



SCHOOL OF ECONOMICS AND MANAGEMENT

ESG's Impact on Nordic Corporations' Materiality Reporting and Financial Performance

Jacob Edler

Ja1520ed-s@student.lu.se

29th of May 2020

Course Code: EKHK18
Type of Thesis: 15 Credit Bachelor Thesis
Supervisor: Kamaruddin Abdulsomad
Word Count: 13 865

Acknowledgement

I would like to thank my supervisor, Kamaruddin Abdulsomad who constantly encouraged me, guided me and gave valuable feedback during the entire process. Kamaruddin Abdulsomad was always available to give his advice and to suggest any kind of help. I would also like to show my appreciation to Erik Green for his contribution and feedback during the two progress reports.

Abstract

In 2005, the principle of ESG was introduced to the financial markets through the initiative, Principles for Responsible Investment. The initiative intended to urgently find a way to evaluate corporations based on their approaches towards environmental, social, and governance sustainability. The initiative was implemented during a time where the interest in sustainability and sustainable investing had reached new highs. The concept of ESG was pleasantly welcomed by the markets and quickly entered a state of upswing. Even though ESG was booming, few have paid attention to the materiality reporting that the corporations were publishing through the years. This study, therefore, aims to examine if corporations have been able to improve their materiality reporting amidst the ESG upswing, by examining the thirty largest publicly listed corporations in Sweden (OMXS30) during the time period of 2006-2018. The study will further examine if sustainable business models can motivate superior financial performance by observing seven Nordic “road model” corporations within the field of ESG.

Table of Contents

1. INTRODUCTION	6
1.1 INTRODUCTION	6
1.2 PURPOSE OF THE THESIS	6
1.3 RESEARCH QUESTION(S)	7
1.4 SCOPE OF RESEARCH.....	7
1.5 CONTRIBUTIONS TO THE INDUSTRY AND FIELD OF RESEARCH	7
2. BACKGROUND	8
2.1 DEFINING SUSTAINABILITY	8
2.2 THE COMPLEXITY OF MEASURING SUSTAINABILITY	8
2.3 CORPORATE SOCIAL RESPONSIBILITY	9
2.4 CORPORATE SOCIAL RESPONSIBILITY AND ESG	9
2.5 ESG - THE INDUSTRY STANDARD FOR CORPORATE SOCIAL REPORTING.....	10
2.6 HISTORIC BACKGROUNDS	10
2.6.1 <i>Historic Background SRI, CSR and ESG</i>	10
2.6.2 <i>History of the SDGs: The transition from the MDGs to SDGs</i>	13
3. LITERATURE REVIEW	14
3.1 REGULATORY ACTION PRESSURING FINANCIAL ACTORS TO TAKE ACTION.....	14
3.2 BIG RISE IN SUSTAINABILITY	16
3.3 ESG VERSUS FINANCIAL PERFORMANCE	17
3.4 Correspondence between ESG materiality and the Sustainable Development Goals.....	19
4. THEORETICAL FRAMEWORK	20
4.1 STAKEHOLDER MODEL THEORY	21
4.2 GREEN WASHING	21
4.3 EFFICIENT MARKET HYPOTHESIS	22
4.4 BEHAVIORAL FINANCE	22
4.5 METHODOLOGIES	22
<i>Methodology 1: ESG Materiality among OMXS30</i>	23
<i>Methodology 2: ESG versus Financial Performance in the Nordics</i>	25
5. RESULTS	26
5.1 ABSOLUTE DATA ANALYSIS ON ESG MATERIALITY OMXS30	26
5.1.1 <i>Environmental Pillar</i>	26
5.1.2 <i>Social Pillar</i>	29
5.1.3 <i>Governance Pillar</i>	31
5.2 RELATIVE DATA ANALYSIS ON ESG MATERIALITY OMXS30	33
5.3 DATA ANALYSIS - ESG VERSUS FINANCIAL PERFORMANCE NORDICS.....	36
6. DISCUSSION	44
7. CONCLUSION	46
8. LIMITATIONS	46
9. FURTHER RESEARCH	47
10. BIBLIOGRAPHY	48

List of Figures

Figure 1: Co2 Equivalent Emissions Total & Scope 3 (Absolute Numbers)

Figure 2: Water Withdrawal in Cubic Meters (Absolute Numbers)

Figure 3: Total Waste & Hazardous Waste in Tonnes (Absolute Numbers)

Figure 4: Recycling Ratio (%)

Figure 5: Women Employees & Women Managers (%)

Figure 6: Total Accidents & Injuries to Million Hours Worked

Figure 7: Turnover Employees (%)

Figure 8: Women Employees & Women Managers (%)

Figure 9: Median: Co2 Equivalent Emissions Total & Indirect Scope 3 / Total Revenue in Million SEK (Relative)

Figure 10: Water Withdrawal / Total Revenue in Million SEK (Relative)

Figure 11: Waste Total/ Total Revenue in Million SEK (Relative)

Figure 12: Rebased Share Price Performance: ESG cases vs. OMX Nordic Allshare 2009-2013

Figure 13: Rebased Share Price Performance: ESG cases vs. OMX Nordic Allshare 2014-2019

List of Tables

Table 1: Indicators showing improvement between 2006-2018

Table 2: Median Historic P/E ratios: ESG cases vs. OMX Nordic Allshare

Table 3: Median Historic PEG ratios: ESG cases vs. OMX Nordic Allshare

Table 4: Median Historic EBITDA-margins: ESG cases vs. OMX Nordic Allshare

1. Introduction

1.1 Introduction

The concept of Sustainability is not new to Nordic corporations. The popularity of Sustainability has, however, over recent years increased immensely, as the world has become more alert with the environmental damage that has been caused and how it's taking a toll on our future planet as well as other ongoing social and governance issues. In 2012, during the sustainable development conference in Rio de Janeiro, the new 17 Sustainable Development Goals were introduced. The objective of the new targets was "to produce a set of universal goals that meet the urgent environmental, political, and economic challenges facing our world" (UNDP, 2020). Since its implementation, the SDGs has become a guiding principle for Sustainability. The goals do well in identifying the improvements that each country must take on a national level but are limited in quantifying how the countries should get there and reforms it requires from private sector actors. Synonymously with the new sustainability reforms, however, the concept of sustainability reporting and ESG has been in an upspring. ESG stands for Environment, Social, and Governance and is a criteria standard for evaluating a corporation's operations. Corporations are evaluated in terms of how well or poor their operations are, taking account of Environmental, Social, and Governance factors. ESG has been a strong impetus for the corporate business world, although it first was put into use during 2005, it has not been until recent years that it has seen its significant upturn. With increased climatic tension, social awareness, regulation surrounding governance principles and institutional investment outflows from unsustainable corporations. ESG has become a concept corporations naturally have been forced to adopt, not to hurt the business financials in the long term. ESG has on the flipside become a lifting point for corporations that already adapt to green practices, maintain a socially sustainable business, and are governed with a sustainable outlook. By examining ESG's development throughout the time period 2006-2018, the study aims to understand if Nordic corporations have improved their materiality and if they have been rewarded with better financial performance through doing so.

1.2 Purpose of Thesis

The purpose of this bachelor thesis is to investigate if Nordic corporations' materiality reporting has improved amidst the ESG upspring as well as examining if ESG can improve financial performance. To examine materiality reporting, the study observes Environmental, Social, and Governance data from Sweden's thirty largest publicly listed corporations (also formally known as the OMXS30) between the chosen time period of 2006-2018. To evaluate if ESG can lead to superior financial performance, the study has identified seven Nordic Corporations

(Novozymes A/S, Vestas Wind Systems A/S, Nibe Industries AB, Tomra Systems ASA, Neste Oyj, Chr. Hansen Holding A/S and Rockwool A/S) which have become road models for maintaining a sustainable business approach by adhering well to ESG related issues. These corporations are compared to the OMX Nordic Allshare index, where financial performance is interpreted in terms of share price performance and selected financial multiples.

1.3 Research Questions

The research questions chosen for this thesis intends to be relevant and useful to governmental agencies and financial sector actors. The following questions will surround the thesis research.

- RQ1: Have the OMXS30 corporations improved their materiality reporting since the implementation of ESG?
- RQ2: Does a sustainable business model motivate superior financial performance?

1.4 Scope of Research

The research that is conducted regarding materiality reporting is limited to the thirty largest publicly listed corporations in Sweden (OMXS30). The reason why the given corporations have been chosen is that they collectively make up roughly 61% of Sweden's GDP (Börsdata, 2020) (SCB, 2018) and a large share of Sweden's environmental pollution; they further publicize annual sustainability reports which makes the corporations valid candidates for conducting a trend analysis upon. The research concerning the financial performance, is limited to the seven road-model ESG corporations (Novozymes A/S, Vestas Wind Systems A/S, Nibe Industries AB, Tomra Systems ASA, Neste Oyj, Chr. Hansen Holding A/S and Rockwool A/S) and compared to the OMX Nordic Allshare Index. The corporations have been chosen due to their eminent sustainable business models and is compared to the OMX Nordic All Share Index since the companies have their domicile in different Nordic nations.

1.5 Contributions to the industry and field of research

Given that environmental, social and governance-related issues are of high priority when it comes to the future of Nordics, and further noting that corporations are the biggest climate polluters', their progression towards greener and more sustainable practices are crucial if the Nordic nations are going to be able to meet its set out environmental, social and governance related goals. The study will aim to underpin if the rising ESG popularity has influenced corporations to improve their materiality reporting by observing the time period of 2006-2018. Although there is a great deal of research on sustainability reporting as a whole and what corporations should emphasize to improve their materiality footprint. There is a gap in

the field of research showing the progress corporations are making in terms of sustainability. The thesis will further underpin why sustainability reporting has increased over the time period by investigating if ESG can motivate superior financial performance, and if that then can be an incentive for the corporations (Crowther and Aras, 2020, 2020)(S&P Global, 2020) (Friede et al., 2015) (Morgan Stanley, 2019).

2. Background

2.1 Defining sustainability

This thesis will not attempt to revolutionize the way in which corporations nor environmental actors define and approach sustainability, it will, however, attempt to examine the progress that corporations are undergoing in terms of improving their materiality footprint. Nevertheless, it is, therefore, important to discern with the contrasting definitions of sustainability that coexist within the field. One of the most acclaimed definitions of sustainability is “meeting the needs of the present without compromising the ability of future generations to meet their own needs” and comes from the UN World Commission on Environment and Development (UN, 1987). The definition proposed by the UN is broad and encompasses the ultimate goal for sustainability. It could be argued that the proposed definition is the center stone for what we are striving for globally, on a more state and corporate level, the definition, however, becomes difficult to relate to. On a corporate level, sustainability is rather defined as “a business approach that creates long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments” (Yale University, 2017).

2.2 The complexity of measuring sustainability

Measuring sustainability can become shallow through a research perspective, especially if environmental sustainability solely is viewed through the amount of carbon emissions that a corporation is emitting. A corporation may, for instance, emit small amounts of emissions but may adopt unsustainable business practices and/or manufacture unsustainable products. For instance, a corporation that manufactures single-use plastic cups and uses one-hundred percent fossil-free energy in the manufacturing process may from a production standpoint seem to be sustainable, however, these single-use plastics could still at the end of its lifecycle end up polluting nature and the world oceans, therefore proving otherwise. Conversely, a company that for instance operates public busses may have high direct emissions in terms of carbon dioxide

output, but could yet be seen as an environmentally friendly company as a public bus can transport a large number of people which then lowers the per head output of carbon dioxide. In this thesis, Sweden's thirty biggest corporations are evaluated on selected Environmental, Social, and Governance metrics over the time period of 2006-2018. The corporations are evaluated on Direct and indirect emissions, total emissions, water withdrawal, waste output (hazardous and non-hazardous), recycling rates, women employees, women managers, injuries to million hours worked, accidents total, turnover of employees, executive gender diversity, board gender diversity, independent board members and board cultural diversity to see whether their improvement in recent years has been attributed to the ESG upspring (UNDP, 2020).

2.3 Corporate Social Responsibility

The categorizing term for sustainability with the corporate sphere is “Corporate Social Responsibility”, informally known as CSR. The definition of Corporate Social Responsibility according to the European Commission is “a concept by which companies decide voluntarily to contribute to a better society and a cleaner environment by going beyond compliance and investing more into human capital, the environment and the relations with stakeholders” (EU Commission, 2002, Version: 5, p. 347). CSR is as the definition entails a broad term within sustainability, it’s more of an organizational policy that should be incorporated in the business model, but how CSR is integrated can differ a lot from business to business and between industries. CSR differs from criteria standards such as ESG though, ESG is a more descriptive standard and can be applied to all companies and sectors. Even though ESG falls under the branch of CSR, ESG incorporates comparable metrics that can be used for evaluating corporate sustainability, thus why ESG has been chosen as the quantitative standard for this thesis (Crowther and Aras, 2020).

2.4 Corporate Social Responsibility and ESG

In the corporate sustainability field, there are plenty of actors initiating corporate social reporting systems. This thesis will adapt ESG as the evaluation system, though the ESG metrics are industry-specific and are superior in addressing the key issues concerning Environmental, Social and Governance factors. The Environmental, Social and Governance data that ESG incorporates is also largely comparable with makes it a valid candidate for this thesis. The chosen provider for attaining the ESG data will be Thomson Reuters. Thomson Reuters benefits over other providers such as Sustainalytics and Morningstar are that they intuitively present ESG data for all thirty companies. The reason why multiple platforms are not used is that it might hurt the validity of the findings though each provider intuitively presents the ESG data

differently. From Thomson Reuters the main data that will be used is the ESG materiality data, implying the environmental data in terms how well the corporation manages waste, pollution, direct and indirect carbon emissions, deforestation, hazardous waste, and climate change; social data in terms of how well the corporation handles its staff, gender equalities and the community; and governance data in terms of how well the company is run from an ethics and equality standpoint. The ESG criteria scoring that Thomson Reuters provides in an A-F format is not applied in the study. This is because criteria scoring mostly is being used in the financial sphere for investors to understand the overreaching sustainability standpoint of a specific corporation. Although the ESG scoring system (A-F) is good in the sense that you can reflect upon how the evaluated companies have improved over time through. Ineptly, there is no industry standard and standardization to the grading system, meaning that each actor can approach the ESG criteria differently, making it inaccurate to use. The study will, therefore, use the absolute materiality ESG data as the factual ground for the research.

