability in SOEs. This finding provides insight into the design of public policies to increase the take-up of sustainable practices by companies: rather than just targeting the companies themselves, measures should also target shareholders in an effort to encourage them to take a long-term perspective.

1.2 Research Question

As the literature on the impact of state ownership on companies' sustainability performance is fairly limited, we are interested in studying possible mechanisms of state ownership and ESG. We investigate the ESG scores of 392 companies in EU/EEA following the EU directive 2014/95/EU, which came into effect in 2018, and requires public-interest entities such as publicly-listed companies, banks and insurers employing more than 500 staff members to include non-financial statements in their annual reports (European Commission, 2017). As the state is an important role model for the rest of society, governments especially in the EU/EEA tend to promote and expect sustainability for companies in their ownership. Thus, the aim of this thesis is to investigate the following research question:

What is the impact of state ownership on companies' sustainability performance?

This paper proceeds as follows: In Section 2, we present background information on companies' motivation towards sustainability and how to measure it. Furthermore, characteristics of SOEs will be presented. In Section 3, we will discuss related literature and build our hypotheses. This is followed by a description of our data (Section 4), methodology (Section 5), analysis and results (Section 6), discussion and limitations (Section 7) and finally conclusion and future research (Section 8).

2 Background

2.1 Sustainability and CSR in the 21st Century

Sustainability and CSR are closely related business concepts that have greatly affected corporate governance in the early 21st century. The concept of sustainable development was first introduced by the Brundtland Commission who defines it as development that "...meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland et al., 1987) [p. 6]. Post-Brundtland sustainability is even more thoroughly integrative, implying that we must balance economic, environmental and social factors in order to achieve sustainability (Gibson, 2006).

The concept of CSR on the other hand, was first introduced by Bowen (1953) [p. 6], where he stressed the "...obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society." Since then, the concept has been widely investigated and there are still definitional disagreements in academia and a wide variety of practices labelled 'CSR' in the corporate world (e.g. Carroll (1999); Dahlsrud (2008)). This thesis will use both the term 'CSR' and 'sustainability' about actions that appear to further some social good, beyond that which is required by law (McWilliams and Siegel, 2001).

Both the academic literature (e.g. Campbell (2007); McWilliams and Siegel (2000); Kramer and Porter (2011); Eccles et al. (2014)), and the corporate world (e.g. Hayward et al. (2013); UN Global Compact (2019)) have increasingly started to focus on sustainability, and according to McKinsey (2010), over 50 per cent of executives consider sustainability to be very important to their business. In 2015, all members of the United Nations (UN) agreed on the ambitious Sustainable Development Goals (SDGs) which address 17 global challenges, including those related to poverty, inequality, climate, and peace and justice (Sustainable Development Goals, 2019). In combination with the successful Paris Climate Change Conference COP21 in December 2015, the world is entering a new era of systems change, circular economy and social inclusion. Both companies, politicians, citizens, NGOs and the academic community have to rethink the logic of the current economic system in order to achieve the goals set out (Roobeek et al., 2018).

There are several initiatives that encourage businesses worldwide to implement sustainable and socially responsible principles and report on their implementation, such as the UN Global Compact (UNGC), the Global Reporting Initiative (GRI) and ISO 26000. Organisations increasingly tend to communicate their sustainability activities through sustainability reports, and in 2014 over 3,000 companies worldwide, including over two-thirds of the Fortune Global 500, issued annual reports on sustainability and corporate responsibility (ACCA, 2014). As businesses have started to implement and report on CSR activities, a number of agencies have started to rate companies based on their CSP. As a result, sustainability has become important to businesses because it affects the conditions for economic activities. Sustainability initiatives and ratings also contribute to increased information to stakeholders (Sherwood and Pollard, 2018). The next subsection will investigate why companies tend to focus on CSR.

2.2 Why Companies Focus on CSR

"Are there really any genuinely responsible companies, or are there only differences in different companies' ability to fool us into thinking that they are concerned about anything else than the jingle of coins?", Jørgensen and Pedersen (2015) [p. 96] ask themselves. This question is hard to answer, but it is nevertheless important because it corresponds to the distinction between having moral reasons for being responsible, often referred to as normative CSR, and strategic CSR, which refers to strategic and self-interested reasons, such as profitability and competitive advantage. It is however difficult to make a clear distinction between moral and strategic reasons, and companies may even have both (Jørgensen and Pedersen, 2015).

According to Pedersen (2009), companies' sustainability initiatives can be linked to motivation. The motivation to invest in sustainability is often divided into intrinsic and extrinsic motivation (Jørgensen and Pedersen, 2015; Frey, 1997; Deci and Ryan, 2000). Intrinsic motivation, on the one hand, corresponds to morally motivated beliefs that are prioritised over economic efficiency (Rest et al., 1994). Extrinsic motivation, on the other hand, is primarily instrumentally motivated, meaning that actions are built on self-interested reasons (Deci and Ryan, 2000).

Acting responsibly is dependent on internal and external stakeholders. Internal stakeholders include shareholders, customers, suppliers, employees and communities. These groups are of the utmost importance because the business relies on them for long-term survival. External stakeholders, on the other side, are not as critical as internal stakeholders, but they can still influence public perception of the business. Common external stakeholders include governments, environmentalists, NGOs, critics, and the media (Freeman, 2003). Furthermore, the owners especially play an important part in a company's decision making. Decision makers often face conflicts of interest which may harm not only the interest of the company, but may also have considerable negative impact on other stakeholders (Stuart et al., 2014). There are numerous examples of companies that have failed to address the impacts on its stakeholders, such as the BP oil disaster (Cherry and Sneirson, 2010), Volkswagen's emission scandal (Majláth, 2016), the audit failures of Enron (Li, 2010), and Nike's use of child labour in Pakistan (Lund-Thomsen and Coe, 2013).

There are, however, numerous regulations that aim to prevent such failures. An example is governmental regulations. In 2013, the Norwegian government introduced § 3-3c of the Accounting Act for large enterprises to report on their CSR activities (Ministry of Foreign Affairs, 2016). There are also regulations on a regional level, for example EU regulations. Public disclosure requirements are increasingly regulated, and from 2018 onwards the EU directive 2014/95/EU requires large companies to include non-financial statements in their annual reports. This regulation also applies to companies designated by national authorities as public-interest entities (European Commission, 2017). In addition to laws and regulations, companies are experiencing increased pressure from current and potential investors to act responsibly. Socially responsible investments (SRI) involves identifying companies with high standards of CSR, which are evaluated on the basis of ESG factors (Auer and Schuhmacher, 2016).

Activities linked to CSR can lead to a number of positive gains, including the ability to attract qualified labor and a higher degree of commitment from the staff, charging higher product prices, the ability to build trust among external stakeholders, and the potential to manage risk better than others (Jørgensen and Pedersen, 2015; Frank, 2004; Wang and Bansal, 2012). The next subsection will focus on how sustainability in companies can be measured.

2.3 ESG - A Way to Measure Sustainability

The term *ESG* was first introduced in 2005 in a landmark study entitled "Who Cares Wins", as a result of an invitation of former UN Secretary General Kofi Annan to financial institutions (Knoepfel, 2005). In 2018, ESG investing was estimated at over $20 trillion, and its rapid growth builds on the SRI movement that has been around much longer. Annan's goal was to develop guidelines and recommendations on how to better integrate environmental, social and corporate governance issues in business (Kell, 2018). Today, there are a number of independent agencies, including Bloomberg, MSCI, Sustainalytics and Thomson Reuters, that rate and rank companies' CSP by looking at non-financial performance measurements related to ESG factors (Crane and Matten, 2016; Boerner, 2007).

The three sub-components of ESG; environmental, social, and governance factors, together create a quantitative measure of sustainability. Environmental factors are related to climate change, sustainable resources, clean technology and carbon emissions. Aspects of social considerations are working conditions, controversial weapons, tobacco, repressive regimes, health and safety, and diversity. Governance factors are, for example, executive pay, board diversity and structure, financial planning and financial reporting (Roobeek et al., 2018).

Measurements on ESG factors provide insight and opportunities for regulation and control by governments, investors, corporations and consumers (Sherwood and Pollard, 2018; Crane and Matten, 2016). Today, ESG factors form the basis of the UN's principles for responsible investment (PRI), which is the world's leading proponent of responsible investment. Currently, PRI has over 1,600 signatories globally (Sherwood and Pollard, 2018). As the main objective of this thesis is to investigate whether state ownership affects the ESG score, the next subsection will provide background information on SOEs and their characteristics.

2.4 State-Owned Enterprises (SOEs)

A company's shareholders can consist of individuals, foreign investors, institutional investors, government agencies, among others. This thesis will, however, focus on the state as owner and what impact that fact can have on a company's sustainability performance.

SOEs are known by many names, such as government corporations, government business enterprises, government-linked companies, public enterprises and public sector units (Kenton, 2019). Historically, SOEs have been created and invested in by governments in order to anchor key companies, head office functions and key expertise, in addition to the management of common natural resources. Moreover, SOEs have been created in markets that were imperfect or unable to satisfy critical societal needs, but also where markets failed to offer public value creation (Regjeringen, 2018; OECD, 2018). When it comes to public value creation, SOEs may have a strategic role in driving growth that is socially, financially and environmentally sustainable. Hence, SOEs are most prevalent in strategic sectors such as energy, minerals, infrastructure, utilities and, in some countries, financial services (PwC, 2015).

As mentioned, SOEs may want to drive growth that is environmentally sustainable. In Norway, for example, the government expects that SOEs have a focus on sustainability, which is integrated into the company's strategy and rooted in the board. Moreover, the companies' ethical guidelines must be made publicly available. Adhering to the UNGC is also expected, and companies of a certain size are expected to report on and use the GRI guidelines (Ministry of Trade and Fisheries, 2018; PwC, 2010). Also, in Sweden the government has adopted a policy for SOEs. They emphasise that companies should operate in a manner that promotes sustainable development, therefore meeting current needs without compromising future generations' opportunities, and integrate economically, socially and environmentally sustainable development (Government Offices of Sweden, 2017). Similarly, the federal government in Germany is aiming for more companies with ownership of the federal government to apply the German Sustainability Code (DNK) (Bundesministeriums für Arbeit und Soziales, 2019). As we can see, governments in the EU/EEA tend to promote sustainability through policies and expectations for companies in their ownership.

3 Literature Review

3.1 From Shareholder to Stakeholder Theory

There are several studies that have focused on different factors affecting CSR performance, but historically most literature has focused on whether CSR activities affect a business' financial performance. The understanding from a neoclassical theory was that socially responsible behaviour had a negative impact on financial performance. Friedman (1970) claims that the only social responsibility of a business is to maximise the return to shareholders. He argues that businessmen are agents for the owners of the company, and they must be accountable to them. Investing in CSR activities increases costs without increasing profits, which is not in the best interest of the corporation (Friedman, 1970). Friedman's view is known as the shareholder theory, and represents one of two perspectives related to social responsibility. A few years later, a second perspective known as the stakeholder theory was developed. Stakeholder theory indicates a positive connection between CSR and a company's financial performance. In contrast to Friedman (1970), who focuses on shareholder commitments, Freeman (1984) emphasises commitments to all stakeholders. The stakeholder approach maintains that businesses have a responsibility to satisfy the interests of multiple stakeholders (Freeman, 1984). The stakeholder approach starts by looking at various groups to which the corporation has a responsibility. There are a whole range of stakeholders that have a legitimate interest in the corporation as well as its shareholders (Crane and Matten, 2016). In other words, the idea of the stakeholder model is that business managers need to maintain a positive relationship with society and their environment if they are to operate effectively. Failure to do so can harm a business' reputation and ultimately affect their ability to operate. Today, there is a consensus that tends towards the direction of stakeholder theory, implying that companies have a social responsibility that goes beyond maximising profits (Russo and Perrini, 2010).

3.2 Responsible or Profitable?

Economic literature has long been based on companies having to make a trade-off between being responsible or profitable. This mindset has been challenged by studies (e.g. Fatemi et al. (2015); Gillan et al. (2010)) showing that sustainability can lead to profitability, either through direct or indirect effects. Empirical studies have, however, been inconclusive, reporting positive, negative and neutral results of the connection between CSR and profitability.