2.5 ESG - The Industry Standard for Corporate Social Reporting

ESG has transformed itself into becoming the dominating way of measuring sustainability. Measuring sustainability for corporate actors has become complex, many different actors and Corporate Social Reporting (CSR) systems have evolved. ESG has, however, become the industry standard that corporations and regulatory institutions have adapted to. ESG embodies sustainability through three key factors, Environmental Sustainability, Social Sustainability, and Governance Sustainability. This thesis is trying to use ESG to underpin if it has had a positive effect on the materiality reporting among the OMXS30 corporations by examining the time period of 2006-2018.

2.6 Historic Backgrounds

2.6.1 Historic Background SRI, CSR and ESG

Socially responsible investing (SRI) first emerged during the 1980s and 1990s. The early SRI traditions were influenced by the transformative period of the 1960s and 1970s, a period which had foreseen a big uprising in anti-war movements, racial equality, environmental issues, gender equality, and consumer protection rights. These cultural and social reforms are often marked down as the chronicle of traditional SRI. The newly progressive values would combine with faith-based values to create what we know today as the social criteria for socially responsible investing. The period that followed after this saw the establishment of mutual funds that reflected civil rights-era sensibilities and faith-based value uses (Bailard, 2020, pp. 4-6).

Even though an investment pattern in socially responsible investing developed during the period especially in regards to the “social” pillar, SRI was still going against conventional investing principles and would not be put to wide use until a few decades later. Despite this SRI had started to prompt more and more respect though it was ever-changing progressive views and cultural norms. As the general society was starting to react to the issues relating to nuclear energy, LGBTQ movements, apartheid, GMO technology, and climate change SRI had jumped on the bandwagon and started adding more principles to its guidelines. The apartheid and climate change became the most historical reference points to why and when SRI started. Professors around the world, however, argue that the most outstanding catalyst was the end of the Vietnam war (Bailard, 2020, pp. 6-7).

The end of the 1960s and a period where the Vietnam war had become ever more complicated, socially-minded investors and the general population had become more dissent with the ever-going war efforts. People were realizing that their portfolios were profiting from the war effort, which went against all religious grounds. Many people then took a step back, and by the rise of the 1970s some people in North America began envious efforts to come up with ways to avoid “war profiting”. The plain sailing panacea in war profiting came during the development of Agent Orange, which was an herbicidal warfare act deployed over five years in South Vietnam. Agent Orange developed by the US Department of Defense, consisted of a vast combination of toxins and was deployed with the intent to terrorize the Vietnamese population and defoliate forests. The toxin was in no way a morally correct war act and as a result, the corporation Pax launched its “World Balanced Fund” as a panacea and strategy for people that wanted to divert their investment from the Agent Orange toxin (Bailard, 2020, pp. 7-8).

The launch of the “World Balanced Fund” was not only a recipe for the ongoing immoral war acts but did also correspond well with the ongoing environmental movements in the United States that; stressed toxics, water quality, pollution, air quality, and nuclear plants. Pax would soon after its implementation receive company, from other socially responsible funds who joined the journey by applying progressive values into their investment thesis. Among those actors was Dreyfus Third Century Fund which was launched with \$25 million in capital and had a prospectus stating “show evidence in the conduct of their business, relative to other companies in the same industry or industries, of contributing to the enhancement of quality of life in America.” First Spectrum Fund was also launched with the intent of never making an

investment without analyzing the corporation's performance regarding “the environment, the protection of consumers, and civil rights” (Bailard, 2020, pp. 8-9).

Many important things were done for SRI during the 1970s, one of the most credited actors during this period was Milton Moskowitz. Moskowitz was an early pioneer when it comes to emphasizing the importance of being transparent as a corporation, being a corporate citizen, and the idea that employees should be well-treated. During Moskowitz's time, the idea of Corporate Social Responsibility (CSR) was almost nonexistent, there were a few sources of CSR information at hand, but Moskowitz would become the strawman for CSR which other researchers could build on overtime. Moskowitz had also built the foundation of the CSR industry. Even though it would take decades before the academic research and CSR consulting came into full practice, Moskowitz a few years later started publishing lists of “Responsible” corporations. He further tracked these “responsible” companies against the broad indices and went as far as establishing a list of “irresponsible” companies. Moskowitz's work shed light on the civil rights era and was a true pioneer in the early SRI consulting industry. He continued his career by co-publishing “100 best companies to Work for in America” in 1984 and in 1994 the Moskowitz prize was founded with the intent of recognizing individuals who uniquely discover new ways to peer-test academic research in the field of socially responsible investing. Over the years the early works by Moskowitz have been developed and CSR has continued to grow and expanded tremendously (Bailard, pp. 9-10).

By the middle of the 2000s, debates were held concerning how CSR could be used for analysis, on the premise of Environmental, Social, and Governance concerns. In 2004, this story began, the then UN Secretary-General Kofi Annan got into contact with over 50 CEOs of major global corporations, inviting them to a joint initiative in support of the International Finance Corporation (IFC) and the Government of Switzerland, with the goal of finding ways to implement the newly established term ESG into the financial markets. The initiative was endorsed and executed with success, and after one year the UN published the report “Who Cares Wins”. The report put forth that the embedding principles regarding environmental, social, and governance factors in the financial markets made sense from both business and financial standpoint. However, foremost emphasized that it would lead to a more sustainable business world that would have positive results for societies around the world. Simultaneously the United Nations Environment Programme Finance Initiative (UNEP FI) produced their report named “Freshfield Report” which demonstrated that ESG should have an impact on financial valuation. These two reports would form the backbone of the modern principles of responsible

investment (PRI) which would launch the sustainable stock exchange initiative in 2006/2007 (UN, 2020) (Bailard, 2020, p.10) (Kell, 2018).

Initially, some corporations and investors were reluctant to the concept of ESG following its launch, due to many stating that it could hamper financial performance, however, tides shifted during 2013/2014 after the first studies showing that maintaining good corporate sustainability contrarily can improve financial performance were published. Today, ESG has accelerated to a point where it greatly can improve corporations' financial performance, corporations are therefore nowadays spending trillions of dollars worldwide to improve their business model through an ESG standpoint (Kell, 2020).

2.6.2 History of the SDGs: The transition from the MDGs to SDGs

Even though this study does not aim to examine the Sustainable Development Goals, they are crucial, as a factual ground to the study as the field of Sustainability including ESG and other Corporate Social Responsibility (CSR) systems largely revolves around the goals.

The Sustainable Development Goals (SDGs) were introduced during the UN Conference on Sustainable Development in Rio de Janeiro in 2012. The objective of the new goals was to “produce a set of universal goals that meet the urgent environmental, political, and economic challenges facing our world”. The Sustainable Development Goals after its initiation in 2015 replaced the global effort of the Millennium Development Goals (MDGs) which started in the year of 2000, with the foremost goal of tackling the “indignity of poverty”. The MDGs were largely successful during its 15 years in service, they tackled important areas such as “Reducing income poverty, providing much-needed access to water and sanitation, driving down child mortality and drastically improving maternal health”. The goals further kick-started the movement towards universal free primary education and inspired/emphasized the great need for nations to invest in their future generations. The MDGs further made significant improvements in combating infectious/mortal disease such as Malaria, Tuberculosis, and HIV/AIDS.

Even though the MDGs achieved a lot (listed as key achievements below) there is much that remains unfinished in terms of development progress. The SDGs therefore now emphasize the urgency for the world to take on a more sustainable shift (UNDP, 2020).

Key Achievements - Millenium Development Goals

- More than one billion individuals lifted out of, what has been classified as extreme poverty (since 1990)
- Child mortality rates reduced by more than half (since 1990)
- School participation for children has increased by more than factor 2 (since 1990)
- The number of recorded HIV/AIDS cases has fallen by 40 percent (since 2000)

The SDGs now take on new and bold challenges that the world is facing today. Seventeen interconnecting goals were outlined in 2015 to try to deal with issues relating to natural resource management, threats to climate impacts, improving and fully achieving gender equality, bettering general health to eradicate poverty, improve inclusiveness in societies to reduce inequalities and to better foster peace globally. The outlined SDGs further fully corresponds with the COP21 Paris Climate conference agreement reached in 2015 and the Sendai Framework for Disaster Risk Reduction signed in 2015. The agreements aim in cooperation with the SDGs to improve and set a common framework for how the world should reduce its carbon footprint and risks associated with climate change (UNDP, 2020).

3. Literature review

3.1 Regulatory Action pressuring Financial Actors to Act

A major reason explaining the upswing in ESG in recent years is justified by a multitude of actions of regulation pressuring corporations in terms of Environmental, Social, and Governance factors. From an environmental standpoint, the polluting industries are going to be faced with big climate regulations including hefty carbon taxes if they don't reconstruct their business model by making it greener. The climate regulations are not only of interest to the corporation's directors and board members but will and already have been a concern to both institutional and private investors. In May of 2018, the EC (European Commission) put forth a new regulatory framework targeted at environmental sustainability aimed at corporations, especially those publicly listed on the stock exchanges. The European commission's proposal was welcomed by the markets and would not only improve corporations understanding of how sustainability can be approached but has also improved the foundation for how sustainability can be observed and compared from an investor standpoint. The regulations further act against corporations that previously undisclosed their sustainability measures (European Commission, 2020).

The European commission's regulatory framework proposal consists of three elements (EC 2018) which will be explained briefly.

- Establishment of a consolidated classifications system, which in detail defines what should be considered a sustainable corporate activity. This system has been named the EU taxonomy.
- Stricter requirements for how corporations disclose their corporate activities, to improve the conditions for how institutional/private investors can assimilate ESG in their investment decision process.
- Establishment of new categorization benchmarks to help institutional/private investors compare the environmental footprint of their investments.

The proposal by the European Commission is a step in the right direction when it comes to making sustainability reporting obligatory in the future (EU taxonomy for sustainable activities, 2020).

Social sustainability is a further issue that corporations have started to assimilate with. The increasing interest in ESG has motivated investors to fully understand the corporation's business model. Investors therefore now, more than ever look at the social criteria in regards to how well employees, customers, suppliers, and communities are affected by the corporation's business. To give an illustrative example; a particular investor may, for example, examine the safety of employees' working conditions and how well the corporation acts to give back to communities where the operations are held. Maintaining unsafe working conditions and disregarding local communities is not only a tangible risk from a financial standpoint; in the terms that they might attain a higher sick-leave ratio and high employee turnover rates but it will also lead to investors becoming more hesitant to invest in the given corporation. This relationship was examined by the Investor Research Center Institute (IRRCi) and Harvard professors which demonstrated a positive correspondence between financial performance and workplace relationships. Another study conducted by Oxford researcher's incorporation with New York University further emphasized that there is a link between social and financial performance as a whole (Labor and Worklife Program, 2020) (Harvard University and New York University, 2006) (UN Global Compact, 2020).

Governance concerns and the last factor making up the ESG trio and has when evaluated historically been crucial in the ESG sphere. Even though a company in question approaches environmental and social issues well, corporate governance has become the final building block

of ESG. If the board members and top executives are not committed to driving sustainability issues forward, the given company is likely to score badly in terms of governance overtime and is likely to be affected by governance-related regulation (Corporate Governance and Sustainability, 2020).

When considering the governance of a specific corporation, the board members are often considered as the principal actors. The board members can oversee the corporation's decision-making process and the top management, they are often the function that is there to enhance governance within the corporation. The board members are support functions for the top management but are also crucial for driving sustainability-related outcomes. As of recently “ad hoc,” sustainability boards have been put into use and become the leading way of achieving good corporate governance, through setting up an external board function that guides and monitors the sustainability strategy of a given corporation. The financial sector interprets this as a better way to approach sustainability, as the “ad hoc” board can offer advice on how to best deal with environmental and social issues (LUBcat Katalog, Corporate Governance, and Sustainability, 2020).

The importance of corporate governance has further been in an upswing due to tightened regulations for how board committees should be dealing with sustainability. The European Non-Financial Reporting Directive is one type of regulation pressuring the governance of corporations, however, more governance-related regulation has also been put into use, for instance, the gender ratio kept in the board, the number of independent board members and the cultural diversity of the board members (Corporate Governance and Sustainability, 2020).

3.2 Big Rise in Sustainability

Previous segments introduced ESG and that Socially Responsible Investing started decades ago, although these concepts became well-known and adapted to, the research institute Amundi (Mortier, 2020) argues that it was not until 2014, that the big break took place. Mortier (2020) drew this conclusion by examining the time period 2010-2019. Between 2010-2013 they observed the best ESG corporations versus the worst ESG corporations, throughout this time period an investor had made negative returns investing in ESG corporations in North America and Europe, a trend which remained the same for all pillars of ESG (Environmental, Governance, Social). In 2014, they, however, discovered a big reversal in the negative trend, where returns all of a sudden turned to positive. Mortier (2020) attributes this break to the

observed mobilization of institutional investors to ESG. Mortier (2020) however also mentions that even though there has been a big break in ESG between 2014-2019 especially in Europe, it may not be enough to write a long-term success story. Certainly, ESG and sustainable investing are at the intersection of most policymaking and indeed, investors do affect the demand and supply of equities, when they act upon their individual views. Governments are however the biggest financial gear when it comes to the financial outcomes of ESG, though they are the actors with the power hammer when it comes to regulation in the field.

Mortier (2020) attributes the biggest relative ESG movements in the Eurozone over North America to two factors. Firstly, the American withdrawal of the UNFCCC (Paris Agreement) could have had an impact on the asset allocation towards the environment. Secondly, they noticed that the European market has a bigger Alpha (young generation) who has shown interest in ESG issues compared to North America, which can explain some of the movements.

Mortier (2020) further made an interesting discovery in their study. Between the time period 2010-2019, they indicated that the social pillar was lagging in terms of performance when compared to Environmental and Governance factors. They have, however, observed an empirical change, suggesting that since 2018 social factors have been outperforming the latter pillars. They proved this trend-shift through examining the 20% best-ranked ESG corporations compared to the 20% worst-ranked ESG corporations for Eurozone and North America, which then was compared to the MSCI social index. Mortier (2020) found that the social index returned more than 0,6% than the constructed portfolio in Europe and 0,4% in North America. Mortier (2020) attributes a possible cause of the decline to the development made within social narratives and that it has been the last frontier that investors now have started to explore.

3.3 ESG versus Financial Performance

The previous sections symbolized that Environmental, Social, and Governance all have their pull factors when it comes to sustainability. Even though corporations do want to improve their sustainability standpoint to have an all-around healthier business model, the given upspring seems to mostly derive from the projected economic and financial performance that a corporation can attain by improving their ESG profile. ESG related investing reached 30 trillion USD in 2018, which was an increase of 25% compared to the period 2014-2016. Given that millennials are projected to inherit an additional estimated 30 trillion USD in the coming years and that according to Morgan Stanley (2020) are nearly twice as likely to firmly adhere to ESG

values in their investments; there is a lot of potential for corporations seeking to improve their financial performance if they adhere to improving their ESG profile and business model (S&P Global, 2020).

To evaluate if ESG can lead to better financial performance, the thesis turned to one of the most comprehensive meta-studies surrounding the subject, which was conducted by Friede et al. (2015). Their study evaluated existing studies that discussed the relationship between ESG and financial performance. Their results suggested that out of their 2,200 evaluated studies, 63% of studies suggest a positive trend, 48% of vote-count studies also showed a positive correlation and that less than 10 % of studies reflected a negative trend. The study further revealed that 90% of studies suggested a non-negative correlation (positive or neutral) between ESG and financial performance, with the majority suggesting positive findings (Friede et al., 2015).

The study further emphasized that how a corporation performs regarding material sustainability relevant to other sector peers can determine overall performance. They emphasize that material sustainability and ESG profiles can vary greatly depending on where the corporation is situated geographically and the sector its active within (Friede et al., 2015) (Morgan Stanley, 2020).

Further individual studies strengthen this relationship; Eccles et al. (2014) published a research paper on the impact of sustainability within organizational achievements and processes. The paper discussed, compared and contrasted different parameters within the sustainability sphere, and suggested that in the long-term sustainability will benefit corporation' financial performance if adapted correctly. To show for their results, they gathered data from 180 corporations in the United States that had adapted well to sustainability strategies. The researchers compared different critical financial ratios and found that when comparing different sustainable companies and their respective performance. It was evident that corporations that were trying to use sustainability as a short-term driver were more likely to underperform in relation to those, who over time, had built up a robust sustainability approach. These findings further suggest that short-term sustainability initiatives are not enough to trigger better financial performance, preferably a full transformation and rearrangement of the approach is needed to accustom to all the benefits of being a sustainable corporation in the long-term (Eccles et al., 2014).

Another researcher with the name of Belghitar et al. (2014) conducted another investigation by taking a slightly different angle. Belghitar looked at different indices rather than individual corporations, which opposed many traditional methods which mostly have been constructing ESG portfolios. The researchers made a comparison between the FTSE4Good Index and the performance of the market portfolio. The FTSE4Good which was used, measured the performance of corporations who have attained a high ESG rating. The Index included 488 corporation and was examined between the time period was 2001 to 2010. The FTSE4Good Index was observed in the four available markets: Global, US, Europe, and the UK. The study did however, during this time period find that the FTSE4Good Index was underperforming when compared to more traditional indices; they showed that the corporations included in the Index were yielding worse returns and had higher risk embedded. Contrarily, however, referring back to the meta-study that was conducted by Friede et al. (2015), ESG and financial performance seem on the overall spectrum to have a non-negative effect and that avoiding stocks with a poor ESG score can lead to significant financial. The study by Mortier (2020) further emphasized that ESG's most significant upswing has taken place since 2014; it will, therefore, be interesting to examine if this is the trend applied within the frame of the Nordics.

3.4 Correspondence between ESG Materiality and the Sustainable Development Goals

In 2018, the academic research institute MDPI put out a research paper called “The Relationship between Investor Materiality and the Sustainable Development Goals: A Methodological Framework” where the researchers Betti et al., (2018) compared the SDGs to the Sustainability Accounting Standards Board (SASB) - which is a non-profit organization that gives guidelines for disclosure standards across different sectors on ESG related topics. The objective of their study was to map thirty ESG issues as identified by the SASB and then evaluate the relationship that these ESG issues had with the SDGs and their sub-targets. They aimed to illustrate that SASB ESG issues are better at measuring materiality than other systems. They further tested which ESG issues had higher impacts on the SDGs than other targets. With the ultimate goal being, to observe if “value-creating performance” contributes to the achievement of the SDGs. The further stressed the important role that the private sector plays in the achievement of the SDGs (Betti et al., 2018).

The findings of the MDPI research paper showed that; some corporate sectors reflected a more significant impact on the SDGs and that some SDGs were more impacted by the ESG topics than others. The first suggested that few corporate sectors will determine how well the SDGs

goals are met. The latter suggested that some SDGs significantly benefit from private sector actors “doing well” in terms of ESG issues. The paper further emphasizes that; since the SDGs are defined as a dichotomous variable namely “ impact/no impact”, it becomes most relevant to measure material issues, with quantifiable and measurable data, such for instance greenhouse gas emissions where a trend clearly can be identified to then make the deduction if it is probable that the given material issue is likely to have an impact on a SDG or sub-target(s). Measuring non-material and dichotomous variables included in the ESG framework, on the flipside becomes difficult to analyze as argued by the paper. This has to do with that if a given ESG parameter lacks factual data, it becomes difficult to deduct the impact that it may or may not have on the SDGs (Betti et al., 2018).

In the concluding remarks of the study, the researchers further emphasize that “If good metrics existed for company performance on their material issues, one could use these ESG measures as proxies for SDG impact”. This statement further emphasizes the validity of the proposed thesis, though my thesis will be examining ESG metrics to understand the underlying process that is being made by corporations regarding Environmental, Social and Governance factors and how that is having a direct impact on the material reporting of the corporations (Betti et al., 2018).

4. Theoretical framework

In this section, the theoretical framework will be explained. The section introduces various theories such as Stakeholder theory, Green Washing, Efficient Market Hypothesis, and Behavioral Finance Theory.

4.1 Stakeholder Model Theory

R.E Freeman founded the theory behind the stakeholder model in connection with the publication of his book Strategic Management: A Stakeholder Approach (1984). Freeman and McVea (2001) argue that stakeholders that influence the long-term success of a given corporation should be considered. By considering the different perspectives of the actors, the authors believe that the success of the company is ensured. They urged that it is important to implement processes to manage relationships with the company's stakeholders in a strategic way. Furthermore, companies are considered to create a stakeholder strategy by actively working on the business environment and relations with their stakeholders, while at the same time trying to promote shared interests.

The term stakeholder can be defined in different ways. The first time the word appeared was in a Stanford memo in 1963, and stressed the importance of shareholders and that stakeholder management should be responsive to their input though they belong to a group on which the organization depends. Freeman later defined stakeholders as - "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984), resulting in a broader spectrum of groups and individuals. Since then, the concept has adopted different definitions, but there is a common ground in research, that companies should consider the different interests of their actors (Clarkson, 1995; Hill & Jones, 1992; Freeman, 1984; Evan & Freeman, 1988).

The stakeholder model often returns in previous research to explain corporate sustainability commitment (Arayssi et al., 2016; Manita et al., 2018; Velte, 2016). Changes in society mean that stakeholders today expect more than financial result by instead also demanding social and environmental performance (Freeman 2010; Velte, 2016). The stakeholder model can therefore partly explain the development of the ESG rating system, though it initially was developed as a tool upon stakeholders' requests to have an oversight of the company's sustainability work. Corporate survival and continued success depend on managers' ability to create enough value and satisfaction for each stakeholder group (Clarkson, 1995). Furthermore, Clarkson discusses that it is up to each company to decide how they tackle stakeholder requirements. The consequence is that the company is exposed to risks if these requirements are not met; where failure can lead to a loss of stakeholders.

4.2 Green Washing

With more people and investors becoming more accustomed to the concept of sustainability and ESG, corporations have become eager to capitalize in the form of marketing, convincing target groups, both avid buyers of the corporation's products and investors that their business is environmentally friendly. Although some corporations have gone to great lengths to make their products and services more environmentally friendly, there are also a handful of players who wrongfully have attempted to capitalize on this environmentally-friendly trend. Corporations have achieved this through slick branding, packing, and advertising. Greenwashing has confused customers and investors, to achieve credibility in the long term, it is, therefore, crucial for investors to understand if the given corporation is improving its environmental footprint and that it is transparent about its environmental efforts. (Jeevan, 2020)

4.3 Efficient Market Hypothesis

The efficient market hypothesis (EMH) is a well-recognized theory within the financial markets, which states that public information always is reflected in the stock price of a particular corporation. The hypothesis further suggests that in the long run, it is impossible to outperform the market. The EMH model suggests that to achieve high returns, an investor has to be willing to take on high risk (Fama, 1970).

The EMH is branched into three different versions, a weak form, a strong form, and a semi-strong form. Where the level of strength of the hypothesis is dependent on the amount of information that is reflected in the stock prices. The weakest form of the EMH affirms that information can be examined to understand how it impacted historical returns and prices. The semi-strong form of the EMH enlarges this concept by expanding the observed informational level to all public information. The strongest form of the EMH enlarges this concept further by expanding the observed information to all information, including insider information (Fama, 1970).

4.4 Behavioral Finance

Behavioral finance is a relatively new concept in the field of finance. The theory has added substance to the traditional financial efficient market theories, though, the traditional theories have missed to capture important components of the market. The behavioral theory tries to fill in this gap by stating that investors, whether institutional or private, are not rational. The theory emphasizes that mispricing in the markets will not be corrected automatically. This opposes traditional efficient market theories that all types of mispricing will be corrected by arbitrageurs. Though the behavioral market theory emphasizes that markets oppositely are inefficient and that all corporations would not be priced correctly, it states that the markets will always oppose undervalued as well as overvalued corporations (Bodie et al., 2014). The behavioral finance theory further states that inefficiencies arise from two variables.

Firstly, institutional and private investors seldom process market and corporate information correctly, which affects the returns and corporations' performance. Secondly, investors active in the financial markets make subprime investment decisions even though the probabilities are in their favor. Which largely derives from that investors are driven by behavioral biases, which affect the investment decisions they make (Bodie et al., 2014). The reason why these biases arise, Bodie et al. (2014) attribute to that investors misestimate outcomes due to errors being

made in the processing of information. They argue that representative biases and extreme prognostication estimates often lead investors to over-aggravate the probabilities of future outcomes with extreme optimism. Bodie et al. (2014) further argue that investors draw too rapid conclusions based on a small sample of news or evidence in their investment theses. Given that patterns are too quickly assimilated with prognostics for futures returns arise though, errors are made when decisions are made too rapidly on too small data samples (Bodie et al., 2014).

Another branch of behavioral biases occurs with mental effect and accounting. Mental effect and accounting arise when investors diversify and separate their investment theses based on the corporation in question. The traditional financial theory points to that all investments have the same return when risk is taken out of the equation, behavioral financial strategies, however, widens this perspective by emphasizing that investors balance their portfolio with varying degrees of risk depending on the objective and purpose of the portfolio. To emphasize the discrepancy between traditional theories and behavior finance, behavioral financing theories add one aspect, "effect." The feeling of effect is an aspect an investor may want to consider into his/her or the institution's investment thesis. Investors are not always looking for maximizing returns but may rather emphasize the "feel good" factor when investing. In the long run, if investors adapt to a similar strategy, investors can misprice certain corporations leading to them becoming overvalued (Bodie et al., 2014).

4.5 Methodologies

The previous readings and theoretical frameworks have inspired the development of the methodologies. Mortier (2020) has assisted in identifying the given time period of the study and emphasized what has been driving sustainability in the given years. Eccles et al. (2014) have been of great influence on the ESG versus Financial performance study though they conducted a similar study focusing on American Corporations. Given the methods that they applied, the study has developed and expressed its methodologies in the following sections.

Methodology 1: ESG Materiality among OMXS30

To answer the first Research Question, "Have the OMXS30 corporations improved their materiality reporting since the implementation of ESG?" The thesis will investigate the correspondence between ESG and the material output of the top thirty biggest corporations in Sweden (OMXS30) by scrutinizing the time period 2006-2018. To examine this relationship, a quantitative study will be applied. The ESG data will be attained from Thomson Reuters and their sub-platform Thomson Reuters Datastream.

To examine the outlined relationship, the initial step will be to expatriate ESG data from the Thomson Reuters platform for the thirty corporations (*list of corporations stated below*). The data will then be analyzed, and a trend-analysis will be created. The analysis will be examining selected environmental, social, and governance data to see the progression that they are making towards maintaining a more sustainable business model.

After expatriating the data from the Thomson Reuters platform, the data will be analyzed and consolidated. The corporations will be grouped up, and the Median will be calculated for each of the observed parameters within the three pillars of ESG for each of the subsequent years between 2006-2018. The data analysis will present both the absolute numbers (in terms reported numbers) but will also incorporate a relative segment, where environmental data will be adjusted for the corporation's revenue for each given year. The reason why Median will be used is that each corporation will have reported varying material values, the Median, therefore, gives better statistical outcomes, though using the mean would skew the results, given that one corporation may report much higher or lower numerical values than the other twenty-nine corporations.

Upon consolidating the medians for each of the tested indicators for the subsequent years, a time-series analysis will be initiated. The time-series analysis will allow the study to explore how the OMXS30 corporations have performed as a group for each of the indicators during the explored time period. The trend will be graphed for each of the given indicators, and the trend that is depicted will be analyzed and commented upon.