Orlitzky et al. (2003), Van Beurden and Gössling (2008), and Eccles et al. (2014) find a positive correlation between CSR and financial performance. Moreover, Jørgensen and Pedersen (2015) argue that companies which implement sustainability measures in the business model experience increased profitability. These results have been criticised, as they do not include how R&D affects the result. One research finds that CSR and R&D are correlated, and that, when R&D intensity is included in the equation, CSR is shown to have a neutral effect on profitability (McWilliams and Siegel, 2000). Other research findings suggest that there is a positive correlation between CSR and financial performance in the long term, but not in the short term. In the case of long-term investments, CSR will lead to higher profits. However, in the short term, there is a significant negative correlation between CSR and financial performance (Nollet et al., 2016). Barnea and Rubin (2010) find results indicating a negative effect, as some companies over-invest in CSR, which potentially can reduce company value. These studies look at how sustainability affects financial performance, but few studies have focused on the opposite: how financial performance affects corporate behaviour.

3.3 Characteristics of Sustainable Companies

Studies show that sustainable companies are associated with lower wages as workers want their employers to be socially responsible, and thus the irresponsible companies must pay higher wages to recruit equally qualified employees (Nyborg and Zhang, 2013; Frank, 2004). Furthermore, companies with a greater percentage of women on boards and in management have better sustainability reporting, including several KPIs and quantitative

objectives related to sustainability goals (PwC, 2017). Other studies have looked at how material sustainability issues vary across companies and industries. Khan et al. (2016) find that businesses with good performance on material issues and concurrently poor performance on immaterial issues perform the best (Khan et al., 2016). For instance, if financial metrics are given too much prominence, they will typically displace a company's non-financial, purpose-related goals (Birkinshaw et al., 2014). Another study investigates the effect of corporate sustainability on organisational processes and performance. Using a matched sample of 180 U.S. companies, Eccles et al. (2014) find that highly sustainable companies are more likely to have established processes for stakeholder engagement, to be more long-term oriented and to exhibit higher measurement and disclosure of non-financial information. Finally, high sustainability companies significantly outperform their counterparts over the long term, both in terms of stock market and accounting performance (Eccles et al., 2014).

3.4 Variables Affecting ESG Performance

Recent research has focused on how a company's ESG score is affected by different variables. Firstly, scholars argue that CSR behavior and ratings vary across countries and that more research is required in order to understand why (Maignan and Ralston, 2002; Campbell, 2007; Ioannou and Serafeim, 2012). Furthermore, Ioannou and Serafeim (2012), empirically investigate the impact of nation-level institutions on companies' CSP, and find that political, legal and labour market institutions are significant factors affecting CSP variation. Secondly, research reveals that CSR behavior also varies across businesses and sectors (Ioannou and Serafeim, 2012). Sustainability concerns are especially important for businesses in controversial industries such as alcohol, tobacco, weapons and fossil fuels. Cai et al. (2012) find that CSR engagement of companies in sinful business sectors has a positive impact on market value. Thirdly, literature suggests a correlation between ESG score, company size and age. According to, Moore (2001) there is a positive relationship between social performance and both age and size of the company. Furthermore, Dorfleitner et al. (2015) find that large corporations are more likely to achieve higher ESG ratings because of enhanced reporting activities. In addition, Artiach et al. (2010) find that larger and more profitable companies are more likely to have the financial resources needed to engage

in activities promoting sustainable development and the reporting thereof. Several studies use company size as a variable when studying ESG (Waddock and Graves, 1997; Li and Wu, 2018; Fatemi et al., 2017). There are many ways to measure company size, such as number of employees (Li and Wu, 2018) and market capitalization (Dang et al., 2018). In addition, Hu and Loh (2018) find that companies with larger board sizes and a greater number of board meetings are more likely to practice sustainability reporting, which again leads to higher reporting quality. Fourthly, sustainability regulations can also affect the ESG factors. Ioannou and Serafeim (2017) examine the implications of sustainability regulations mandating the disclosure of ESG information in China, Denmark, Malaysia, and South Africa. By comparing treated companies with control companies, they find that sustainability regulations significantly increased the level of ESG disclosure of treated companies (Ioannou and Serafeim, 2017).

Furthermore, different owners have different objectives and decision-making horizons concerning ESG. Li and Wu (2018) demonstrate that the ownership structure of the business affects the ESG score, especially the conflicts between shareholder and stakeholder interests. They find that private businesses significantly reduce their negative ESG incidents after participating in the UNGC, while public businesses do not because they tend to engage in CSR actions with no real impact (Li and Wu, 2018). According to Barnea and Rubin (2010) different shareholders have different views regarding CSR. Soliman et al. (2013) also find that different owners have different impacts on the company's CSR engagement. The study indicates a significant, positive connection between sustainability ratings and ownership by institutions and foreign investors, while shareholding by top managers is negatively associated with companies' CSR ratings.

Moreover, a report conducted by PwC (2017), uncovers several differences between SOEs and non-SOEs when it comes to sustainability. Firstly, state ownership is correlated with better reporting on sustainability targets. Secondly, based on PwCs' methodology regarding sustainability reporting, SOEs score on average 2.3, while non-SOEs have an average score of 1.3 (where 5 is the highest score). Thirdly, 13 per cent of SOEs have integrated at least one sustainability target into their business strategy, compared to 11 per cent of non-governmental companies. Lastly, the report finds that all SOEs have at least one quantitative KPI for the sustainability targets, against 73 per cent of non-SOEs.

3.5 Hypotheses

Consequently, as several studies suggest that corporations' sustainability performance depends on ownership structures, in addition to SOEs' enhanced reporting on sustainability targets, we develop the following hypotheses:

Hypothesis 1: There is a positive connection between SOEs and the ESG score.

- H_0: ESG is constant with SOE/non-SOE (dummy)
- H_A: ESG is not constant with SOE/non-SOE (dummy)

Hypothesis 2: There is a positive linear connection between the share of state ownership and the ESG score.

- H_0: ESG is non-increasing in SOE (share)
- H_A: ESG is increasing in SOE (share)

4 Data

The thesis analyse both primary and secondary data sources. We use Bloomberg to gather cross-sectional data on ESG, state ownership and other variables which we believe have an impact on companies' ESG score. In order to gain a deeper understanding of the topic, we also conduct interviews with six Norwegian companies. In the next subsections, both data sources will be further described. Validity and reliability will also be assessed.

4.1 Quantitative Data

Most international companies are being evaluated and rated on their ESG performance by various third party providers of reports and ratings. Our paper will build on data from Bloomberg as the Norwegian School of Economics (NHH) has access to data through the Bloomberg Terminal. Other studies on ESG, e.g. Fatemi et al. (2017) and Ioannou and Serafeim (2017), base their analysis on this data source.

Bloomberg is a global information and technology company, which provides data on core financial indicators, as well as public companies' ESG performance. Bloomberg has tracked companies' ESG performances from 2009 to the present, and as of today, Bloomberg provides company-reported ESG data for approximately 13,000 companies in 83 countries (Bloomberg, 2019). The data provides information about companies' energy and emissions, waste, gender diversity on boards, independent directors and workforce accidents among others (Betty Moy et al., 2017).

4.1.1 ESG Data

Our dependent variable, the ESG score, is sourced from public company filings, including annual reports, sustainability reports, corporate governance reports, press releases, company websites and third-party research. After collection, the data is scrubbed, verified and continually updated from published company disclosures on the Terminal (Bloomberg, 2019). The scoring model by Bloomberg is largely based on the GRI standards, and incorporates more than 100 data points related to ESG. The total ESG disclosure score

is a combination of the environmental, social and governance disclosure scores, and is tailored to different business sectors to evaluate each company on data points that are relevant to its sector. If information is lacking on, for example, environmental factors, Bloomberg will penalise companies for "missing data". The disclosure scores range from 0.1 for companies that expose a minimum number of data points to 100 for those that disclose every sustainability data point (Dorfleitner et al., 2015).

Some of the metrics that are used to calculate the environmental score are; GHG/revenue, energy/revenue, water/revenue, waste/revenue and percentage water recycled. The metrics used to calculate the social score include, amongst others, female employees in management, percentage female employees, percentage employee turnover, percentage employees unionised and lost time incident rate. Lastly, the governance score is computed based on metrics such as percentage independent directors, director average age, percentage director meeting attendance and board size (Bloomberg, 2019).

4.1.2 State Ownership Data

We collect data on the percentage of state ownership in each company by using a filtering function within Bloomberg's program. In order to answer our research question, we use a state ownership variable as our independent variable in order to test the effects on ESG. We will refer to SOEs where the state owns more than ten per cent of the shares, as a ten per cent ownership includes certain rights and the position to influence the management in a company to a greater extent. Shareholder rights vary from country to country. In Norway, for example, a ten per cent ownership gives the shareholder the right of access. This includes the rights to summon an extraordinary general meeting, access documents, and demand specific cases documented by the board. Also, a ten per cent ownership can block a compulsory redemption over the majority shareholder (Hjelle, 2019).

4.1.3 Control Variables

We include several control variables in our data set in order to exclude that the relationship between ESG scores and SOEs is due to third variables omitted from the regression analysis. The control variables are kept constant when we examine the effect of state ownership

on ESG. We consider four control variables that may influence the ESG score as well as SOEs:

1. **Country**: The nationality of a company may affect both the ESG score and the number of SOEs.
    - We control for country fixed effects by including data specifying each company's home country. Country fixed effects should capture systematic differences (e.g. in the financial and political environment) across countries.
2. **Sector**: A company's sector may affect both the ESG score and the number of SOEs.
    - We control for sector fixed effects by including data specifying each company's sector. Sector fixed effects should capture systematic differences (e.g. energy and capital intensity) across sectors.
3. **Company size**: A company's size may affect both the ESG score and the number of SOEs.
    - We measure company size using the following indicators: *number of employees*, *market cap.* and *board size*. The variable for the number of employees is measured in per thousand employees, and the variable for market capitalization is measured in million dollars.
4. **Company performance**: A company's performance may affect both the ESG score and the number of SOEs.
    - We measure a company's performance using *return on assets*.

4.1.4 Omitted Variables

Although we try to control for the variables which we believe affect the ESG score and SOE, our own analysis can be affected by an omitted-variable bias (OVB), which is the case if our regressor (SOE) is correlated with a variable that has been omitted from the analysis and that determines, in part, our dependent variable (ESG). This bias could lead to an over- or underestimation of the effect of state ownership on the ESG score

(Stock and Watson, 2015). There are several variables we would have liked to include in our data set, but due to lack of data (e.g. too many N/A's), we have had to exclude these variables. For example, we have not included percentage of women in management. Previous research has found that companies with a greater percentage of women on boards and in management have better sustainability reporting (PwC, 2017). Also, we did not find enough data on companies' R&D spending. One study finds that CSP and R&D are correlated, and therefore, it would be interesting to control for R&D (McWilliams and Siegel, 2000). Moreover, previous research finds a relationship between company age and a company's CSP (Roberts, 1992; Moore, 2001). Unfortunately, we are not able to control for company age due to missing data.

4.1.5 Descriptive Statistics

After cleaning the data set, we are left with a sample selection of 392 companies across 17 countries and 11 sectors in EU/EEA. The data set consists of 72 companies that are state-owned, and 320 that are non-state-owned. We use cross-sectional data from 2018 as the EU directive 2014/95/EU came into effect that year (European Commission, 2017). In addition, it is the most recent reported score on ESG, representing today's sustainability performance.

Companies' average ESG scores have increased during the last seven years (2012-2018), as we can see in Figure A1.1 in Appendix. This development implies an increase in sustainability reporting among companies. We also see that SOEs have a relatively high average ESG score compared to non-SOEs. As mentioned, we consider a business state-owned if the state owns more than ten per cent of the shares. When the percentage increases, the number of SOEs in our data set decreases (see Table A1.1 in Appendix).