List of corporations:

- ❖ ABB
- ❖ Alfa Laval
- ❖ Assa Abloy
- ❖ AstraZeneca
- ❖ Atlas Copco
- ❖ Autoliv
- ❖ Boliden
- ❖ Electrolux
- ❖ Ericsson
- ❖ Essity
- ❖ Getinge
- ❖ Hennes & Mauritz
- ❖ Hexagon
- ❖ Investor
- ❖ Kinnevik

- ❖ Nordea Bank
- ❖ Sandvik
- ❖ SCA
- ❖ SEB
- ❖ Securitas
- ❖ Skanska
- ❖ SKF
- ❖ SSAB
- ❖ Swedbank
- ❖ Swedish Match
- ❖ Svenska Handelsbanken
- ❖ Tele2
- ❖ Telia Company
- ❖ Volvo

Methodology 2: ESG versus Financial Performance in the Nordics

To answer the second Research Question, “Does a sustainable business model motivate superior financial performance?” The thesis will investigate the relationship between ESG and financial performance. To examine this relationship, a second quantitative study will be applied. Where the methodology has been inspired by the previous research of Eccles et al. (2014), who conducted a similar study with the focus of American Corporations.

To conduct this study, the ESG data will initially be expatriated from the Thomson Reuters platform, however, dissimilar to the main study of the paper, this segment explores seven corporations (Novozymes A/S, Vestas Wind Systems A/S, Nibe Industries AB, Tomra Systems ASA, Neste Oyj, Chr. Hansen Holding A/S and Rockwool A/S) that have become road models within ESG in the Nordics, these corporations will be compared to the OMX Nordic Allshare Index. Financial data including Share Price performance, Price to Earnings (PE), Price to Earnings over profit growth (PEG) and EBITDA-margins will be expatriated for the seven corporations, this data will then be compared to evaluate if ESG and financial performance have a correspondence. Dissimilar to the main study of the paper, the study will evaluate the time period of 2009-2019 and not 2006-2018. The reason why this time period was chosen is that we do not want the financial crisis in 2008 to hinder the results of the study and further understand how the ESG trend has proceeded up until the end of 2019.

Upon consolidating the medians for each of the tested indicators for the subsequent years, a time-series analysis will be initiated. The time-series analysis will allow the study to explore how the chosen seven corporations have performed as a group for each of the indicators,

of which will be contrasted against the OMX Nordic Allshare Index. The trends will be graphed and placed in table format, and will be commented upon.

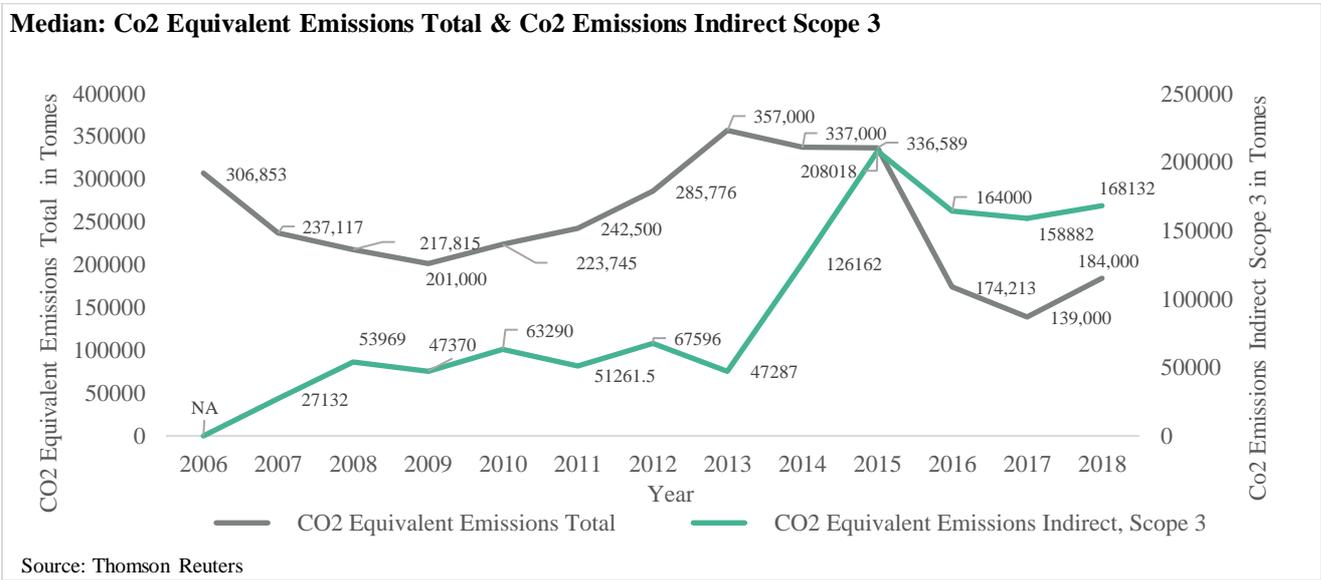
5. Results

5.1 Absolute Data Analysis on ESG Materiality OMXS30

In this section, the data analysis of the chosen 30 corporations (OMXS30) will be presented. Selected parameters from the branches Environmental, Social, and Governance, will be displayed through selective diagrams.

5.1.1 Environmental Pillar

Figure 1: Co2 Equivalent Emissions Total & Scope 3 (Absolute Numbers)



The figure above displays the median of the OMXS30 corporations in terms of Total CO2 Emissions in Tonnes (Scope 1 and Scope 2) and CO2 Equivalent Emissions Indirect, Scope 3 in Tonnes between the time period of 2006-2018. The line depicted on the left Y-axis Total CO2 emissions incorporates CO2 Equivalent Emissions Direct, Scope 1, and CO2 Equivalent Emissions Indirect, Scope 2. Direct emissions (Scope 1) include the emissions that the corporation’s control and own themselves, namely the emissions that arise from the corporations' daily business activities. Indirect Emissions (Scope 2) includes emissions from consumption of purchased electricity, heat, or steam. The line depicted on the right Y-axis depicts CO2 Equivalent Emissions Indirect, Scope 3. Indirect emissions (Scope 3) include emissions from contractor-owned vehicles, employee business travel (air or rail), waste disposal, outsourced activities, emissions from product use by consumers, emission from the production of purchased materials, and emissions from electricity purchased for resale.

The total emissions trend (Scope 1 & 2) displays a -37% decrease in terms of CO2 emissions in tonnes during the time period 2006-2018. The figures depict that emissions increased between 2009-2013 from 2014-2018; however, the trend is more prominent, showing that CO2 emissions have decreased from a median standpoint. CO2 Equivalent Emissions Indirect, Scope 3, displays a more negative trend. Between the years 2007-2018, indirect emissions scope three increased with 520%, which indicates that emissions from contractor-owned vehicles, employee business travel (air or rail), waste disposal, outsourced activities do not seem to be something that the OMXS30 corporations have been paying attention to.

Figure 2: Water Withdrawal in Cubic Meters (Absolute Numbers)

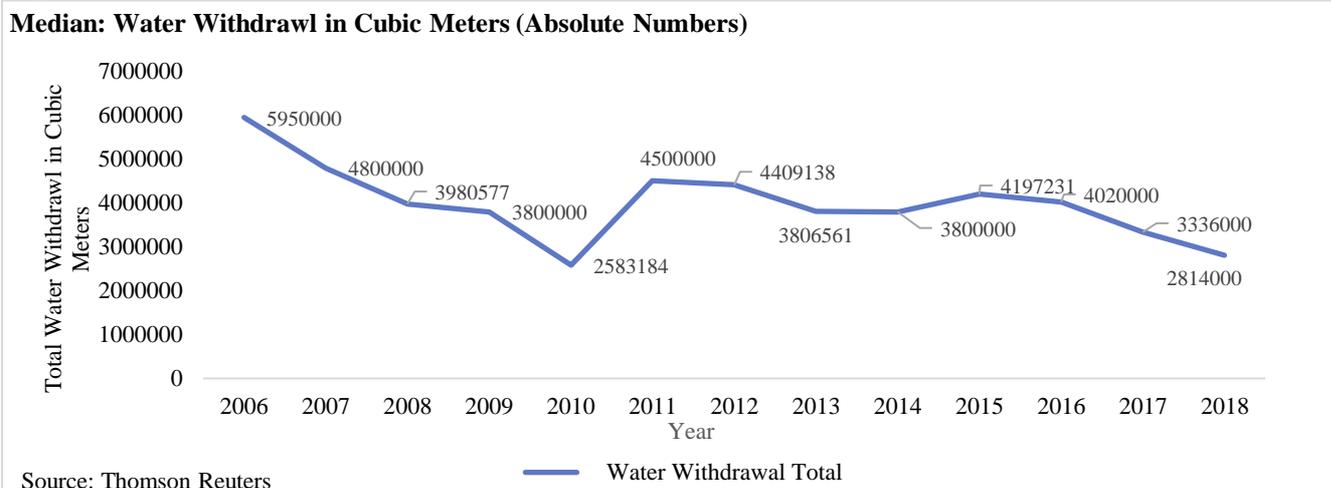


Figure 2 displays Water Withdrawal in Cubic Meters between 2006-2018 for the OMXS30 corporations. The data included in this statistic is Water Withdrawal directly from the corporation and/or water withdrawal through intermediaries. The trend depicted in the figure displays a pronouncedly positive trend. During the time period 2006-2018, the data depicts a clear downwards sloping trend of (-) 53%.

Figure 3: Total Waste & Hazardous Waste in Tonnes (Absolute Numbers)

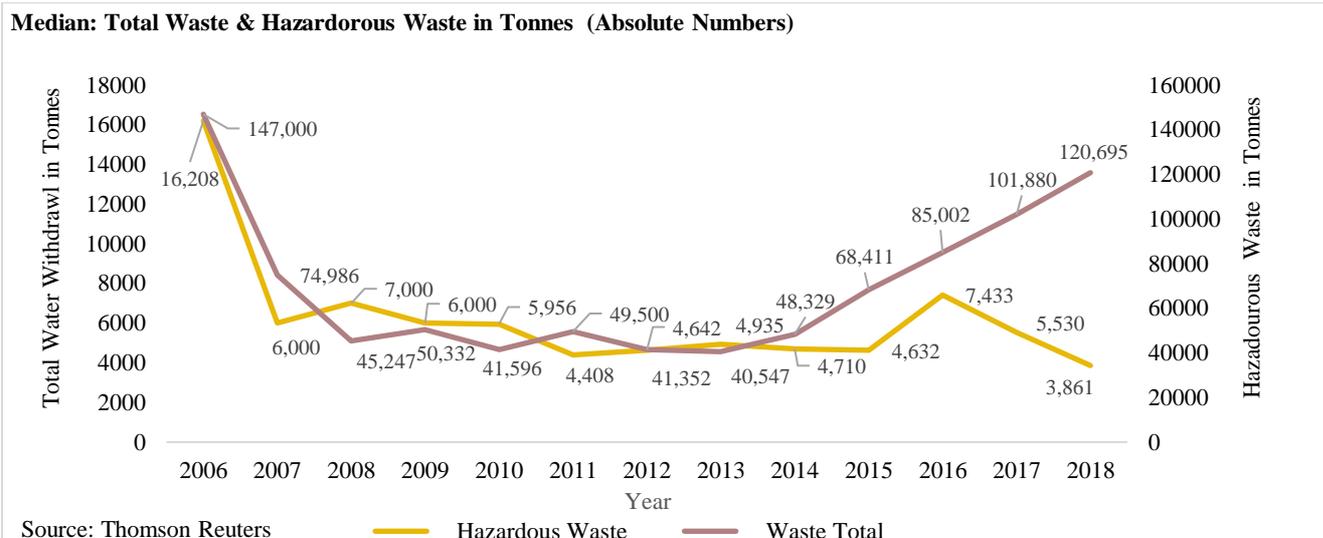


Figure 3 displays the median of the OMXS30 corporations in terms of Total Waste and Hazardous Waste in tonnes. The line depicted on the left Y-axis shows the Median Waste Total in Tonnes. The line depicted on the right Y-axis shows Median Hazardous Waste in tonnes. The trend shows that although Median Waste Total has decreased with (-) 18 % during the time period 2006-2018. The trend has reversed to becoming more negative in recent years. Since 2013 waste output has increased immensely and is something that should be observed as negative from a sustainability standpoint. The output of Hazardous waste has meanwhile displayed a positive trend throughout the time period 2006-2018 with an improvement of (-) 76%.