Table 4.1 shows descriptive statistics for SOEs and non-SOEs. We see that SOEs have a greater average ESG score compared to non-SOEs (46.92 vs. 40.91). In addition, two of the three sub-scores, environmental and social, are relatively higher for SOEs than non-SOEs, while the governance score is about the same. Furthermore, SOEs have on average about 22,000 more employees than non-SOEs, while the average return on assets is greater for non-SOEs. When it comes to UNGC, 68 per cent of SOEs are members, in contrast to 54 per cent of non-SOEs. In addition, 79 per cent of SOEs report according to

GRI, compared to 74 per cent of non-SOEs.

Table 4.1: Descriptive statistics for SOEs and non-SOEs

	Mean		Min		Max	
Variable	SOE	Non-SOE	SOE	Non-SOE	SOE	Non-SOE
ESG Score	46.92	40.91	14.88	7.85	69.83	68.86
Environmental Score	41.50	33.77	4.65	1.79	71.90	58.22
Social Score	51.68	43.93	14.04	3.51	77.19	78.95
Governance Score	55.46	55.41	23.21	23.21	73.21	76.79
Board Size	12.25	11.03	5	4	22	21
No. Employees (*in thou.*)	52.904	30.325	75	5	642.292	379.000
Market Cap. (*in M*$)	12827	14154	1601	7966	88008	255397
Return on Assets	3.69	5.07	-2.44	-18.75	11.79	38.18
UNGC (dummy)	0.68	0.54	0	0	1	1
GRI (dummy)	0.79	0.74	0	0	1	1

Note : The table shows mean, minimum and maximum value of the variables in our data set. SOE denotes companies where the state owns more than 10% of the shares, while non-SOE denotes companies with no state ownership. *Datasource* : Bloomberg.

When we look at descriptive statistics across the 17 countries in our data set (see Table A1.2 in Appendix), we see that the average ESG score is around 30 to 40 for most countries. The Czech Republic has the lowest average ESG score (24.89), while France, Finland and Italy have the highest average scores (around 48-49). However, many of the countries have few registered companies in Bloomberg, which make that country's effect hard to measure accurately.

Descriptive statistics across the 11 sectors (see Table A1.3 in Appendix) reveal that most SOEs in our data set belong to the following sectors: utilities, industrial, energy, materials, financial and communication services. This is in line with studies on SOEs, which show that SOEs are most prevalent in strategic sectors (PwC, 2015). We see that the materials sector has the highest average ESG score, and that utilities, industrials, energy, consumer

staples and consumer discretionary sectors also have relatively high scores. Based on our data set, we see that the information technology sector has the lowest average ESG score. However, we can observe a wide variation within each sector. In Section 6, we will further investigate the effect between ESG, SOEs, country and sector.

4.2 Qualitative Data

The aim of the interviews is to supplement the thesis with primary data in order to get a broader perspective of the underlying mechanisms of sustainability in companies. We conduct semi-structured interviews with six different companies in Norway, where three of the six companies are SOEs. These companies have ESG scores available on Bloomberg. Semi-structured interviews are non-standardised interviews often referred to as qualitative research interviews, and can provide central background and contextual information (Saunders et al., 2016). The interviews are semi-structured in the sense that everyone is asked the same questions. However, we allow ourselves to ask follow-up questions and discuss the reasoning of the interviewee. This gives us the flexibility to uncover topics during the interview that might not have been disclosed by using a different method (Saunders et al., 2016). The people we choose to interview work in the field of ESG, compliance and/or sustainability. Five out of six interviews were conducted in Norwegian and translated into English. Before the interviews, we use sustainability reports as well as the companies' homepage to learn more about the organisations, but also to validate and complement our empirical findings afterwards. This provides us with insight that we use in the development of the interview guide, but it also allows us to ask more focused questions.

The interview guide with predefined topics and key questions can be found in Appendix A3, together with background information on the companies. We use insights from these interviews, either through direct quotes or as insights with reference to the interviews. A summary of the main points from the interviews are included in the analysis (Section 6) and further discussed in relation to our quantitative results in Section 7.

4.3 Reliability and Validity Assessment

Reliability and validity assessment are important in theoretical and applied research settings (Carmines and Zeller, 1979). For our thesis, reliability can be referred to in that other researchers should be able to repeat our research findings (Saunders et al., 2016; Yin, 2018). As there are several agencies providing ESG data, an important question is whether ESG data from other agencies will give the same results. Dorfleitner et al. (2015) have compared ESG data from three different rating providers: Thomson Reuters, MSCI and Bloomberg. They find that Thomson Reuters and Bloomberg ratings coincide most highly in all sub-scores whereby the closest match occurs in the ESG total score. ESG data provided by MSCI has, on the contrary, the lowest commonalities with the Bloomberg data. In order to secure reliable results, future researchers should therefore be aware of differences among ESG data providers.

When it comes to the thesis' validity, an important question arises concerning the ESG score: does the ESG score measure what it is supposed to, namely a company's sustainability? Bloomberg's ESG disclosure scores indicate the extent to which a company is transparent in terms of its non-financial reporting, and according to Eccles et al. (2014) companies with a greater percentage of non-financial information also have greater ESG scores. Hence the Bloomberg data provides (similarly to Thomson Reuters and MSCI) an insight into a company's level of sustainability (Dorfleitner et al., 2015). Consequently, users of ESG data should critically evaluate the validity of the particular ESG scoring model, as rating agencies measure ESG in various different ways due to different scoring methodologies (Dorfleitner et al., 2015; Chatterji et al., 2014). Although, Dorfleitner et al. (2015) argue that if a company's ESG score is superior in one rating approach, it should nonetheless obtain comparably good ratings in all other ones, irrelevant of how ESG is measured.

Further, reliability and validity in the interviews must be assessed. Since semi-structured interviews lack standardisation, reliability can be a concern. According to Saunders et al. (2016) there are three types of potential bias to consider: interviewer bias, response bias and participant bias. Firstly, we try to mitigate the *interviewer bias* by being aware of our own direction and attempts to impose our own beliefs and thoughts on the interviewee through the questions asked. Secondly, the *response bias* is reduced by only

interviewing people who work in the field of sustainability and compliance. The third threat, *participant bias*, is mitigated by emphasising to our interviewees that we are flexible regarding date and time of the interview. Further concerns, regarding cultural differences is reduced by only interviewing Norwegian companies.

The validity of the interviews can be divided into the following three main groups: construct validity, internal validity and external validity (Yin, 2018). *Construct validity* in our case, entails the identification of companies' motivation and work on sustainability. This is a general concern in interviews and thus, construct validity is a weakness in our study. However, by studying companies' annual reports in advance, which are audited by a third party, we increase the construct validity. Furthermore, *internal validity* refers to the establishment of causal relationships, and is, according to Yin (2018), only relevant for explanatory or causal studies. Lastly, *external validity* refers to whether our research findings can be generalised to other relevant groups or settings. Since the interviews are conducted among Norwegian companies, the findings cannot be generalised to companies in other European countries. However, Saunders et al. (2016) describe that external validity in qualitative research can be understood as $transferability$. We believe our findings from the interviews can contribute to the understanding of sustainability in companies, and that they can be used in further research of the concept. Hence, we consider that our hybrid research strategy by combining semi-structured interviews with quantitative analysis of ESG scores enables us to give a meaningful and complex answer to our research question.

5 Methodology

Our main analysis compares the ESG performance of SOEs and non-SOEs. We want to see whether there is a significant relationship between ESG scores and SOEs, and if ESG increases with the share of SOEs. To answer our research question, we will use linear regression. In this section, we discuss the methodology we use to analyse whether there is a correlation between the variables and present our empirical model.

5.1 Correlation Analysis

Before making a regression analysis, we employ a correlation analysis, as it gives an indication of whether or not our hypotheses are supported. However, the correlation analysis only provides information about covariance, but does not mention anything about causality. We use the Pearson coefficient of correlation, also referred to as Pearson's r, to measure the linear correlation between the variables. The Pearson coefficient varies between -1 and +1, where +1 is total positive correlation, 0 is no correlation, and -1 is total negative correlation (Keller and Gaciu, 2012). The results are presented in Section 6.

5.2 Regression Analysis

We employ a regression model to examine the effects of SOEs and non-SOEs on the ESG score. The regression analysis describes the relationship between our dependent variable ESG and our independent variables. We seek to identify significant relations between the ESG score and state ownership, where we use two different variables for SOE. The first variable is a dummy, which is 1 if the state owns more than ten per cent, and 0 if not. The second variable is the percentage of state ownership, to see if the share has an effect on the score. We start by using ordinary least squares (OLS) regression, where we include one independent variable. Our regression model is represented by the following equation:

$$ESG_i = \beta_0 + \beta_1 SOE_i + \epsilon_i \tag{5.1}$$

where ESG is the total ESG score when testing for all companies i, and SOE is the state ownership indicator, either as a dummy variable or the share of state ownership. This regression shows the effect of ownership on the ESG score. Furthermore, there may be other variables that can affect the relationship between the ESG score and state ownership. Therefore, we will include several control variables such as country, sector, company size and company performance. We use country and sector fixed effects, and create dummy variables for each country and sector. Company size can be measured by number of employees, market capitalization and board size. To measure company performance we consider return on assets. By including the control variables after completing a simple linear regression, we can see how much of the effect is explained by other variables. Our second equation including our control variables is as follows:

$$ESG_i = \beta_0 + \beta_1 SOE_i + \beta_2 Country_i + \beta_3 Sector_i + \beta_4 Size_i + \beta_5 Performance_i + \epsilon_i \quad (5.2)$$

Furthermore, we want to test for SOEs in different countries and sectors, to see if SOEs in some countries or specific sectors have an impact on the ESG score. To test for different countries, we use the following equation:

$$ESG_i = \beta_0 + \beta_{1is} SOE_i * Country_i + \beta_2 SOE_i + \beta_3 Country_i + \epsilon_i \quad (5.3)$$

where ESG_i denotes the ESG score for the companies i, and β_{1is} is the coefficient that captures the causal effect for company i in country s, indicating the change in the ESG score if a company is state-owned in a country. The variable for SOE is a dummy variable that takes the value 1 if a company is state owned, and 0 if not. The variable for $Country$ is also a dummy variable that takes the value 1 if the company belongs to a country, and 0 if not. The same method is used to test for different sectors. The results are presented in Section 6.

5.2.1 Required Conditions for Regression Analysis

Certain conditions for the error variable ϵ must be satisfied for the regression model to be valid. First, we check for the probability distribution of the error variable to be normal.

Second, the mean of the error variable must be zero, which we fulfill when the regression contains a constant term. Furthermore, the variance of the error variable must be constant, and therefore, we check for homoscedasticity (Keller and Gaciu, 2012). Additionally, as the errors must be independent, we study which variables may affect the relationship between ESG and SOE. One last requirement is the absence of multicollinearity. We assess multicollinearity by computing a plot of the variance inflation factor (VIF). A VIF above 5 indicates a problematic amount of collinearity (James et al., 2013). We test and present the results in Appendix A2.1. The tests confirm that the conditions for regression are met.

6 Analysis and Results

In this section, we will present the results of the quantitative and qualitative analysis. We are primarily focusing on the results we find in the quantitative analysis, but we use valuable insights from the interviews to increase our understanding of the underlying mechanisms involved between companies and sustainability activities.

6.1 Quantitative Analysis

In the quantitative part we will first do a correlation analysis, before continuing with a regression analysis. In the regression analysis, we will focus on how state ownership affects the ESG score, and further, see how SOEs in different countries and sectors affect the score.

6.1.1 Correlation Analysis

The correlations in Table 6.1 indicate that the variables are not highly correlated. The highest correlations are observed among ESG and its sub-components, but their correlations do not raise concerns for multicollinearity (see Figure A2.4 in Appendix). An interesting observation is that the ESG score is positively correlated with SOEs. This indicates that SOEs may have a higher ESG score. Both environmental and social performance are positively correlated with SOE, while governance does not correlate with SOE. It may therefore be interesting to study the different sub-components affecting the ESG score. In addition, we can see a correlation between the ESG score, GRI and UNGC. This suggests that companies reporting according to GRI and are members of the UNGC, have a higher ESG score. Another interesting observation is that both market capitalization, number of employees and board size are positively correlated with the ESG score, indicating that company size may indeed affect the score, as found in previous literature. Surprisingly, return on assets does not correlate with ESG, as the correlation approximately equals to zero.