Figure 4: Recycling Ratio (%)

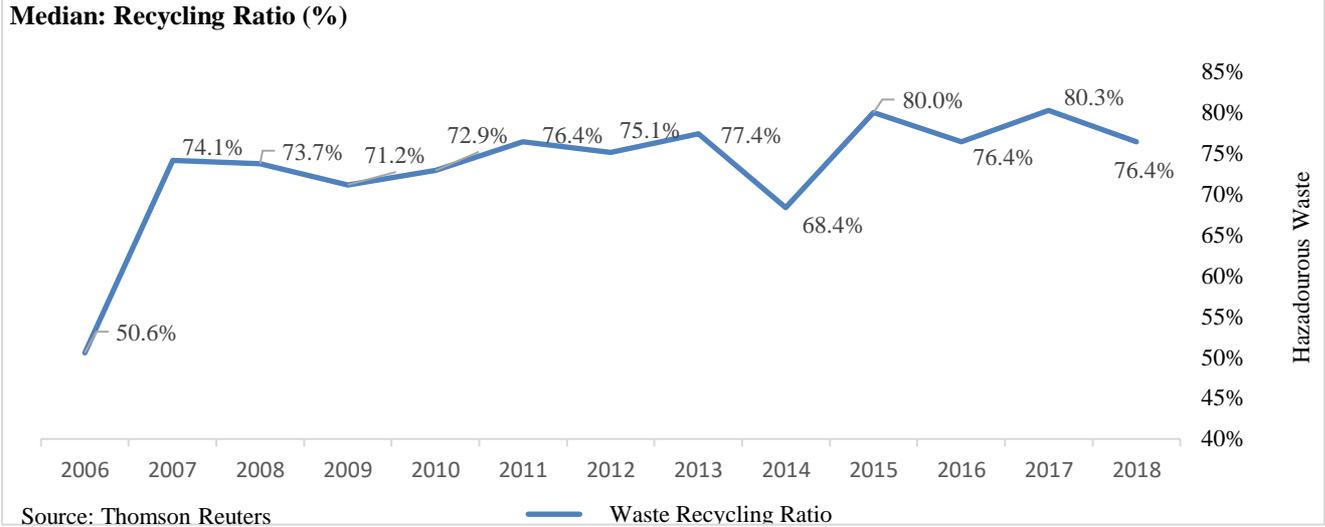
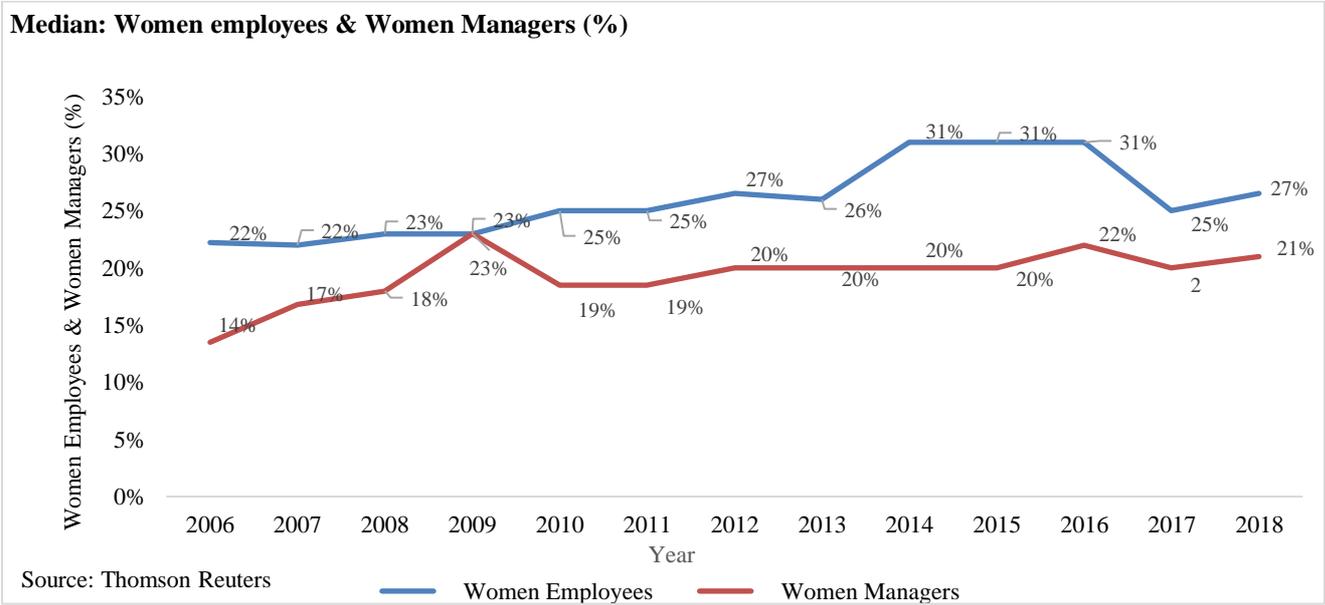


Figure 4 displays how Median recycling rates have changed during the analyzed time period. During the period, recycling rates have improved by roughly 51% from 50,6% in 2006 to 76,4% in 2018. This is a positive sign and may give relief to the increasing waste output numbers (displayed in Figure 3), though the median is suggesting that the OMXS30 corporations have improved their practices surrounding reuse and recycling.

5.1.2 Social Pillar

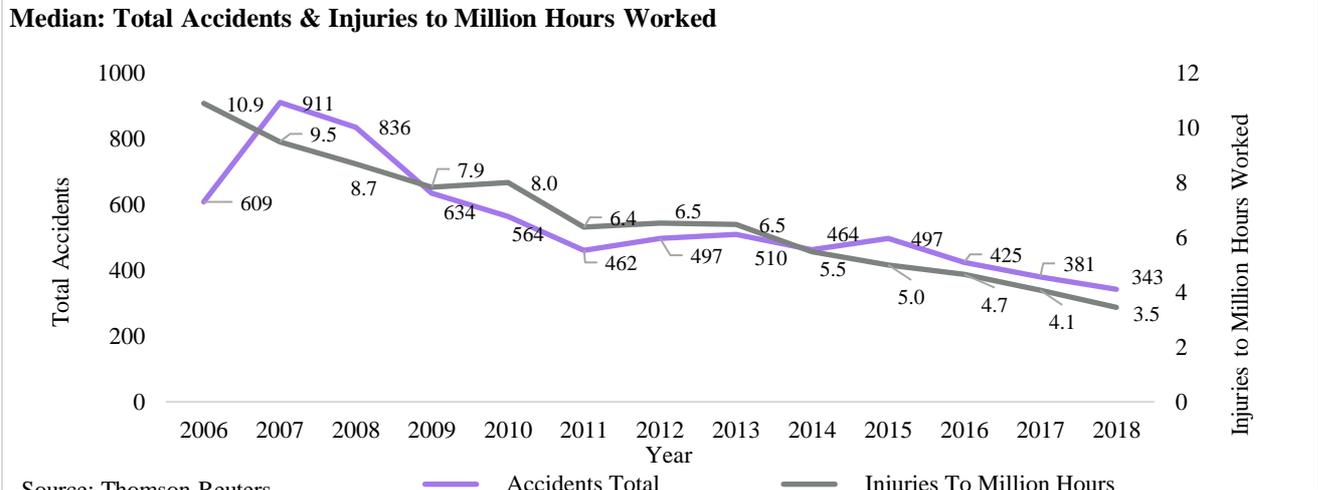
Figure 5: Women Employees & Women Managers (%)



The first social indicator is displayed in Figure 5. The Figure depicts the median women employees and managers of the OMXS30 corporations. Both indicators have made adequate improvements during the analyzed period 2006-2018. In 2006 the median women managers in the OMXS30 corporation were 14%; that number has over the years made advancements and has increased to 21% for 2018. A similar trend can be observed for median women employees,

which has increased from 22% to 27%. The summary of this development is positive, though it shows that corporations have started to pay more attention to gender equalities over the analyzed time period.

Figure 6: Total Accidents & Injuries to Million Hours Worked



The second social indicator that has been observed reflects the development of the Median total accidents and Injuries to million hours worked during the analyzed time period for the OMXS30 corporations. Total accidents which are plotted on the left Y-axis has shown promising progression with an observed decrease in accidents of (-) 44 % between 2006-2018. Injuries to million hours worked (plotted on the right Y-axis) has also shown promising development, portraying a decrease of (-) 69% between 2006-2018. The accidents and injuries statistics portray that the OMXS30 on Median level have given more thought to employee safety, which not only is important for the employees themselves but also on a financial level as high injuries rate can hinder a corporation's productivity.

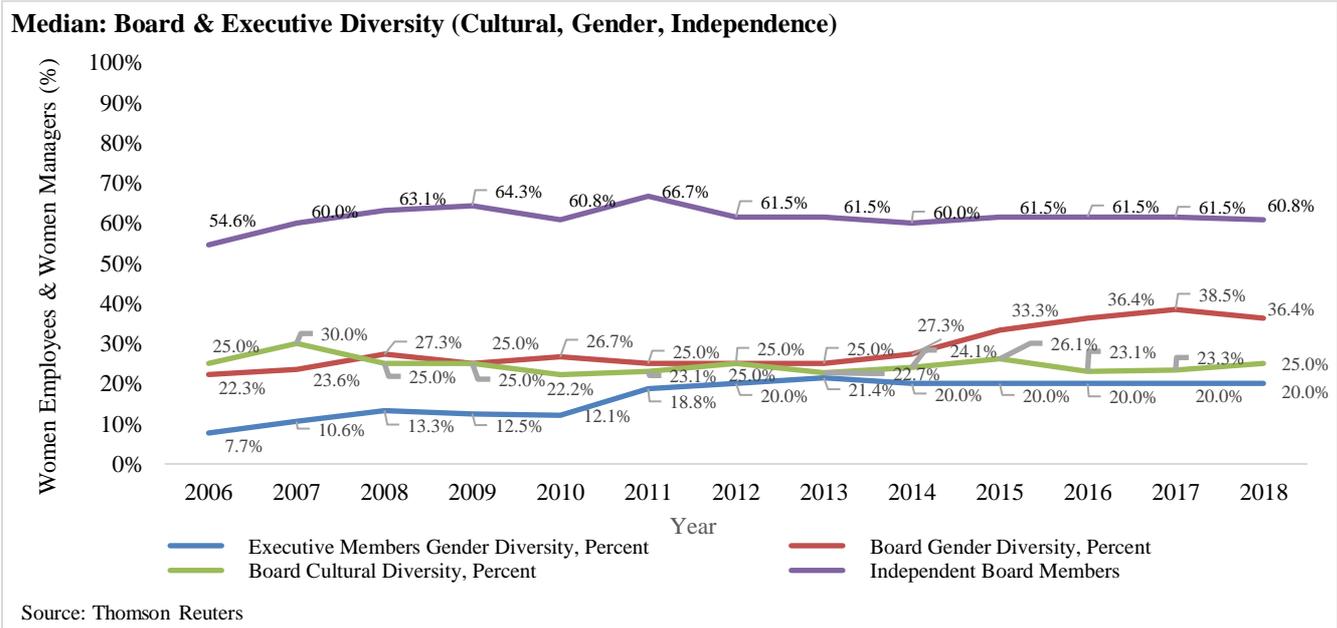
Figure 7: Turnover Employees (%)



Figure 7 depicts the median Turnover of Employees ratio. The given statistic includes employees who have left the corporation for any reason (involuntary or voluntary) such as retirement, natural departure/death, resignations, medical reasons, and layoffs, etc. The ratio is calculated through taking (employees leaving/average number of employees)*100. From the data gathered, the median reflects that Turnover of employees has decreased by (-) 18% from 10,2% to 8,6%. This is a positive depiction, as it shows that on average, an employee stays within the given organization for a longer time, which is virtuous from an operational standpoint but is also signaling that workers are more satisfied with their employer.

5.1.3 Governance Pillar

Figure 8: Board & Executive Diversity (Cultural, Gender, Independence)



The preceding graph depicts the chosen Governance parameters: Executive Member Gender Diversity, Board Cultural Diversity, Independent Board members, and Board Gender diversity during the observed time period 2006-2018. From a sustainability standpoint, it is evident that the observed corporations have started to pay more attention to the overstated factors. The parameters which have made the biggest transformations seem to be gender-related. Executive Member Gender Diversity has increased from 54.6% to 60.8% during the time period, expanding upon the already Female majority. Board Gender Diversity has also made significant improvements from 22.6% of Board Members being female in 2006 to 36.4% in 2018. The number of Independent board members has also further increased from 7.7% to 20%. The factor which yet is lagging behind other indicators is cultural diversity, which as a means has stayed relatively unchanged during the time period at 25%

Table 1: Indicators showing improvement between 2006-2018

Tested Indicators	Total Indicators showing Improvement between 2006-2018
Environmental Pillar (6 Tested Indicators)	5/6
Social Pillar (5 Tested Indicators)	5/5
Governance (4 Tested Indicators)	3/4
Total (15 Tested Indicators)	13/15

Source: Thomson Reuters

Summary:

As the previous section has illustrated, the OMXS30 corporations have made improvements under Environmental, Social, and Governance parameters when examining the absolute numbers. Illustrated in (table 1) we can observe that out of 15 tested indicators, 13 indicators have displayed a positive improvement during the analyzed time period. From an environmental standpoint, the median of the corporations has been able to decrease their Direct and Indirect emission, Water Withdrawal, Recycling rates, and their output of Hazardous waste. Total Waste output has however increased over the years, which suggests that waste reduction is something that could be explored going forward. Higher recycling rates, however, suggest that waste management to an extent has been improved, even though total output has increased. Social indicators have also reflected promising progression, the share of women employees and managers has increased, Health and Safety among employees have improved as expressed by the fewer total accidents and injuries per million hours worked. The median of the OMXS30 corporation further display that employee turnover rates have fallen over time. Governance

indicators have also displayed a positive trend. Both Executive Member Gender Diversity and Board Gender Diversity has shown improvements, Independency of board members further demonstrates a strong positive change. The only observed indicator which remained unchanged was Board Cultural Diversity.

Overall the time series analysis examining the absolute numbers for the OMXS30 corporations between 2006-2018 shows positive signs of improvement. While examining the data it is evident that the biggest improvements have taken place from 2013-2014 and onwards. This is an interesting data discovery as it is the same period that Mortier (2020) referred to as the big break in ESG in Europe, a period where ESG investments return turned from negative to positive, following the mobilization of institutional investors to ESG. On an indicator level, it seems like the OMXS30 corporations have to some extent adapted to greener practices, improved their social qualities, and improved the organization from a governance perspective.

5.2 Relative Data Analysis on ESG Materiality OMXS30

In the previous section, absolute data was displayed for the branches Environmental, Social, and Governance, where an improving trend was identified. In this section, however, the thesis will select parameters and revenue to adjust them.

As companies grow and shrink financially they tend to increase/decrease production of products and services depending on the financial situation of the corporation. Therefore, by expanding the analysis by revenue adjusting ESG data collected from Thomson Reuters, the analysis will be able to identify how the OMXS30 corporations are performing in relative terms to their sales (revenue). In this segment we will however only examine the chosen environmental factors, as it is more difficult to revenue adjust social and governance indicators as they are not associated with a physical activity.

Figure 9: Co2 Equivalent Emissions Total & Indirect Scope 3 / Total Revenue in Million SEK (Relative)

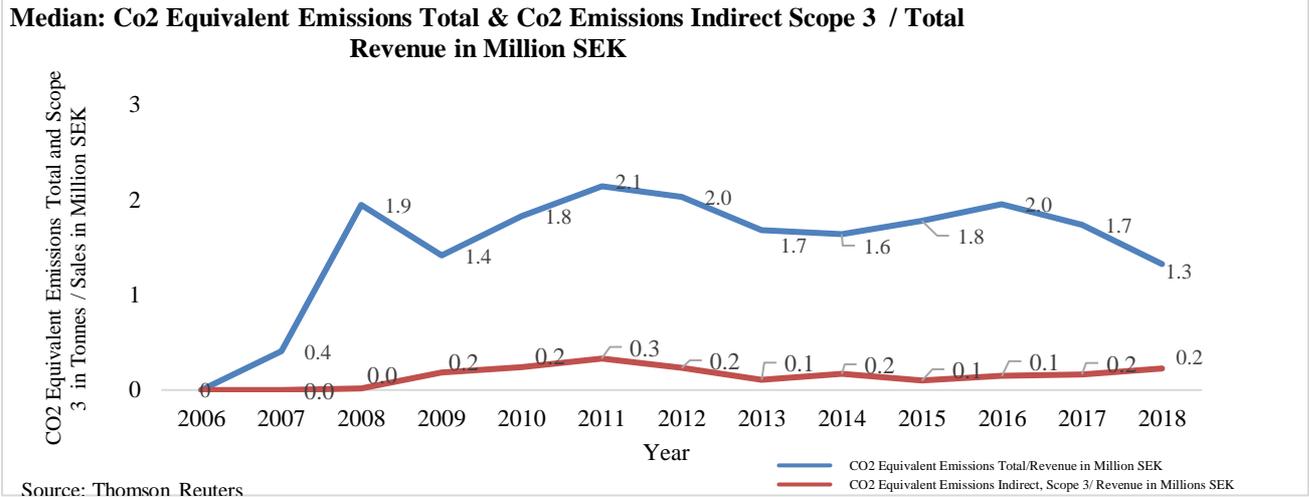


Figure 9 displays the median of the OMXS30 corporations in terms of Total CO2 Emissions in Tonnes (Scope 1 and Scope 2) and CO2 Equivalent Emissions Indirect, Scope 3 in Tonnes between the time period of 2006-2018, adjusted for Revenue for each of the subsequent years. CO Equivalent Emissions Total in Tonnes (Scope 1 and Scope 2), indicates a relatively stable trend. Between the years of 2006 and 2011, the revenue adjusted total emissions were worsening on the median level. Since 2011 the trend has however improved, this is a positive sign as in absolute terms (as depicted in Figure 1) the trend didn't shift until 2014. This indicates that on the Median level the OMXS30 corporations have in both relative and absolute terms been able to decrease their CO2 Equivalent Emissions in Tonnes (Scope 1 and Scope 2) over the observed time period, suggesting that certain improvements have been made.

On Figure 9, we can also display the CO2 Equivalent Emissions in Tonnes (Scope 3) revenue adjusted, the trend indicates that from 2011-2015 the trend was improving however in more recent years Scope 3 emissions have risen. Comparing this revenue adjusted trend (shown in Figure 9) to the absolute data (Figure 1), the trend is similar, even though improvements in CO2 Equivalent Emissions (Scope 1 and Scope 2) have been made. Scope 3, however, displays that emissions that derive from contractor-owned vehicles, employee business travel (air or rail), waste disposal, outsourced activities has been an inessential priority for the OMXS30 corporations even when the absolute data is revenue adjusted.

Figure 10: Water Withdrawal / Total Revenue in Million SEK (Relative)



Figure 10 displays Water Withdrawal in Cubic Meters 2006-2018 revenue adjusted for the OMXS30. The data displays that Water Withdrawal in Cubic Meters was increasing up until 2012. From 2012 to 2018, the trend, however, has decreased immensely. In Figure 2, the trend explored the absolute numbers and depicted big improvements over time with a (-) 53% decrease. Although Figure 10 shows improvements from the year of 2012 and onwards, Water consumption revenue adjusted was increasing up until that year for the median companies included in the OMXS30.

Figure 11: Waste Total/ Total Revenue in Million SEK (Relative)

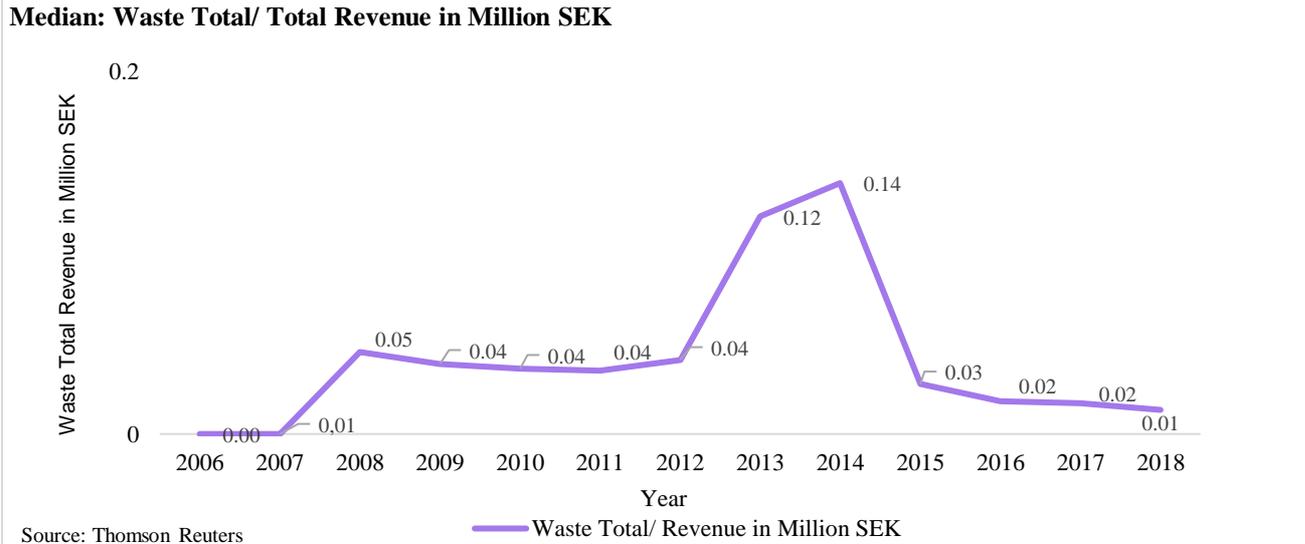


Figure 11 displays the Total Waste output revenue adjusted of the OMXS30 as a median. The trend depicts that up until 2014, Waste Output by the corporations was increasing, which suggests that even at the relative level (Revenue adjusted), the corporations had not improved

their waste output. Since 2014 we contrarily to Figure 3 have seen an improving trend, this indicates that even though waste output in absolute terms has increased when adjusted for revenue and thus increased production, the Waste output seems to have improved.

Summary:

The previous section illustrated the relative (revenue adjusted) improvement/deterioration of the chosen environmental factors for the OMXS30 corporations. Although the data didn't present as vast improvements when observing the overstated parameters, it displayed an improving trend. The overall improvement suggests that even after production increases that have been made over the years, total output of emissions, water usage, and waste output have decreased. Similar to the section where the absolute data was observed, the major improvements in relative terms have taken place between 2012-2014. This once again reaffirms the findings of Mortier (2020) and what he found to be the big break for ESG in Europe.

5.3 Data Analysis - ESG versus Financial performance Nordics

The two previous sections have concluded that on a median level, the OMXS30 corporations have, in both absolute and relative terms, be able to improve their Environmental, Social, and Governance sustainability between the time period of 2006-2018. The sections further recognized that the biggest improvements had taken place between 2012 and 2014, which mitigated the findings of Mortier (2020). Given that the OMXS30 has made improvements, the following sections will examine how ESG correlates with financial performance in an attempt to answer the second research question. As the OMXS30 doesn't have any "top performers" when it comes to ESG, the study has recognized seven corporations that are largely dominating within the ESG field and are well-known for their sustainable business model and approach (*See the section below*). Share Price Performance and Financial multiples such as (Price to Earnings (P/E), Earning per Share (EPS), Price to Earnings to Earnings Growth (PEG) and EBITDA-margins will be examined, where; EBITDA-margins will be kept as controlled variables to show how they are performing in real financial terms and P/E and PEG will be used as dependent variables to evaluate if an ESG premium can be motivated. The seven chosen corporations will be evaluated against the 583 corporations included in the OMX Nordic All-Share index during the chosen time period 2006-2019.

For the share price performance, the time period 2009-2019 has however been chosen, the reason why this time period was chosen is that 1) the OMX Nordic Allshare Index wasn't introduced until the beginning of 2008 and 2) The study wants to eliminate financial turndowns

(Stock market crash 2008 and 2020) which cause disruptions to the efficient market hypothesis (EMH), which then if included could hinder the true results examined.

Chosen Corporations:

- **Novozymes A/S**

- Novozymes A/S is involved in researching and developing biotechnology solutions that contain industrial enzymes and microorganisms. Agriculture, bioenergy, biopharmaceutical, food and beverage, household care, clothing, pulp and paper, fiber and wastewater solutions. Novozymes has fully incorporated sustainability in its entire business and continues its three-pronged approach to sustainability; economic, environmental and social. Since the establishment of Novozymes the triple bottom line approach has been adopted and is reflected in the purpose, overall strategy and goals of the company (Novozymes, 2020).
- The sustainability strategy of Novozymes is aligned with the UN Sustainable Development Goals (SDGs), and uses Life Cycle Assessments (LCAs) to determine the impacts of the approaches and activities within the organization. By maintaining sustainability as the "DNA" of the business model, the sustainability outlook for Novozymes for 2022 is reflected in the goals of eliminating an additional 60 million tons of CO₂, reducing CO₂ emissions from own activities by 25% and to establish water management systems at all locations, achieve 100% circular biomass management of Novozymes and receive 500,000 tons of bio-farm food (Novozymes, 2020).

- **Vestas Wind Systems A/S**

- Vestas Wind Systems is active in the development, manufacture, sale and maintenance of wind power plants. Vestas operates through the segments Power Solutions and Service. The Power Solutions segment comprises the sale of wind and wind turbine power plants. The Service section includes the selling of contracts for operation, spare parts and related activities (Vestas, 2020).
- On the side of providing sustainable wind products and services that generate 25 to 50 times more energy than what the turbines uses. Vestas Wind Systems A/S are committed to reaching carbon neutrality in 2025 by reducing emissions by 55 percent. 85% of the corporation's products are further recyclable (Vestas, 2020).

- **Nibe Industrier AB**

- NIBE Industrier AB is active in the manufacture of domestic and industrial goods. It operates under the following fields of business: NIBE Climate Solutions, NIBE Component and NIBE Stoves. The business area of NIBE Climate Solutions offers indoor comfort products, including heating, air conditioning, heat recovery and hot water for homes, apartment blocks, and other sizeable properties. The business field of NIBE Aspect includes components and intelligent heating and control solutions designed for industrial and consumer goods. The business field of NIBE Stoves is composed of stoves of various sizes and styles to match both houses and commercial property (Nibe, 2020).
- The company sells heating and cooling products that reduce fossil fuel dependence and most of its Climate Mitigation products are focused on renewable energy recovery. NIBE has a tremendous potential for increased environmental attention. For example, the business is set to benefit from the recently adopted Dutch green agenda, in the Netherlands, to replace fossil-based heating and cooling with fossil-free. NIBE is also seeing sustainability driven demand for its service in its Product division, e.g. the company has developed a solution that heats battery packs, ensuring that the battery maintains the appropriate temperature, preventing loss of power or complete shutdown (Nibe, 2020).

- **Neste Oyj**

- Neste is the largest renewable diesel producer, accounting for ~60 percent of total world production capacity. The sustainability success of the company was ranked 2nd best in the world on the Global 100 list in 2018. The organization seems to be well placed to take advantage of the transition to a low-carbon world, providing strategies that reduce pollution and help clients comply with new environmental regulations. The biggest challenge the company faces ahead is handling the anticipated decline in demand for fossil diesel fuels (Neste, 2020).
- Neste aims to increase its share of Renewable Diesel from 25 per cent of total sales in 2017 to 50 per cent in 2020. Neste also plans to increase the share of its non-road traffic sustainable solutions to 20 per cent of total revenue by 2020 (Neste, 2020).

- **Chr. Hansen Holding A/S**

- Chr. Hansen Holding A / S is a bioscience company dedicated to the production of natural solutions for the health, nutrition, pharmaceutical and agricultural sectors and is operational in the following segments: food cultures and enzymes; health and nutrition. The division of Food Cultures and Enzymes, manufactures and markets seeds, enzymes, and probiotic products that help decide the taste, smell, texture, shelf life, nutritional value, and health benefits of food industry consumer goods. The Health and Nutrition division produces and distributes products for the dietary supplements, over-the-counter pharmacy, infant formula, animal feed, and plant safety industries (Chr. Hansen, 2020).
- An important part of Chr. Hansen has been social and environmental responsibility. Chr. Hansen aims to produce clean, organic and nutritious food for the global consumer based on years of growth experience of microbial solutions for the food, nutritional, pharmaceutical and agricultural industries. Chr. Chr. On 1 July 2016 Chr. Hansen released its sustainability strategy with three focus areas: 1) sustainable agriculture; 2) food waste reduction; and 3) enhancement of global health through the introduction of probiotic solutions. Chr. Hansen's sustainability policy aligns with the Sustainable Development Goals (SDGs) of the United Nations (Chr. Hansen).

- **Tomra Systems ASA**

- Tomra Systems ASA operates in the provision of sensor-based solutions. It is active through the following segments: Collection Solutions, Sorting Solutions, and Group Functions. The Collection Solutions segment offers reverse vending and material recovery. The Sorting Solutions segment provides optical sorting systems to the food, recycling, and mining businesses. The Group Functions segment refers to the corporate activities of the group (Tomra, 2020).
- Tomra is a signatory of the UN Global Compact, and reports to the CDP. The company is certified, and is or has been a member of Natur-Aktien-Index (NAX), FTSE Russell Green Revenues Index, Storebrand "Best in Class" index, Kempen/SNS SRI Index and the Nordic Sustainability Index. Tomra's products contribute to creating a cyclical economy and generating green jobs, efficiently reusing materials such as PET and reducing littering, which in turn contributes to lower greenhouse gas emissions (Tomra, 2020).