Table 6.1: Correlation of numerical variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) SOE (share)	1.00											
(2) SOE (dummy)	0.87	1.00										
(3) ESG	0.12	0.17	1.00									
(4) ENV	0.13	0.18	0.96	1.00								
(5) SOC	0.13	0.20	0.87	0.76	1.00							
(6) GOV	-0.02	0	0.72	0.57	0.58	1.00						
(7) GRI	0.04	0.03	0.52	0.52	0.51	0.43	1.00					
(8) UNGC	0.06	0.11	0.50	0.50	0.56	0.43	0.3	1.00				
(9) ROA	-0.07	-0.09	0.02	0.02	0.00	0.01	0.03	-0.06	1.00			
(10) MARKET CAP	0.01	-0.01	0.34	0.34	0.25	0.33	0.07	0.25	0.10	1.00		
(11) BOARD SIZE	0.07	0.12	0.36	0.36	0.31	0.22	0.17	0.29	-0.14	0.24	1.00	
(12) EMPLOYEES	0.07	0.14	0.27	0.27	0.19	0.20	0.13	0.21	-0.06	0.47	0.42	1.00

Note : The variables are SOE (share) = The share of state ownership, SOE (dummy) = A dummy if the state owns more than 10 percent, ESG = ESG disclosure score, ENV = Environmental disclosure score, SOC = Social disclosure score, GOV = Governance disclosure score, GRI = Global Reporting Initiative, UNGC = UN Global compact, ROA = Return on assets, MARKET CAP = Market capitalization, BOARD SIZE = Number of people on the board, EMPLOYEES = Number of employees. *Datasource* : Bloomberg.

6.1.2 Regression Analysis

The regression results for the effects of SOE on ESG are reported in Table 6.2. In a first step, we want to see whether there is a relationship between SOE and ESG. We use SOE as a dummy variable, which takes the value 1 if the state owns more than ten per cent, and 0 if not. The results are reported in Table 6.2, column 1. As we can see, there is a positive relationship between SOE and ESG, which coincides with our first hypothesis. SOE is significant at the 0.1 per cent level, and we can reject H_0. The result suggests that in linear specifications the effect of state ownership is significant for ESG performance. This implies that companies that are state-owned have higher ESG scores than companies that are not state-owned. The estimate of the regression beta coefficient for SOE is 6.0128, indicating that the ESG score increases by 6.0128 if the company is state-owned.

Furthermore, we want to see how SOE changes when we control for country and sector fixed effects, company size and company performance. This is because we have reason to believe that they correlate with the ESG score, and thereby affect the relation between SOE and ESG. The results are reported in Table 6.2, column 2. The coefficient on SOE remains positive and significant at the 0.1 per cent level, indicating that SOEs do

indeed affect the ESG score when we adjust for control variables. Additionally, there is a significant positive relationship between the ESG score and both board size and market capitalization. This indicates that company size influences the ESG score, and that larger companies have a higher ESG score. Surprisingly, there is no significant relationship between number of employees and the ESG score, which may be due to the correlation between number of employees and both board size and market capitalization. Contrary to previous research, we find no significant relationship between return on assets and the ESG score.

The results in the regression table show that the coefficient for SOE has a marginal change when we add the control variables. The coefficients show that the ESG score will increase by approximately 6 if the company is state-owned, even when we control for country and sector. This implies that the effect between ESG and SOE is not driven by country or sector, or the correlation between countries or sectors. Moreover, there is a positive correlation between board size and ESG, where the ESG score will increase by 0.7806 if the board size increases by one unit. Likewise, if market capitalization increases by one unit, the ESG score will have a slight increase. However, considering all control variables, the magnitude of the coefficient of SOE does not decrease relative to the simple correlation coefficient, and a significant positive correlation remains between ESG and SOE.

In a second step, we test the relationship between the share of state ownership and the ESG score. The results are provided in Table 6.2, column 3. There is a significant positive relationship between SOE and ESG at the 5 per cent level. This implies that the higher the share of state ownership, the higher ESG score. However, the coefficient is low, indicating a small change in the ESG score when the share of state ownership increases. When we add the control variables, which we can see in Table 6.2, column 4, the positive relationship between SOE and ESG remains at the 5 per cent level. The coefficient for SOE has a minimal increase relative to the simple correlation coefficient, implying that the effect between SOE and ESG is not driven by the control variables.

The regression indicates a positive linear relationship between the share of SOE and ESG, however, a plot of the share of ownership and the ESG score indicates that there is not a clear linear relationship between SOE and ESG (Figure A2.5 in Appendix). It illustrates that most observations have a share of less than ten per cent. Therefore, we would like

to divide the share of ownership, and see the pattern when the share is from 0 to 10 per cent, and from 10 to 100 per cent. We can see from the plot illustrating a share from 0 to 10 per cent, that there may be a positive effect between SOE and ESG, but most of the companies have between 0 and 2 per cent ownership (Figure A2.6 in Appendix). If we study the plot with a share from 10 to 100 per cent, it suggests a negative relationship (Figure A2.7 in Appendix). However, there are only 72 observations, thus it does not illustrate a strong linear relationship.

Table 6.2: Impact of state ownership on ESG score

Variable of ownership	SOE (dummy)		SOE (share)	
	(1)	(2)	(3)	(4)
Independent variables	OLS	OLS	OLS	OLS
SOE	6.0128***	6.137***	0.0777*	0.08189*
	(1.7528)	(1.619)	(0.03407)	(0.0322)
Country fixed effect	no	yes	no	yes
Sector fixed effect	no	yes	no	yes
No. Employees	–	0.007175	–	0.01134
		(0.01064)		(0.01065)
Board Size	–	0.7806***	–	0.8206***
		(0.1817)		(0.1831)
Market Cap.	–	0.0001272***	–	0.0001216***
		(0.00002462)		(0.00002482)
Return on Assets	–	-0.03291	–	-0.03515
		(0.1075)		(0.1087)
N	392	392	392	392

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

We further our analysis by focusing on the relationship between SOEs and the three sub-components of the ESG score, where we use SOE as a dummy variable. The results are reported in Table A2.1 in Appendix. SOEs have a significant relationship with the environmental disclosure score and the social disclosure score on the 0.1 per cent level, with positive coefficients. This implies that SOEs perform better on environmental and social factors than non-SOEs. However, there is no significant relationship between SOEs and the governance disclosure score. The result is in line with the descriptive statistics (Table 4.1 in Section 4), where SOEs and non-SOEs have about the same average governance score, which is higher than the other components.

Additionally, we test how SOEs in different countries or sectors affect the ESG score. First, we test the interaction between SOEs and the different countries, using Switzerland as baseline. The results are reported in Table A2.2 in Appendix. The regression table shows the results when the company is state-owned in a country, and provides positive coefficients in each and every country. As we can see, Austria, Hungary and Norway are significant on the 1 per cent level. Austria has a coefficient of 29.087, implying a positive correlation between SOEs in Austria and ESG. This suggests that if a company in Austria is state-owned, the ESG score increases by 29.087 compared to Switzerland. Hungary has a surprisingly high coefficient, however, there are only two observations from Hungary in the data set, where one company is state-owned and the other is not. Norway has a positive coefficient of 25.687, indicating that if the company is state-owned in Norway, the ESG score increases by 25.687 compared to Switzerland. In addition, Croatia, Germany and Italy are significant at the 5 per cent level, indicating a positive relationship with the ESG score for SOEs. Second, we test for different sectors, by using the utility sector as a baseline. The consumer staples sector is not included, as none of the companies in this sector are state-owned. The results are provided in Table A2.3 in Appendix, suggesting that there is a negative relation between ESG and SOEs in sectors such as financial, health care, industrial and materials. However, the results are insignificant for measuring ESG scores in all sectors.

Lastly, we want to study how GRI and UNGC can influence the ESG score. If we add GRI and UNGC as independent dummy variables to the regression where we consider SOE as a dummy variable, there is still a positive effect between SOE and ESG. The

results are reported in Table A2.4 in Appendix, where we can see that the coefficient of SOE decreases but is still significant, and that both GRI and UNGC have a positive effect on ESG. This is in line with the correlation analysis, where ESG score correlates to GRI and UNGC. The coefficients of GRI and UNGC indicate a relatively high increase in the ESG score if a company is reporting according to GRI or a member of the UNGC.

6.1.3 Sub-conclusion

Consistent with our first pre-registered hypothesis, there is a positive significant relationship between SOEs and their ESG score on the 0.1 percent level, where SOEs have a higher ESG score than non-SOEs. When we test for the second hypothesis, we find a significant relationship between ESG and the share of state ownership at the 5 per cent level. We can therefore confirm both our hypotheses.

6.2 Qualitative Analysis

In the qualitative part we will present the key findings and insights from the six interviews, comparing SOEs with non-SOEs. First, we will analyse the companies' motivation toward sustainability, before we investigate their sustainability initiatives. This is followed by an analysis of the companies' view on the ESG score, and finally the role of state ownership will be examined.

6.2.1 Companies' Motivation toward Sustainability

Through the interviews we get the impression that SOEs' motivation has both extrinsic and intrinsic elements. The motivation to be sustainable can be linked to competitiveness, where the SOEs view sustainability as necessary to survive in the long term. Two out of three companies mention that sustainability is important for achieving their vision. In addition, it is important for them to attract talented employees and be an attractive workplace. They also mention the importance of shareholders, where the state is their largest shareholder, which expects reporting on sustainability. Company four explains it in this way:

> After all, the state is our largest owner, and they are concerned with how we report and work with sustainability issues in practice. (Chief Compliance Officer)

Two of the SOEs explicitly mention that they have a social responsibility and can make a difference, pointing to an intrinsic motivation for being sustainable. Company four describes their motivation in these words:

> It [sustainability] supports our entire mission and vision with how the world should be. We see that we can make an impact, that we have an opportunity to influence [...], which is very important for maintaining the distribution of resources. So it is absolutely essential for us to be sustainable. (Chief Compliance Officer)

Non-SOEs, on the other hand, mention many of the same motivations toward sustainability. Firstly, non-SOEs aim to be sustainable in order to be proactive and competitive in the long term. Company one explains their motivation as follows:

> If you understand sustainability, you will better understand where your threats and opportunities lie. [...] So if you really develop your thinking on sustainability, you are better equipped with challenges you meet. (VP, Global Sustainability)

Secondly, non-SOEs view sustainability as an effective tool to attract new employees. They all mention the influence on stakeholders and, importantly, a sustainable reputation to attract investors. Company five describes the value of both investors and employees like this:

> It is very important what investors and our owners think. Potential employees are also important. If we do not have access to good resources and that people are happy, we have a problem in the first place. And if we do not have access to capital, we also have a problem. (Head of Sustainability)

To summarise, SOEs and non-SOEs share many of the same strategic motivations toward sustainability, including recruitment and long-term competitiveness. However, the SOEs especially emphasise their responsibility to society and their opportunity to make an impact. Besides, SOEs' motivation tends to be strongly driven by expectations in regard

to sustainability from the state.

6.2.2 Companies' Sustainability Initiatives

All SOEs mention the importance of sustainability becoming a part of the business. Thus, all have a sustainability report, as well as several of the SDGs implemented in their strategy. Company three emphasises the necessity of incorporating sustainability the following way:

> Sustainability must be integrated into the operating activities in order to succeed. [...] That is the criterion of success. (Corporate Compliance Officer)

Furthermore, all SOEs report according to GRI and are members of the UNGC. The SOEs point out that GRI and UNGC provide a structured reporting that is in line with the state's expectations, and signals that they take sustainability issues seriously. Moreover, the top management is, for all SOEs, responsible for sustainability reporting. One company states that two KPIs related to sustainability are directly linked to the CEO's salary payment.

Similar to SOEs, all non-SOEs provide an annual sustainability report to stakeholders. They have also incorporated several of the SDGs into their business model. Yet, company five indicates conflicts of interest regarding sustainability:

> We will meet many dilemmas in relation to whether purpose or profit should win. We must be careful in order to avoid greenwashing, we have to show that we really mean it, but we are well on our way. (Head of Sustainability)

Moreover, all non-SOEs report according to GRI, because it increases their focus on sustainability. One of the companies has chosen to withdraw from the UNGC due to lack of stakeholder demands. Yet, the company reports according to GRI as it is in the interests of their stakeholders. For all non-SOEs, top management is also responsible for sustainability reporting, where company five indicates that financially oriented goals are needed to increase the interest among top management:

> We have had many goals before without great success. What is different from 2018, is that the goals have a consequence. The top management has now got

> it into their incentive schemes. [...] It has led to a completely different focus internally. (Head of Sustainability)

Compared to non-SOEs, SOEs especially emphasise the importance of uniting sustainability with the company's core activities. For both SOEs and non-SOEs, shareholders are important in decisions related to sustainability. This is, however, also what differentiates the SOEs from the non-SOEs: an important reason for why SOEs participate in sustainability activities is because the state, as an important shareholder, expects it, while the shareholders of non-SOEs vary and change over time, thus the focus on sustainability may change.

6.2.3 Companies' View on ESG Scores

All SOEs are positive regarding the purpose of the ESG scoring system, as it aims to give an overall picture of how companies work with sustainability. They focus on their ESG score and continually work to improve it. Company four explains its work to improve the environmental score as follows:

> One of the reasons we have a slightly low environmental score is because we have not had explicit KPIs on how to improve. So that is something we are introducing now. (Chief Compliance Officer)

Compared to SOEs, non-SOEs have a more mixed view on ESG scores. One company sees ESG scores as important, another believes it is difficult to measure sustainability, while the last is critical of the scores and believes it is unnecessary. Only one non-SOE focuses on its own ESG score. However, both SOEs and non-SOEs are critical of third-party ESG agencies, as they use various methodologies, thus provide different scores. One SOE and one non-SOE state that another agency does not use up-to-date information about the company.

In summary, information from the interviews indicate that SOEs are more aware of their ESG score, and that they aim to improve it. In contrast, non-SOEs are more critical toward the score, but they might increase their focus if investors start to demand it.

6.2.4 The Role of State Ownership in Companies

For Norwegian SOEs, the state exercises its ownership through the board. According to company three, state ownership includes annual meetings concerning sustainability, as well as certain guidelines and expectations, especially regarding anti-corruption initiatives. In order to understand the role of state ownership in companies, we ask the interviewees how they think state ownership can affect a company's focus on sustainability.

All the SOEs emphasise that an important driver of sustainability comes from expectations from the state. Company three (SOE) states that there may be more focus on short-term profits rather than long-term sustainability in non-SOEs. Further, the company considers non-SOEs more commercial, where they use sustainability mainly to build a positive reputation and attract customers. Company four (SOE) believes SOEs might have stronger incentives and drivers to perform in a socially responsible manner. The company believes that long-term ownership supports sustainable businesses. Additionally, the interviewee emphasises the matter of size, and that SOEs often tend to be larger, and thus can provide more resources to sustainability.

Company five (non-SOE) believes the Paris Agreement can be one reason why the Norwegian state especially expects and supports companies in their ownership to be sustainable:

> I think it is very important that the state thinks in that direction [sustainability] in order to achieve the goals of the Paris Agreement. They must therefore push all their companies in the right direction, and set requirements. [...] Besides, the state must facilitate companies by providing other types of terms and conditions, not just for their own companies, but for all others so that we both get pushed in the right direction and also rewarded for doing it. (Head of Sustainability)

In short, the companies, both SOEs and non-SOEs, think state ownership can have a positive affect on company's ESG score.

7 Discussion

In this section, we will discuss the results and the limitations discovered in our thesis. We will validate the results by relating them to previous research and economic mechanisms.

7.1 Discussion of the Results

Our results from the regression analysis suggest that SOEs have a higher ESG score than non-SOEs, and that the ESG score increases with the share of state ownership. The next question is therefore related to the actual impacts of this. Does an increase in the coefficient lead companies to have more sustainable practices? If we study the size of the coefficient relative to the standard error, we see that the effect is large in relation to the standard error, implying that SOEs perform better on ESG than non-SOEs. In practice, this indicates that SOEs score better on ESG because they have concrete actions and ambitious targets related to environmental, social and governance factors to work towards, which also are communicated through publicly available platforms. This is in line with previous literature, stating that high sustainability companies exhibit higher measurement and disclosure of non-financial information (Eccles et al., 2014). Moreover, the score is based on several issues linked to sustainability, such as percentage of women in management, corruption and employee turnover. This implies that a company in the energy sector can pollute more greenhouse gases than a company in finance, and still get a better ESG score because it sets clear goals on how to decrease its emissions over time, and/or due to enhanced sustainability practices in other areas. We think the ESG scoring system is important in a time where businesses have to take responsibility for their actions, thus the ESG score can be used as a tool to see which companies disclose information on non-financial measures.

Furthermore, we want to investigate mechanisms that can explain why SOEs perform better on ESG scores than non-SOEs. Firstly, our results imply that the effect between SOE and ESG is not driven by countries or sectors, as the effect remains significant when we control for country and sector fixed effects. However, when interacting SOEs and countries, we do find that SOEs in Austria, Norway, Croatia, Germany and Italy significantly affect

the ESG score. Based on previous research, this can be due to country specific effects, such as nation-level institutions, seeing that Ioannou and Serafeim (2012) find that political institutions as well as legal and labor market institutions, are significant factors affecting ESG variation. Also, we do not find significant results regarding the relationship between ESG and sector. This can be due to Bloomberg's ESG score methodology, which tailors the ESG score to evaluate each company on data points that are relevant to its sector (Bloomberg, 2019).

Secondly, from our descriptive statistics we can see that SOEs generally are larger than non-SOEs, both in terms of number of employees and board size. This supports previous literature suggesting a connection between a company's ESG score and company size, where larger corporations are more likely to achieve higher ESG ratings because of enhanced reporting activities (Dorfleitner et al., 2015). However, we find that company size has a positive effect on ESG, but we can clearly see an effect of SOE over and beyond that.

There are also some mechanisms that are unclear. We find no significant relationship between company performance and the ESG score. Previous studies have been inconclusive regarding ESG and company performance, reporting positive, negative and neutral results (Nollet et al., 2016; Eccles et al., 2014; Barnea and Rubin, 2010). Even though return on assets does not indicate significant results in our analysis, another study finds that larger and more profitable companies are more likely to have the financial resources needed to engage in activities promoting sustainable development and the reporting thereof (Artiach et al., 2010). Further, when we investigate the relationship between SOEs and the three sub-components of ESG, we find no significant relationship between SOEs and the governance score, as both SOEs and non-SOEs have about the same average governance score. Previous literature finds that governance factors improve the financial performance of the company, which is emphasised by both SOEs and non-SOEs (Nollet et al., 2016). In addition, we find that both GRI and UNGC correlates with ESG, and a significant effect between them. Prior studies find that UNGC membership does not necessarily lead to better societal outcomes (Li and Wu, 2018), but that it can have a strong, positive influence on market performance (Cetindamar, 2007). The scoring model used by Bloomberg is largely based on the GRI standards, thus a positive relationship is not surprising. However, the relationship between ESG and SOE remains significant,

indicating that state ownership impacts the ESG score above and beyond GRI and UNGC.

We can further ask why some companies are more sustainable than others. There are some mechanisms that we have not been able to measure in our quantitative analysis. Nevertheless, we believe they can be explained based on interviews and previous research. Through the interviews, it is clear that companies' motivation for being sustainable is linked to stakeholders, as it is important to attract investors and talented employees. In addition, Eccles et al. (2014) find that high sustainability companies are more likely to have established processes for stakeholder engagement.

On the other hand, a larger mechanism that distinguishes SOEs' sustainability practices from non-SOEs' is their shareholders. The state is an important owner in SOEs, and thus influences how they report on sustainability. Firstly, governments' promotion of sustainability through policies and expectations for companies in their ownership can make SOEs especially aware of their ESG performance. From the interviews, we also get the impression that SOEs tend to have stronger initiatives and drivers to perform in a socially responsible manner. These expectations can result in more sustainability reporting. This argument is supported by a study that finds state ownership to be an important factor influencing sustainability reporting (Castelo Branco et al., 2014). A report conducted by PwC also finds that state ownership is correlated with better reporting on sustainability targets (PwC, 2017). Seeing that Bloomberg base their ESG score on disclosed documents (Dorfleitner et al., 2015), it can imply that SOEs get a better ESG score because they publish more information related to ESG compared to non-SOEs.

Secondly, the state as owner often has a more long-term perspective than private actors do in their ownership, thus the state emphasises sustainable development of the companies over time. These arguments are also supported in the conducted interviews, where one of the interviewees believes the state's long-term ownership supports sustainable businesses. The interviews also reveal that non-SOEs tend to focus more on economic conditions rather than sustainable conditions. Thus, it is indicated that this can be due to weighed interests, and that economic conditions are prioritised before sustainability. Seeing that SOEs are more sustainable, Eccles et al. (2014) find that high sustainable companies are more likely to attract dedicated rather than transient investors, thus be more long-term oriented. In addition, Nollet et al. (2016) find that there is a positive relationship between

ESG and financial performance in the long term, but not in the short term. This can give the state incentives to focus on sustainability, as they see that it pays off in the long term.

In short, SOEs have an expectation from the state which they must live up to, while for non-SOEs, sustainability focus depends on stakeholders, and especially shareholders and potential investors, and their demands. As stated in the interviews, non-SOEs are less likely to spend resources on sustainability activities if the stakeholders do not find it important. This may indicate that if companies are to become more sustainable, shareholders must be convinced that sustainability is worthwhile in the long term. As suggested in one of the interviews, the state should lead and direct companies, both SOEs and non-SOEs, in the right direction and reward them accordingly. A final impression we get from the interviews is that companies can become more sustainable if KPIs related to sustainability are included in the top management's incentive schemes.

7.2 Limitations

The findings in this study are subject to several limitations. One limitation is the size of our data set. Although it is composed of approximately all companies in the EU/EEA that have ESG data registered on the Bloomberg Terminal for 2018, the size is relatively small because of limited available data. Optimally, the data set would consist of more SOEs in order to get a better comparison with non-SOEs. In addition, the data set has few observations when the share of state ownership increases. A larger number of observations would therefore strengthen our result. Moreover, some countries and sectors have few companies in our data set, which makes it hard to measure the relationship between SOEs in specific countries or sectors and the ESG score. Consequently, caution should be applied in evaluating the results. Another limitation is that we are not able to control for all variables. This can make our analysis affected by an omitted-variable bias. Lastly, a limitation is related to the ESG score itself. Many of the interviewees gave negative opinions of different third-party ESG agencies, and two of the companies have experienced that their own ESG score was calculated using outdated information. Also, there is no regulation on how the ESG providers have to assess the sustainability exactly, thus resulting in different ESG rating agencies calculating sustainability differently for each company. Consequently, stakeholders should be aware of this.

8 Conclusion and Future Research

The purpose of this study is to investigate why some companies are more sustainable than others. Our study thereby moves away from the traditional debate on the effect of CSR on financial performance. By exploring the less-studied area of state ownership and sustainability, we empirically test whether SOEs perform differently than non-SOEs within the area of ESG. We use Bloomberg's data on ESG disclosure scores for 392 companies across 17 countries and 11 sectors in the EU/EEA. Our results demonstrate that SOEs perform significantly better than non-SOEs when it comes to ESG scores. In addition, we find that the ESG score increases proportionally to the share of ownership. Based on literature and a broad range of possible underlying economic mechanisms, as well as interviews with SOEs and non-SOEs, we can conclude that state ownership in a company has a positive effect on ESG performance. The results can be explained by shareholder effects, through the state's promotion of sustainability through policies and expectations for companies in their ownership. Moreover, the state as owner often has a more long-term perspective than private actors in their ownership, thus emphasises sustainable development of the companies over time. These arguments are supported in the conducted interviews.

Much remains to be explored about the relationship between state ownership and sustainability. For example, as more ESG data becomes available, that would be useful to determine whether or not the relationships we have examined hold consistently over time. Moreover, a potential variation between listed and unlisted SOEs in terms of ESG performance can also be investigated. Further research can also look at companies' material issues, and see whether focus on material issues lead to a better ESG score. Finally, it would be interesting to study upstream and downstream companies in the supply chain, as a downstream company might focus more on sustainability as compared to an upstream company.