- **Rockwool International A/S**

- Rockwool International A/S engages in the manufacture and development of stone wool. It operates through the Insulation and System segment. The Insulation segment includes interior building, façade, roof, industrial, and technical insulations. The Systems segment covers acoustic ceilings, cladding boards, engineered fibers, noise and vibration control, and horticultural substrates (Rockwool, 2020).
- Insulation is key to lower energy use in buildings. Rockwool’s products save energy and water, reduce CO2 emissions, protect buildings from the spread of fire, and reduce waste. Rockwool’s sustainability initiatives aim to maximise the net positive contribution to society and environment, while at the same time minimising day-to-day impacts of its operations. According to the company, the energy saved over the lifetime of Rockwool’s building insulation is around 100 times greater than the energy used to produce it. On average, around 30% of input stone material is recycled (Rockwool, 2020).

Table 2: Median Historic P/E ratios: ESG cases vs. OMX Nordic Allshare

Company Name	Historic P/E													
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Vestas Wind Systems A/S	52,8	47,1	14,8	67,4	30,7				17,2	21,1	14,1	13,7	19,4	25,4
Novozymes A/S	34,5	35,3	24,8	28,5	30,8	31,1	25,2	33,0	32,4	36,2	24,2	33,8	26,4	29,6
Nibe Industrier AB	30,8	23,3	11,3	15,8	17,6	14,8	13,5	18,6	22,6	25,4	24,5	23,3	22,1	37,7
Neste Oyj	9,4	10,7	27,9	14,4	13,4	12,6	15,9	7,0	89,9	12,7	9,9	15,0	22,2	13,3
Chr Hansen Holding A/S					96,0	19,2	24,4	23,9	31,5	36,7	39,0	43,0	50,5	40,3
Tomra Systems ASA	17,3	22,0	13,0	16,6	122,7	14,7	16,9	21,8	20,2	23,2	19,0	31,8	38,9	50,0
Rockwool International A/S	20,1	13,2	6,4	41,2	29,4	15,6	17,7	24,1	18,0	30,9	22,0	24,2	18,8	16,3
ESG Cases Median	25,4	22,6	13,9	22,6	30,7	15,2	17,3	22,8	22,6	25,4	22,0	24,2	22,2	29,6
OMX Nordic Allshare Median	15,4	13,4	9,3	16,2	15,7	12,4	14,5	18,2	16,5	17,2	17,1	17,3	15,2	18,4
<i>Difference Δ (ESG Cases - OMX Nordic Allshare)</i>	<i>10,0</i>	<i>9,2</i>	<i>4,6</i>	<i>6,3</i>	<i>15,1</i>	<i>2,8</i>	<i>2,8</i>	<i>4,7</i>	<i>6,1</i>	<i>8,1</i>	<i>4,9</i>	<i>6,9</i>	<i>7,0</i>	<i>11,2</i>

Source: Thomson Reuters

The table above illustrates the Historic Price to Earnings ratios that the ESG cases have been trading at in comparison to the consolidated Index OMX Nordic Allshare. The price to earnings ratio (P/E) is used for valuing a corporation and tells an investor how high or low a corporation is trading at by examining the total market cap relative to the corporation's earnings in a given year. From what can be read in the table it is evident that the ESG corporations have been trading higher than the OMX Allshare Median during the time period. Examining the data one can observe that between the years of 2006-2010 the Median ESG Cases were trading roughly 9 P/E higher than the Median OMX Nordic Allshare. In 2006, ESG was a new revolutionary concept, it was the first time when institutional investors started incorporating ESG in their investment thesis. Based on previous research by Mortier (2020), the inflows in ESG would continue for a couple of years but as shown in table would settle down. Between the years 2011-

2013, the trend shows that the popularity of investing in ESG cases started to detrain, during that period the ESG cases were “only” trading at roughly 3 P/E highest against the OMX Nordic Allshare. The initial explanation for this trend is that investors started realizing that they weren’t getting their money’s worth for making sustainable investments based on ESG principles (in relative terms), which is shown in Table 3 through the PEG ratio. From 2014-onwards we can however observe a shift towards a more permanent trend. Mortier (2020) attributes this big break to that ESG came at the intersection of new regulation for environmental pollution, social practices and governance and that private and governmental institutions started investing towards more sustainable causes. The new Sustainable Development Goals were further laid promoting a fresh mindset among investors. Given these factors the ESG cases have in between the period 2014-2019 been trading at an average of 7,4 P/E higher than the OMX Nordic Allshare index.

Table 3: Median Historic PEG ratios: ESG cases vs. OMX Nordic Allshare

Company Name	P/E/G (Daily Time Series Ratio)													
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Vestas Wind Systems A/S		1,19	0,56	1,25		0,91			0,24	1,17	1,41	9,38	34,27	3,26
Novozymes A/S	3,68	3,11	2,34	2,71	1,95	2,63	2,80	3,18	2,34	3,17	4,14	5,68	4,10	6,15
Nibe Industrier AB				1,66	1,77	1,10	2,15	1,62	1,99	2,64	3,22	3,30		
Neste Oyj	3,80	2,28	2,61		0,49	0,29	0,54	0,50	-2,89	1,38	-2,07	12,04	1,53	3,20
Chr Hansen Holding A/S					14,37	2,05	2,26	2,22	3,30	5,62	3,38			
Tomra Systems ASA	2,39	4,34	0,89	1,10	6,76	1,04	1,49	1,27	1,63	1,77	6,10	6,01		
Rockwool International A/S	1,30	0,66	-0,42	722,63	0,96	0,87	0,91	1,68	1,61	2,09	3,81			6,12
ESG Cases Median	3,0	2,3	0,9	1,7	1,9	1,0	1,8	1,7	1,6	2,1	3,3	5,8	4,1	4,7
OMX Nordic Allshare Median	2,75	1,12	0,59	1,15	1,06	0,99	1,32	1,77	1,61	2,25	2,04	2,47	1,70	2,20
<i>Difference Δ (ESG Cases - OMX Nordic Allshare)</i>	<i>0,3</i>	<i>1,2</i>	<i>0,3</i>	<i>0,5</i>	<i>0,8</i>	<i>0,1</i>	<i>0,5</i>	<i>-0,1</i>	<i>0,0</i>	<i>-0,2</i>	<i>1,3</i>	<i>3,4</i>	<i>2,4</i>	<i>2,5</i>

Source: Thomson Reuters

Table 3 illustrates the Historic Price to Earnings to Growth ratios (PEG) that the ESG cases have been trading at in comparison to the consolidated Index OMX Nordic Allshare. The Price to Earnings to Growth ratio (PEG) is another financial multiple that can be used to understand the value of a given corporation. The PEG ratio tells us how high or low the corporation is P/E terms in relation to the corporation's earnings growth from one year to another. Observing the table between 2006-2010 we can observe that ESG cases were trading roughly 0.6 PEG higher than the OMX Nordic Allshare. Between 2010-2013, however, we can observe a similar trend shift as observed in Table 2, where investors became less willing to pay a premium for ESG cases as when adjusted for earnings growth the given corporations were trading below the OMX Nordic Allshare. From 2014-onwards a more permanent trend shift can be observed, similar to what was examined in Table 2. From 2014 onwards the ESG cases have been trading on 1.6 PEG above the OMX Nordic Allshare, once again displaying the strong inflows into ESG corporations.

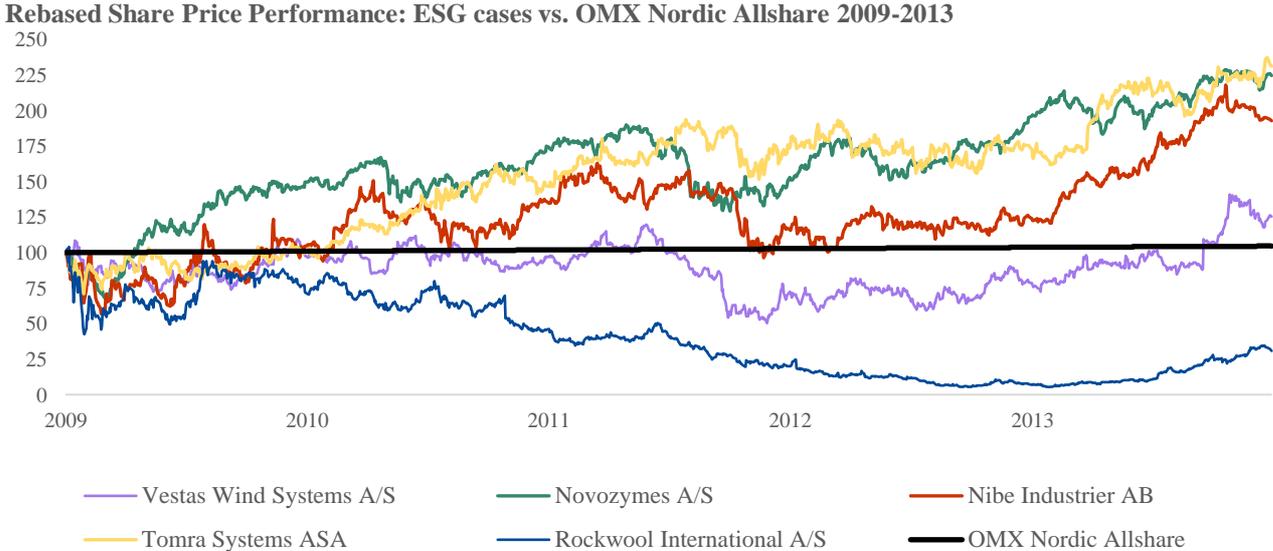
Table 4: Median Historic EBITDA-margins: ESG cases vs. OMX Nordic Allshare

Company Name	EBITDA Margin, Percent													
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Vestas Wind Systems A/S	8,3%	11,4%	13,3%	9,1%	10,7%	5,1%	6,6%	9,9%	13,4%	14,4%	17,8%	16,6%	13,8%	12,8%
Novozymes A/S	26,4%	26,2%	25,3%	26,7%	28,8%	29,7%	30,5%	31,0%	32,8%	35,8%	35,1%	35,6%	35,8%	33,6%
Nibe Industrier AB	14,1%	12,8%	13,4%	14,6%	15,5%	15,5%	14,4%	15,1%	15,5%	15,8%	15,8%	15,1%	15,2%	15,8%
Neste Oyj	7,5%	7,9%	2,6%	6,0%	4,8%	3,7%	3,6%	5,2%	6,5%	10,8%	10,2%	12,0%	12,7%	16,6%
Chr Hansen Holding A/S	23,1%	26,8%	29,6%	30,2%	33,1%	31,8%	33,0%	33,7%	33,9%	33,4%	34,1%	34,6%	35,0%	35,1%
Tomra Systems ASA	20,9%	17,4%	16,9%	14,7%	21,1%	22,4%	21,9%	19,5%	19,7%	19,7%	20,4%	17,4%	18,1%	20,2%
Rockwool International A/S	18,2%	24,1%	16,4%	12,6%	14,9%	13,1%	15,5%	16,0%	14,3%	15,5%	17,5%	17,5%	18,9%	19,9%
ESG Cases Median	18,2%	17,4%	16,4%	14,6%	15,5%	15,5%	15,5%	16,0%	15,5%	15,8%	17,8%	17,4%	18,1%	19,9%
OMX Nordic Allshare Median	12%	12%	11%	10%	11%	11%	11%	10%	11%	12%	13%	12%	12%	14%
<i>Difference Δ (ESG Cases - OMX Nordic Allshare)</i>	<i>6,3%</i>	<i>5,9%</i>	<i>5,5%</i>	<i>5,0%</i>	<i>4,2%</i>	<i>4,4%</i>	<i>4,7%</i>	<i>5,5%</i>	<i>4,0%</i>	<i>3,6%</i>	<i>5,0%</i>	<i>5,1%</i>	<i>6,0%</i>	<i>6,1%</i>

Source: Thomson Reuters

Table 4 displays the Median Historic EBITDA-margins for the ESG Cases and OMX Nordic Allshare between the time period 2006-2019. The EBITDA margin is a measure that is used in the study as a controlled variable, it tells an investor or a stakeholder how big a company's operating profit (or loss) is expressed in relation to the given corporation's revenue. The acronym EBITDA stands for Earnings before interest, taxes, depreciation and amortization. The reason why this measure has been used as a controlled measure, is that it allows one to compare a company's real performance in relation to others, thus making it applicable in our study. From what has been symbolized in Table 2 and 3, the ESG cases have been trading high in terms of P/E and PEG, understanding the underlying reason for this, one could turn to the real financials to see where the differences lie. Even though the ESG cases, through 2006-2019 kept higher a 5.1% higher EBITDA-margin than the OMX Nordic Allshare, the EBITDA-margins does not seem to justify the vast premium at which the corporations have been trading at in terms of P/E or PEG. If you adjust the EBITDA-margin by taking out corporations who keep in a low-production cost industry in e.g healthcare (Novozymes and Chr. Hansen) the EBITDA-margin in comparison to the OMX Nordic Allshare was only 3.1% higher than OMX Nordic Allshare further enforcing that the premium valuation, the ESG cases have been trading at, does not derive from maintaining a higher EBITDA-margin.

Figure 12: Rebased Share Price Performance: ESG cases vs. OMX Nordic Allshare 2009-2013



The figure above displays the Rebased share price performance between the ESG cases (excluding Chr Hansen Holding A/S and Neste Oyj, as were not public throughout the whole period) and OMX Nordic Allshare between the time period of 2009-2013. The figure displays a promising trend for the ESG road model corporations, with 4 out of 5 corporations largely outperforming the OMX Nordic Allshare Index. The only corporation that has displayed a worse performance was Rockwool explained by their slow recovery from the financial crisis. However, even considering Rockwool's poor performance during the period, the ESG cases displayed strong performance with average returns of 61% in relation to OMX Nordic Allshare Index who only displayed 5% returns during the full period. Contrasting this performance to what was discovered in the financial valuation segment, a similar “negative” trend to what was discovered between 2010-2012 can also be observed in terms of share price performance, a period where the ESG cases displayed 2.5% share price returns in relation to OMX Nordic Allshare 2.7%.