References

ACCA (2014). Sustainability matters. https://www.accaglobal.com/content/dam/acca/global/PDF-technical/sustainability-reporting/tech-tp-smapp.pdf. (Accessed on 09/04/2019).

Artiach, T., Lee, D., Nelson, D., and Walker, J. (2010). The determinants of corporate sustainability performance. *Accounting & Finance*, 50(1):31–51.

Auer, B. R. and Schuhmacher, F. (2016). Do socially (ir) responsible investments pay? new evidence from international esg data. *The Quarterly Review of Economics and Finance*, 59:51–62.

Barnea, A. and Rubin, A. (2010). Corporate social responsibility as a conflict between shareholders. *Journal of business ethics*, 97(1):71–86.

Betty Moy, H., Michael, C., and Davis, P. (2017). Esg reports and ratings: What they are, why they matter. https://corpgov.law.harvard.edu/2017/07/27/esg-reports-and-ratings-what-they-are-why-they-matter/. (Accessed on 28/02/2019).

Birkinshaw, J., Foss, N. J., and Lindenberg, S. (2014). Combining purpose with profits. *MIT Sloan Management Review*, 55(3):49.

Bloomberg (2019). Esg data. https://www.bloomberg.com/impact/impact/esg-data/. (Accessed on 28/02/2019).

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.

Bowen, H. R. (1953). Social responsibilities of the businessman, harper & brothers. *New York*.

Brundtland, G. H., Khalid, M., Agnelli, S., et al. (1987). Report of the world commission on environment and development: Our common future. *New York*.

Bundesministeriums für Arbeit und Soziales (2019). Öffentliche unternehmen: Nachhaltige, gute unternehmensführung. https://www.csr-in-deutschland.de/DE/Wirtschaft-Menschenrechte/Engagement-Bundesregierung/Aktivitaeten-der-Bundesregierung/Oeffentliche-Unternehmen/oeffentliche-unternehmen.html. (Accessed on 10/03/2019).

Cai, Y., Jo, H., and Pan, C. (2012). Doing well while doing bad? csr in controversial industry sectors. *Journal of Business Ethics*, 108(4):467–480.

Campbell, J. L. (2007). Why would corporations behave in socially responsible ways? an institutional theory of corporate social responsibility. *Academy of management Review*, 32(3):946–967.

Carmines, E. G. and Zeller, R. A. (1979). *Reliability and validity assessment*, volume 17. Sage publications.

Carroll, A. B. (1999). Corporate social responsibility: Evolution of a definitional construct. *Business & society*, 38(3):268–295.

Castelo Branco, M., Delgado, C., Ferreira Gomes, S., and Cristina Pereira Eugénio, T. (2014). Factors influencing the assurance of sustainability reports in the context of the economic crisis in portugal. *Managerial Auditing Journal*, 29(3):237–252.

Cetindamar, D. (2007). Corporate social responsibility practices and environmentally responsible behavior: The case of the united nations global compact. *Journal of business Ethics*, 76(2):163–176.

Chatterji, A., Durand, R., Levine, D., and Touboul, S. (2014). Do ratings of firms converge? implications for strategy research.

Cherry, M. A. and Sneirson, J. F. (2010). Beyond profit: Rethinking corporate social responsibility and greenwashing after the bp oil disaster. *Tul. l. rev.*, 85:983.

Crane, A. and Matten, D. (2016). *Business Ethics*, volume 4. Oxford University Press.

Dahlsrud, A. (2008). How corporate social responsibility is defined: an analysis of 37 definitions. *Corporate social responsibility and environmental management*, 15(1):1–13.

Dang, C., Li, Z. F., and Yang, C. (2018). Measuring firm size in empirical corporate finance. *Journal of Banking & Finance*, 86:159–176.

Deci, E. L. and Ryan, R. M. (2000). The" what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry*, 11(4):227–268.

Dorfleitner, G., Halbritter, G., and Nguyen, M. (2015). Measuring the level and risk of corporate responsibility–an empirical comparison of different esg rating approaches. *Journal of Asset Management*, 16(7):450–466.

Eccles, R. G., Ioannou, I., and Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60(11):2835–2857.

European Commission (2017). Non-financial reporting. https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting_en. (Accessed on 28/02/2019).

Fatemi, A., Fooladi, I., and Tehranian, H. (2015). Valuation effects of corporate social responsibility. *Journal of Banking & Finance*, 59:182–192.

Fatemi, A., Glaum, M., and Kaiser, S. (2017). Esg performance and firm value: The moderating role of disclosure. *Global Finance Journal*.

Frank, R. H. (2004). *What price the moral high ground?: ethical dilemmas in competitive environments*. Tor/Forge.

Freeman, R. (1984). Stakeholder management: a strategic approach. *New York: Pitman*.

Freeman, R. (2003). Lecture-stakeholder management revisited: what's the state of the art. *Universidad de Leuven*, 20.

Frey, B. S. (1997). *Not just for the money*. Citeseer.

Friedman, M. (1970). The social responsibility of business is to increase its profits. *The New York Times Magazine*.

Gibson, R. B. (2006). Beyond the pillars: sustainability assessment as a framework for effective integration of social, economic and ecological considerations in significant

decision-making. *Journal of Environmental Assessment Policy and Management*, 8(03):259–280.

Gillan, S., Hartzell, J. C., Koch, A., and Starks, L. (2010). Firms' environmental, social and governance (esg) choices, performance and managerial motivation. *Unpublished working paper*.

Government Offices of Sweden (2017). The state's ownership policy and guidelines for state-owned enterprises 2017. https://www.government.se/49f639/contentassets/c6382135343d45fe8685ab7fa53a2fa3/the-states-ownership-policy-and-guidelines-for-state-owned-enterprises-2017.pdf. (Accessed on 10/03/2019).

Hayward, R., Lee, J., Keeble, J., McNamara, R., Hall, C., Cruse, S., Gupta, P., and Robinson, E. (2013). The un global compact-accenture ceo study on sustainability 2013. *UN Global Compact Reports*, 5(3):1–60.

Hjelle (2019). Kontroll av selskap (viktige prosentsatser). https://hjelleregnskap.no/knowledgebase/kontroll-av-selskap-viktige-prosentsatser/. (Accessed on 07/05/2019).

Hu, M. and Loh, L. (2018). Board governance and sustainability disclosure: A cross-sectional study of singapore-listed companies. *Sustainability*, 10(7):2578.

Ioannou, I. and Serafeim, G. (2012). What drives corporate social performance? the role of nation-level institutions. *Journal of International Business Studies*, 43(9):834–864.

Ioannou, I. and Serafeim, G. (2017). The consequences of mandatory corporate sustainability reporting. *Harvard Business School research working paper*, 50(11-100).

James, G., Witten, D., Hastie, T., and Tibshirani, R. (2013). *An introduction to statistical learning*, volume 112. Springer.

Jørgensen, S. and Pedersen, L. J. T. (2015). *Responsible and Profitable*. Cappelen Damm, Lillehammer/Bergen, 1 edition.

Kell, G. (2018). The remarkable rise of esg. https://www.forbes.com/sites/georgkell/2018/07/11/the-remarkable-rise-of-esg/#114e981a1695. (Accessed on 03/04/2019).

Keller, G. and Gaciu, N. (2012). *Managerial statistics*. South-Western Cengage Learning.

Kenton, W. (2019). State-owned enterprise (soe). https://www.investopedia.com/terms/s/soe.asp. (Accessed on 05/05/2019).

Khan, M., Serafeim, G., and Yoon, A. (2016). Corporate sustainability: First evidence on materiality. *The accounting review*, 91(6):1697–1724.

Knoepfel, I. (2005). Who cares wins - connecting financial markets to a changing world. https://www.unglobalcompact.org/docs/issues_doc/Financial_markets/who_cares_who_wins.pdf. (Accessed on 03/04/2019).

Kramer, M. R. and Porter, M. (2011). Creating shared value. *Harvard business review*, 89(1/2):62–77.

Li, J. and Wu, D. (2018). Do corporate social responsibility engagements lead to real environmental, social and governance impact? *Ross School of Business Paper No. 1335*, page 50.

Li, Y. (2010). The case analysis of the scandal of enron. *International Journal of business and management*, 5(10):37.

Lund-Thomsen, P. and Coe, N. M. (2013). Corporate social responsibility and labour agency: the case of nike in pakistan. *Journal of Economic Geography*, 15(2):275–296.

Maignan, I. and 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.

Majláth, M. (2016). How does greenwashing effect the firm, the industry and the society-the case of the vw emission scandal. *PROCEEDINGS of FIKUSZ 2016*, page 111.

McKinsey (2010). How companies manage sustainability. https://www.mckinsey.com/business-functions/sustainability/our-insights/how-companies-manage-sustainability-mckinsey-global-survey-results. (Accessed on 28/05/2019).

McWilliams, A. and Siegel, D. (2000). Corporate social responsibility and financial performance: correlation or misspecification? *Strategic management journal*, 21(5):603–609.

McWilliams, A. and Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of management review*, 26(1):117–127.

Ministry of Foreign Affairs (2016). Corporate social responsibility. https://www.regjeringen.no/en/topics/foreign-affairs/business-cooperation-abroad/innsikt/csr/id2076260/. (Accessed on 10/02/2019).

Ministry of Trade, I. and Fisheries (2018). Hvordan staten utøver sitt eierskap. https://www.regjeringen.no/no/tema/naringsliv/statlig-eierskap/statlig-eierskap1/id2009187/. (Accessed on 10/03/2019).

Moore, G. (2001). Corporate social and financial performance: An investigation in the uk supermarket industry. *Journal of Business ethics*, 34(3-4):299–315.

Nollet, J., Filis, G., and Mitrokostas, E. (2016). Corporate social responsibility and financial performance: A non-linear and disaggregated approach. *Economic Modelling*, 52:400–407.

Nyborg, K. and Zhang, T. (2013). Is corporate social responsibility associated with lower wages? *Environmental and Resource Economics*, 55(1):107–117.

OECD (2018). Ownership and governance of state-owned enterprises: A compendium of national practices. http://www.oecd.org/daf/ca/ownership-and-governance-of-state-owned-enterprises-a-compendium-of-national-practices.htm. (Accessed on 05/03/2019).

Orlitzky, M., Schmidt, F. L., and Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization studies*, 24(3):403–441.

Pedersen, L. J. T. (2009). *'Næringslivets etterspørsel etter etikkompetanse: retorikk, realitet eller konformitet?' in O. Nordhaug and Kristiansen, H-I. (Eds.), Retorikk, etikk og næringsliv*. Forlag1, Oslo, 1 edition.

PwC (2010). Samfunnsansvar i statlig eide selskaper. https://www.regjeringen.no/globalassets/upload/nhd/vedlegg/rapporter_2010/samfunnsansvar.pdf. (Accessed on 27/01/2019).

PwC (2015). State-owned enterprises - catalysts for public value creation? https://www.pwc.com/gx/en/psrc/publications/assets/pwc-state-owned-enterprise-psrc.pdf. (Accessed on 02/03/2019).

PwC (2017). Pwc bærekraft 100 - rapportering for framtiden. https://www.pwc.no/no/publikasjoner/pwc-barekraft100.pdf. (Accessed on 01/04/2019).

Regjeringen (2018). Hvorfor eier staten? https://www.regjeringen.no/no/tema/naringsliv/statlig-eierskap/hvorfor-eier-staten/id2607021/. (Accessed on 06/05/2019).

Rest, J. R. et al. (1994). Background: Theory and research james r. rest. In *Moral development in the professions*, pages 13–38. Psychology Press.

Roberts, R. W. (1992). Determinants of corporate social responsibility disclosure: An application of stakeholder theory. *Accounting, organizations and society*, 17(6):595–612.

Roobeek, A., De Swart, J., and Van der Plas, M. (2018). *Responsible Business*. Kogan Page Limited, Great Britain.

Russo, A. and Perrini, F. (2010). Investigating stakeholder theory and social capital: Csr in large firms and smes. *Journal of Business ethics*, 91(2):207–221.

Saunders, M., Lewis, P., and Thornhill, A. (2016). *Research methods for business students*. Pearson, England, 7 edition.

Sherwood, M. W. and Pollard, J. (2018). *Responsible Investing: An Introduction to Environmental, Social, and Governance Investments*. Routledge.

Soliman, M., El Din, M., and Sakr, A. (2013). Ownership structure and corporate social responsibility (csr): An empirical study of the listed companies in egypt. *Available at SSRN 2257816*.

Stock, J. H. and Watson, M. W. (2015). *Introduction to Econometrics*. Pearson, England, 3 edition.

Stuart, I., Stuart, B., and Pedersen, L. J. T. (2014). *Accounting Ethics*. Wiley, Bergen, 1 edition.

Sustainable Development Goals (2019). About the sustainable development goals. https://www.un.org/sustainabledevelopment/sustainable-development-goals/. (Accessed on 10/02/2019).

UN Global Compact (2019). The world's largest corporate sustainability initiative. https://www.unglobalcompact.org/what-is-gc. (Accessed on 10/02/2019).

Van Beurden, P. and Gössling, T. (2008). The worth of values–a literature review on the relation between corporate social and financial performance. *Journal of business ethics*, 82(2):407.

Waddock, S. A. and Graves, S. B. (1997). The corporate social performance–financial performance link. *Strategic management journal*, 18(4):303–319.

Wang, T. and Bansal, P. (2012). Social responsibility in new ventures: profiting from a long-term orientation. *Strategic Management Journal*, 33(10):1135–1153.

Yin, R. K. (2018). *Case Study Research and Applications*. Sage Publications, California, 6 edition.

Appendix

A1 Descriptive Statistics

Figure A1.1: ESG development over the time period 2012 - 2018

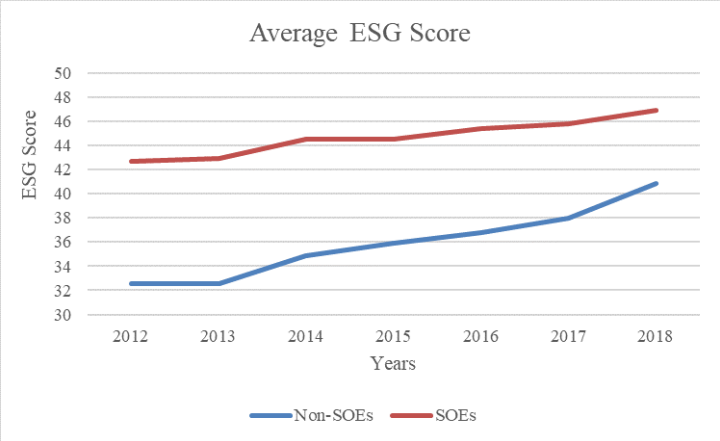


Table A1.1: Percentage of state ownership

Percentage state ownership	No. of Firms
> 10 %	72
> 20 %	61
> 30 %	52
> 40 %	43
> 50 %	29
> 60 %	19
> 70 %	14
> 80 %	8
> 90 %	4

Datasource : Bloomberg.

Table A1.2: Descriptive statistics across countries

			ESG Score			
Country	SOEs	Non-SOEs	N	Mean	Min	Max
Austria	3	12	15	40.89	22.31	65.56
Belgium	3	15	18	31.75	15.70	61.16
Denmark	2	5	7	42.22	28.95	58.26
Finland	2	8	10	48.90	28.95	58.26
France	12	58	70	49.50	19.83	65.29
Germany	10	56	66	39.35	7.85	66.94
Italy	11	25	36	48.35	14.05	69.83
Netherlands	2	21	23	39.49	14.46	59.34
Norway	7	19	26	35.52	9.92	60.33
Portugal	1	7	8	50.57	42.98	64.05
Spain	1	14	15	44.82	25.21	59.92
Sweden	3	40	43	41.04	22.31	61.16
Switzerland	3	28	31	41.53	9.92	65.70
Croatia	1	2	3	30.24	10.96	47.93
Czech Republic	1	2	3	24.89	23.68	26.86
Hungary	1	1	2	41.88	16.53	67.22
Poland	9	7	16	30.49	10.74	47.52

Note : The table shows mean, minimum and maximum ESG score across countries. *Datasource* : Bloomberg.

Table A1.3: Descriptive statistics across sectors

			ESG Score			
Sector	SOEs	Non-SOEs	N	Mean	Min	Max
Information Technology	1	14	15	34.36	10.74	62.14
Utilities	18	11	29	44.15	12.81	69.83
Industrial	14	66	80	43.24	16.53	65.70
Energy	9	13	22	46.55	10.74	67.22
Materials	5	35	40	48.88	11.57	65.70
Financial	9	64	73	38.47	10.96	68.86
Real Estate	3	16	19	34.38	7.85	58.26
Communication Services	9	23	32	39.20	8.26	56.94
Health Care	1	18	19	37.47	16.53	59.92
Consumer Staples	0	24	24	44.80	15.70	63.22
Consumer Discretionary	3	36	39	44.49	13.22	66.94

Note : The table shows mean, minimum and maximum ESG score across sectors. *Datasource* : Bloomberg.

A2 Regression Analysis

A2.1 Required Conditions for Regression Analysis

To determine whether the error variable is non-normal, we can draw a histogram of the residuals. Figure A2.1 illustrates the residuals of a linear model with ESG as the dependent variable and the independent variable is SOE as a dummy variable, while Figure A2.2 illustrates the residuals of a linear model considering ESG and SOE as a share of ownership. As the histograms are bell shaped, it indicates that the error is normally distributed. To test for homoscedasticity, we plot the residuals against the predicted value of the ESG score. The condition is called heteroscedasticity when the requirement is violated. The plot (Figure A2.3) illustrates a case in which the error variable is constant, and there is no sign of heteroscedasticity. Another condition is the absence of multicollinearity. A variance inflation factor (VIF) plot gives us an overview of whether some of the independent variables are closely related with one another. The VIF plot (Figure A2.4) indicates some level of multicollinearity, but none of the observations are critically high, as the VIF value is not above five.

Figure A2.1: A test for normally distributed error variable where SOE is a dummy variable

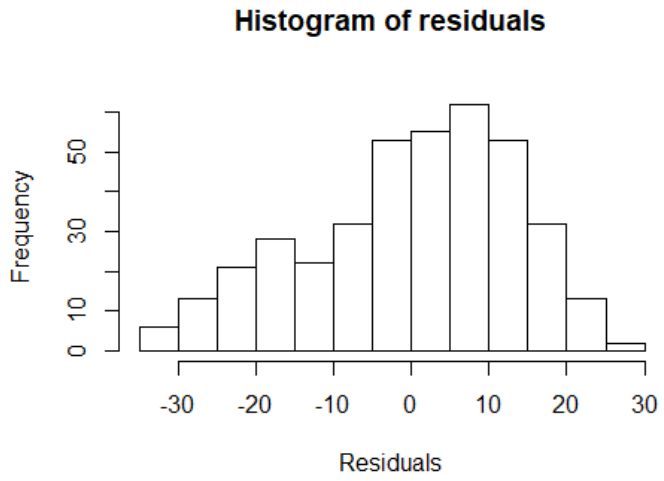


Figure A2.2: A test for normally distributed error variable where SOE is the ownership share

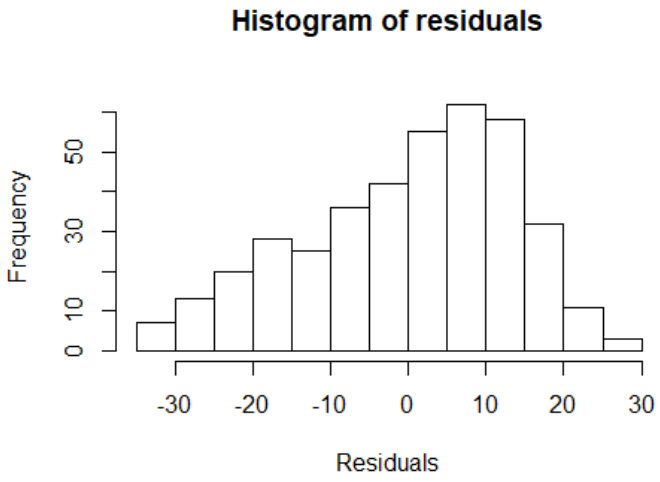


Figure A2.3: A plot to test for homoscedasticity

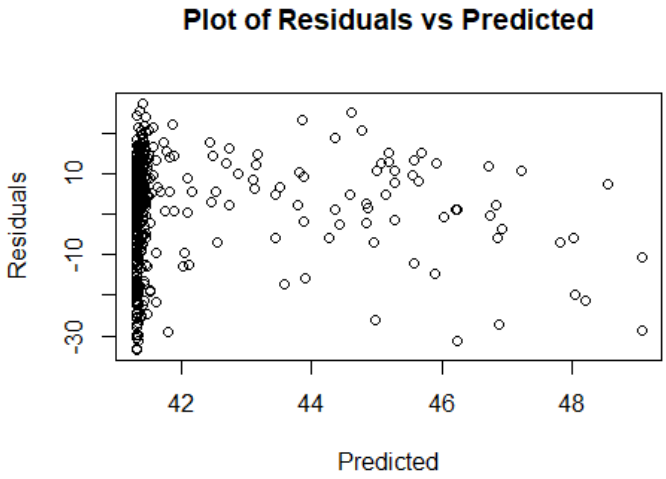
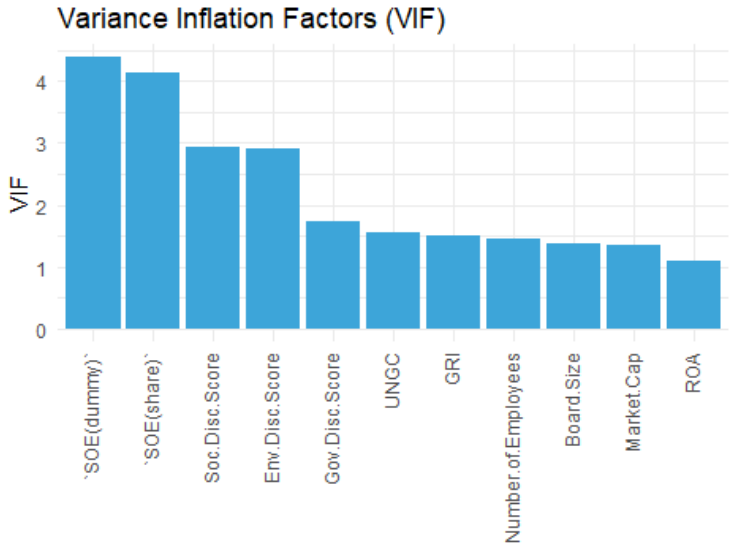


Figure A2.4: A VIF plot to test for multicollinearity



A2.2 Shares of State Ownership

Figure A2.5 shows that there is not a clear linear relationship between the ESG score and the state ownership share. To study this more closely, we want to look at ownership share less and larger than ten per cent. Figure A2.6 shows the share less than ten per cent. Here we can see that most observations are between zero and two per cent. Figure A2.7 illustrates the share equals to or higher than ten per cent. We can see that there may be a negative relationship between SOE and ESG. However, there are not enough observations to indicate a relationship.

Figure A2.5: A plot of ownership shares

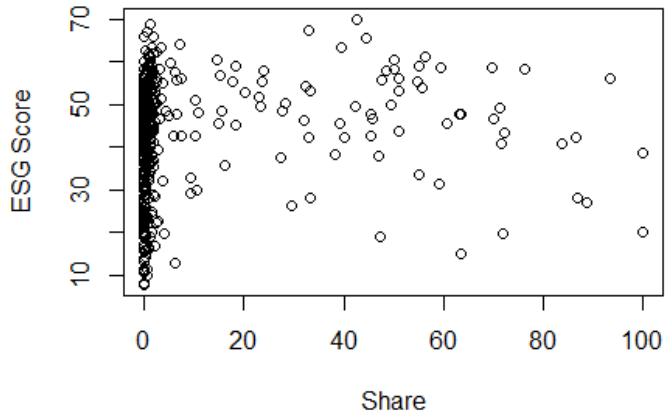


Figure A2.6: A plot of ownership shares less than ten per cent

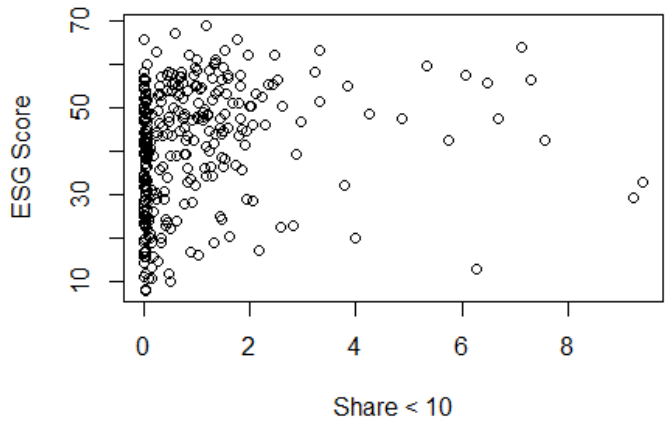
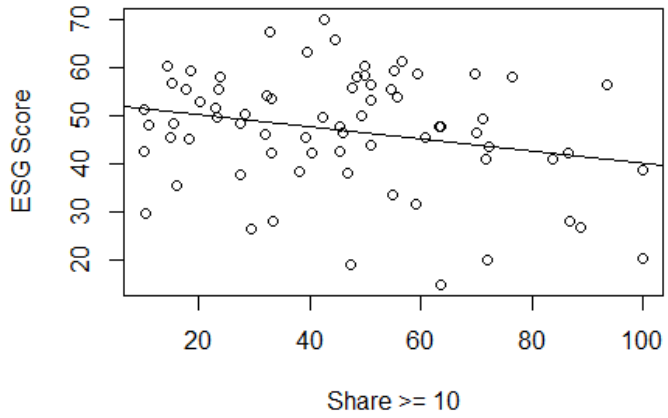


Figure A2.7: A plot of ownership shares between 10 and 100 per cent



A2.3 Regression Tables

Table A2.1: The impact of state ownership on environmental, social and governance scores

Variable of ownership	SOE (dummy)		
	(1)	(2)	(3)
Independent variables	ENV	SOC	GOV
SOE	7.555***	6.400***	2.512
	(2.074)	(1.920)	(1.316)
Country fixed effect	yes	yes	yes
Sector fixed effect	yes	yes	yes
No. Employees	0.009537	-0.0003264	0.00964
	(0.01364)	(0.01263)	(0.008653)
Board Size	1.075***	0.6503**	0.2609
	(0.2328)	(0.2155)	(0.1477)
Market Cap.	0.0001539***	0.0001147***	0.00007759***
	(0.00003155)	(0.0000292)	(0.00002)
Return on Assets	-0.02877	-0.000438	-0.06975
	(0.1377)	(0.1275)	(0.08737)
N	392	392	392

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A2.2: The impact of state ownership on the ESG score in different countries

Variable of ownership	SOE (dummy)
	(1)
Country	OLS
Austria	29.087**
	(10.706)
Belgium	13.420
	(10.592)
Croatia	34.465*
	(16.512)
Czech Republic	11.5
	(16.512)
Denmark	22.023
	(12.488)
Finland	12.747
	(12.042)
France	12.599
	(8.277)
Germany	17.695*
	(8.428)
Hungary	59.230 **
	(18.590)
Italy	17.676*
	(8.540)
Netherlands	5.882
	(11.564)
Norway	25.687**
	(9.075)
Poland	16.866
	(9.533)
Portugal	6.001
	(14.851)
Spain	17.186
	(14.496)
Sweden	8.028
	(10.301)
N	392

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A2.3: The impact of state ownership on the ESG score in different sectors

Variable of ownership	SOE (dummy)
	(1)
Sector	OLS
Communication Services	4.986
	(7.125)
Consumer Discretionary	5.130
	(9.252)
Energy	3.033
	(7.511)
Financial	-6.713
	(6.788)
Health Care	-14.962
	(14.238)
Industrial	-1.985
	(6.269)
Information Technology	13.041
	(14.331)
Materials	-7.990
	(7.953)
Real Estate	8.627
	(9.563)
N	392

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A2.4: The impact of state ownership on the ESG score including GRI and UNGC

Variable of ownership	SOE (dummy)
	(1)
Independent variables	OLS
SOE	5.042***
	(1.264)
Country fixed effect	yes
Sector fixed effect	yes
No. Employees	0.001183
	(0.008272)
Board Size	0.2855
	(0.1455)
Market Cap.	0.00008886 ***
	(0.00001928)
Return on Assets	0.05039
	(0.0838)
GRI	11.75 ***
	(1.111)
UNGC	8.534 ***
	(1.073)
N	392

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

A3 Interviews

The interviews are conducted via telephone or Skype in March and April 2019, and each interview lasts for approximately 40 minutes. We only interview people from the companies' sustainability or corporate compliance departments. The interviewees work in six different Norwegian companies across five different sectors, whereas half of the companies are partially state-owned. The next subsections will give a short description of each company and the overall structure of the questions we ask in the interviews.

A3.1 Background Information

Company 1 - Non-SOE in the industrial sector. The company has approximately 7,500 employees in 29 countries worldwide, and is in the market for shipping and vehicle logistics. Their main sustainability focus is on material issues, which imply issues that are both important for the company and their stakeholders. The company's motivation is grounded in a belief that sustainability is necessary to survive in the industry in the long term. They also view sustainability as an opportunity, not a threat. Furthermore, sustainability is important for the company in order to attract investors, employees and customers. The company is no longer a member of the UNGC as customers and owners no longer demand it. However, the company uses GRI to report on non-financial measures as this still is demanded of several stakeholders. The company does not pay attention to their own ESG score because they view it as irrelevant for their business. Moreover, the company is critical to ESG scoring because they believe the scores are calculated on superficial assumptions. In other words, they are sceptical of the methodology used to calculate the ESG score.

Company 2 - Non-SOE in the finance sector. The company only operates in Norway, and has approximately 1,200 employees. They want to contribute to a positive change in the society and have embedded this in their strategy. The company's motivation behind sustainability activities tends to be two-folded. On one side, they experience that society is increasingly concerned with sustainability. On the other side, they have not yet seen it as a requirement from their key stakeholders. However, the company expects more

sustainability demands from various stakeholders in the future, and therefore, they want to be prepared. The company reports according to the GRI standard, and they are a member of the UNGC. Concerning ESG scores, the company is somewhat sceptical as sustainability can be difficult to measure, in addition to the early stage ESG scoring is in. Thus, the company does not have a particular focus on ESG today, but they might increase their work on ESG factors if investors choose to go in that direction.

Company 3 - SOE in the industrial sector. The company employs around 11,000 workers across more than 25 countries, and is specialised in developing advanced technologies across diverse business areas. The company bases business activities on their sustainability strategy, which focuses on both risks and opportunities concerning sustainability. They especially focus on opportunities related to technology development. The company's motivation behind sustainability is grounded in their vision of being in 'world class'. Moreover, sustainability is important to attract customers, recruit talented workers and investors. As the Norwegian Government is the majority owner, they have annual sustainability meetings. The company believes SOEs have better ESG scores than non-SOEs as SOEs have certain expectations and requirements through their ownership. SOEs must be at the forefront and take action (e.g, avoid corruption), which gives stronger initiatives and drivers to perform socially responsible. Moreover, the company believes long-term ownership supports sustainable businesses. They became a member of the UNGC in 2006, and the reason is two-folded. Firstly, to show that they take sustainable development seriously, as it gives a signal to stakeholders. Secondly, it serves as a motivation, in addition to the broad network and courses it gives access to. The company also uses the GRI standard as it builds on the UNGC expectations. Concerning ESG scores, the company is not too familiar with it. However, they have got access to an ESG analysis of their company conducted by another ESG agency. The company is sceptical to ESG rating agencies as they found out that one agency based their scores on outdated information.

Company 4 - SOE in the material sector. The company, which is a provider of environmental solutions, has about 17,000 employees across more than 50 countries worldwide. Their sustainability focus is not incorporated into a sustainability strategy,

however, their core activities aim to be sustainable. For example, they provide information to their customers that is both environmentally sustainable and cost efficient. The motivation to be sustainable lies in their vision and mission. They also see that they can make a positive impact in the world through their solutions. The company is also experiencing increased focus and demand on sustainability issues from various stakeholders. The Norwegian state is an important shareholder as they are the majority owner, and therefore concerned with how they report and perform on sustainability tasks. The company believes one reason that SOEs perform better on ESG ratings than non-SOEs can be due to the companies' size, where SOEs often tend to be larger, and thus can provide more resources. The company is a member of the UNGC as they see it as a good way to organise and structure non-financial information. Furthermore, they report according to GRI as it fulfills the requirements of the Norwegian Accounting Act §3-3c. When it comes to ESG factors, the company is on the forefront, and established an ESG committee last year. They are positive towards the idea of ESG scoring, however, there are many different ESG agencies, and they all have different scoring methodologies, which weakens the confidence in such a score.

Company 5 - Non-SOE in the communication service sector, and provider of online marketplaces. The company has about 8,000 employees across 22 countries. The company's main sustainability focus is based on a materiality assessment, which especially identifies the importance of data and privacy. Furthermore, the company focuses on gender equality, as well as setting goals to fight their way out of the 'Me Too' scandal they were hit by. Moreover, the company recently started to use KPIs to measure sustainability. What has changed now in relation to the past is that top management has got these goals into their incentive schemes. They have been a member of the UNGC for approximately ten years, and have used the GRI standard to report on non-financial measures since 2017. Their motivation is driven by several factors, such as employee demands, and the recruitment of new employees as people increasingly want jobs with a purpose. In addition, the company's major shareholder is especially interested in sustainability. The company considers ESG scoring as important in order to attract investors. Moreover, the company pays attention to several ESG rating agencies, and they continuously work to improve their score, both on a short and long term.

Company 6 - SOE in the energy sector. The company has about 20,000 employees across more than 30 countries worldwide. Their main sustainability focus is climate and human rights. They are a member of the UNGC and report according to the GRI standard as it increases their credibility. Morover, as the Norwegian state owns about two-thirds of the company, these two sustainability activities are also expected. The company's main motivation to be sustainable is to survive as a company in the long term, and they acknowledge that it is not only enough to make money. Both employees and future employees demand sustainability, as well as certain investors. The company is positive towards ESG scoring, and they continuously work to improve their score. However, the company pays most attention to those areas that are most material for them. The company also compares themselves to competitors' ESG scores.

A3.2 Interview Guide

We start each interview with some general information about our master thesis, including the purpose, and explain that we mainly base our analysis on quantitative data on companies in the EU/EEA. We also ask the interviewees to tell us about his/her position in the company. Next, we start to ask questions related to the company's view and motivation towards sustainability. The questions we ask are based on the following interview guide. However, we allow ourselves to ask follow-up questions and discuss the interviewee's reasoning.

1. Can you tell us about your position and your responsibilities in company X?
2. What is your main focus in terms of sustainability?
3. What types of CSR activities does your company participate in?
    (a) Why are you (not) a member of the UN Global Compact?
    (b) Why are you (not) reporting according to GRI?
4. What is your motivation towards sustainability?
    (a) What impact does sustainability have on employees and customers?

   (b) What impact does sustainability have on recruitment and sales?

5. To what extent does the state influence your work on sustainability?
6. Why have you (not) integrated the SDGs in your company's strategy?
7. Who is responsible for sustainability measures and reporting in your company?
   (a) To what extent is top management involved with sustainability initiatives?
8. Are you familiar with ESG scores? If yes, then ask the following questions:
   (a) What are your thoughts regarding ESG?
   (b) How do you report on ESG factors?
   (c) What do you do to improve on environmental factors?
   (d) What do you do to improve on social factors?
   (e) What do you do to improve on governance factors?
   (f) To what extent do you use a third-party ESG rating agency to track your score?
   (g) To what extent do you use ESG scores as a benchmark?
9. How do you think state ownership in a company can impact its sustainability?
10. To what extent has your company changed its reporting on non-financial measures after the Norwegian government introduced § 3-3c of the Accounting Act for large enterprises in 2013?
11. Do you have anything more you want to add?