Figure 13: Rebased Share Price Performance: ESG cases vs. OMX Nordic Allshare 2014-2019
Rebased Share Price Performance: ESG cases vs. OMX Nordic Allshare 2014-2019

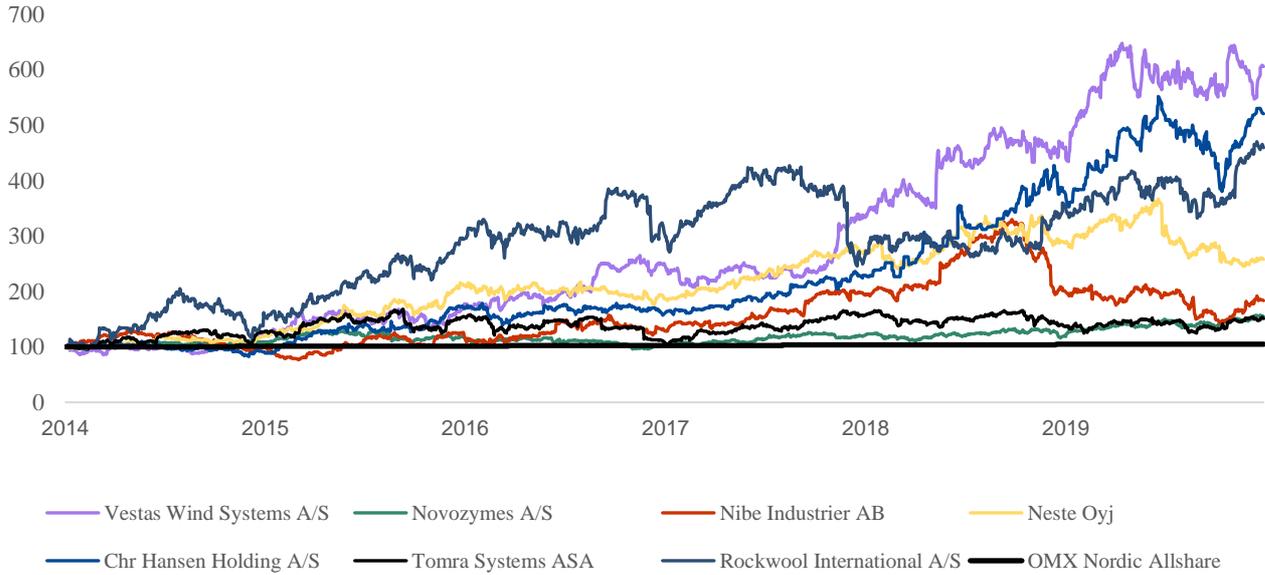


Figure 13 also displays the share price performance between ESG cases (Including Chr Hansen Holding ASA and Neste Oyj) and OMX Nordic Allshare but for the time period 2014-2019. The reason why the study incorporated the given time period is that the financial valuation segment and Mortier (2020) showed that from 2014 and onwards, valuations for strong ESG cases had been driven up to new highs in Europe. Observing the Figure, we can examine that this seems to be the case for share price performance as well. From 2014 and 2019, all 7 ESG cases (road models) have been outperforming the OMX Nordic Allshare Index, with average returns of 233 % in relation to 7 % return on the OMX Nordic Allshare during the time period. Contrasting this share price performance against Figure 14 and the time period 2009-2013, it seems evident that from 2014 and onwards, ESG cases have outperformed the general index financially.

6. Discussion

In order to answer the first research question “Have the OMXS30 corporations improved their materiality reporting since the implementation of ESG?” The first segment of the study looked into the OMXS30 Corporations and their resource use as well as sustainability from a social and governance perspective by observing both absolute and relative data (revenue adjusted). In order to answer research question 2, the second segment then explored the essence of if ESG can improve financial performance by examining 7 companies who have been identified with maintaining a sustainable ESG profile and comparing it to the mean corporations included in the OMX Nordic Allshare Index.

The first segment of the study presented relevant results when analyzing both the absolute and relative data in terms of resource use, social indicators and governance, 13 out of 15 observed indicators did show an improvement between the observed time period of 2006 and 2018. What was evident throughout the data collection, was however that most improvements took place between the years of 2012-2014 and onwards, which was well correlated with the findings of Mortier (2020). The time series analysis has shown that amidst the up rise of ESG and the institutional inflows in terms of investments, the corporations have as a general median also been able to improve their sustainability approach, suggesting that the factor of Green washing (Jeevan, 2020) may not be as big (at least for the Nordic Corporations) as some contrarians would entail. It seems as though regulation, the enforcement of the new sustainable development goals and the development of sustainability frameworks (e.g. EU Taxonomy) have enforced corporations to improve their business model from a sustainability perspective and have hurt corporations that have not followed sustainability guidelines, through carbon taxes and other regulatory action.

The second segment of the study presented an ESG versus financial performance time series analysis for the time period 2006-2019. The study examined data from 7 Nordic Corporations which in one way or another have become road model examples of maintaining sustainable business models. These corporations were then compared against the OMX Nordic Allshare Index by examining and comparing financial multiples and stock price performance. The results that were presented in the study showed that the ESG road models in relative terms were trading at a premium valuation in comparison to the median of the OMX Nordic Allshare corporations. Indicating that on a median level, investors have become more prone to invest in sustainable practices rather than more traditional corporations operating with a “less sustainable” outlook. The time series analysis similar to the OMXS30 study showed that a more permanent trend shifts toward ESG and sustainability was achieved in 2014, although premium valuations were initially achieved between 2006-2010.

By consolidating the results of both studies, I interpret that between the time period of 2006-2010, ESG road models’ corporations achieved premium valuation, as it was a new and booming concept, but as this trend boom settled. Investors became discerned with that corporations weren’t performing as well as anticipated in absolute materiality numbers, valuations were driven down explaining the negative and mild premium valuations illustrated in the ESG versus financial performance study. However, as corporations started performing

better around 2014 in terms of materiality (in both absolute and relative numbers), valuations have once again been driven up and now seem to portray a more permanent trend.

The permanent trend that has been discovered in recent years looks promising from a development and sustainability standpoint. It indicates that businesses are adapting to more sustainable practices and that there is a raised interest among investors to invest towards corporations that adhere to sustainability guidelines. These ongoing trends in the financial markets are part of a large transformative framework, and given that these trends persist, the Nordics will be able to positively improve the outlook for meeting the sustainable development goals and help the region to adapt to new forms of sustainable development by further emphasizing the carefulness surrounding resource use, living standards, diversity and equality (UN: Brundtland Report: Our Common Future, 1987)

7. Conclusion

The purpose of this study was to investigate how Nordic corporations have been performing in terms of ESG between the period of 2006-2018, through analyzing the absolute and relative numbers concerning resource use, social awareness, and governance (environmental, social and governance factors). The study showed that from a time-series analysis perspective the OMXS30 corporations on a median level have been able to lower their resource use, improved their social standpoint as an organization, and improved their governance. The study further explored how the seven ESG “road models” have been performing financially, in relation to other corporations with milder sustainability approaches. Examined by comparing Novozymes A/S, Vestas Wind Systems A/S, Nibe Industries AB, Tomra Systems ASA, Neste Oyj, Chr. Hansen Holding A/S and Rockwool A/S to the median corporations of the OMX Nordic Allshare Index. The study concluded that premium valuations and thus better financial performance has been explored during the majority of the time period 2006-2019. The explored results were in line with the initial hypothesis formed by the author and the previous readings that were explored in the thesis.

8. Limitations

Some limitations were discovered in the paper and are worth mentioning, as they may in one way or another have impacted how the conclusions were drawn. Firstly, when conducting the material analysis of the OMXS30 corporations, it was evident that corporations' absolute and relative performance was largely dependent on the industry that the given corporation was active within. For instance, the commercial banks maintained a relatively low resource output

in comparison to pure industrial corporations. Secondly, when conducting the ESG versus financial performance study using the seven “road model” ESG corporations and contrasting it to the OMX Nordic Allshare Index, the study found a positive trend favoring the ESG corporations. However, though the nature of the study was emphasizing if ESG could lead to financial performance, the study did not evaluate the causality of the correspondence to a vast extent, an area which could have been expanded upon. Thirdly, when conducting the two studies, certain data was at times missing for given year, this was most probably due to when the analyzed corporations started with their ESG reporting. It is a limitation though it could have had minimal impacts on the final results, however as the median was observed in both of the time series analyses, it is not likely to have impacted the results of causality to a great extent.

9. Further Research

Based on the limitations that were reflected upon, extensions to the study have been identified for further research. It would be interesting to initiate the material ESG study on a larger sample where each of the corporations would be divided upon into their subsequent sectors, to understand the material ESG performance from an industry perspective. It would further be interesting to examine the causality of ESG and how the three pillars of ESG (Environmental, Social, and Governance) affect financial performance. Another interesting study would be to highlight how ESG and alternative energies are performing in the aftermath of the COVID-19 pandemic and the major disruptions in the Crude Oil market. Lastly, the study could be extended to determine the ultimate impact that ESG has on the Sustainable Development Goals Progression or certain sub-targets within the SDGs.

10. Bibliography

Bailard.com. 2017. *The Origins of Socially Responsible And Sustainable Investing*. [online] Available at: <<https://www.bailard.com/wp-content/uploads/2017/06/Socially-Responsible-Investing-History-Bailard-White-Paper-FNL.pdf?pdf=SRI-Investing-History-White-Paper>> [Accessed 10 May 2020].

Betti, G.; Consolandi, C.; Eccles, R.G. 2018. The Relationship between Investor Materiality and the Sustainable Development Goals: A Methodological Framework. *Sustainability* 2018, *10*, 2248.

"Beyond Dichotomy: The Curvilinear Relationship Between Social Responsibility and Financial Performance," Oxford University and New York University, *Strategic Management Journal*, 2006 [online] Available at <<http://onlinelibrary.wiley.com/doi/10.1002/smj.557/abstract> > [Accessed 5 April 2020]

Borsdata.se. 2020. *Nyckeltal Och Finansiell Data För Aktieanalys / Börldata*. [online] Available at: <<https://borsdata.se/>> [Accessed 6 May 2020].

Crowther, D. and Aras, G., 2020. *Corporate Social Responsibility*. [online] Mdos.si. Available at: <<https://www.mdos.si/wp-content/uploads/2018/04/defining-corporate-social-responsibility.pdf>> [Accessed 10 May 2020].

Chr-hansen.com. 2020. *Financial Results*. [online] Available at: <<https://www.chr-hansen.com/en/investors/business/financial-results>> [Accessed 12 May 2020].

Clarkson, M. (1995). A Stakeholder Framework for Analyzing and Evaluating Corporate Social Performance. *The Academy of Management Review*, vol. 18, no. 1, p.92-94.

Eccles, R., Ioannou, I. and Serafeim, G., 2014. [online] Hbs.edu. Available at: <https://www.hbs.edu/faculty/Publication%20Files/SSRN-id1964011_6791edac-7daa-4603-a220-4a0c6c7a3f7a.pdf> [Accessed 7 May 2020].

Eikon.thomsonreuters.com. 2020. *Refinitiv Eikon*. [online] Available at: <<https://eikon.thomsonreuters.com/index.html>> [Accessed 12 May 2020].

European Commission - European Commission. 2020. *EU Taxonomy For Sustainable Activities*. [online] Available at: <https://ec.europa.eu/info/publications/sustainable-finance-teg-taxonomy_en> [Accessed 5 April 2020].

Evan, W. M., & Freeman, R. E. (1988). A stakeholder theory of the modern corporation: Kantian capitalism. In T. Beauchamp & N. Bowie (Eds.), *Ethical theory and business*, pp. 74-95. Englewood Cliffs, NJ: Prentice Hall.

Fama, E. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work, *Journal of Finance*, vol. 25, pp.383–417

Freeman, R. E. (2010). *Strategic Management: A Stakeholder Approach*, Cambridge, Cambridge University Press.

Freeman, R. E. (1988). *Strategic Management: A Stakeholder Approach*. Pitman, Boston.

Friede, G., Busch, T., and Bassen, A., 2015. *ESG And Financial Performance: Aggregated Evidence From More Than 2000 Empirical Studies*. [online] Papers.ssrn.com. Available at: <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2699610> [Accessed 5 April 2020].

Guides.library.yale.edu. 2017. *Yale University Library Research Guides: Sustainability: Corporate Sustainability*. [online] Available at: <<https://guides.library.yale.edu/c.php?g=296179&p=2582471>> [Accessed 11 May 2020].

Hill, C.W.L. & Jones, M.T. (1992). Stakeholder-Agency Theory. *Journal of Management Studies*, vol 30, Issue 2, pp. 130-156.

Jeevan, P., 2020. *Green Washing - A Conceptual Framework*. [ebook] Pandeshwar, Mangalore.: Srinivas Institute of Management Studies, pp.1-11. Available at: <<https://gfgc.kar.nic.in/punjalakatte/GenericDocHandler/199-7648e754-48a2-44b4-83bef5a7f3ad81b7.pdf>> [Accessed 11 May 2020].

Kell, G., 2018. *The Remarkable Rise Of ESG*. [online] Forbes. Available at: <<https://www.forbes.com/sites/georgkell/2018/07/11/the-remarkable-rise-of-esg/#4505fdcb1695>> [Accessed 10 May 2020].

Law.harvard.edu. 2020. *Labor And Worklife Program*. [online] Available at: <<http://www.law.harvard.edu/programs/lwp/pensions/publications/FINAL%20Human%20Capital%20Materiality%20April%2023%202015.>> [Accessed 5 April 2020].

Lubcat.lub.lu.se. 2020. *Lubcat Katalog › Detaljer För: Corporate Governance And Sustainability*. [online] Available at: <<https://lubcat.lub.lu.se/cgi-bin/koha/opac-detail.pl?biblionumber=5416046>> [Accessed 5 April 2020].

Morganstanley. 2019. [online] Available at: <<https://www.morganstanley.com/pub/content/dam/msdotcom/infographics/sustainable->

investing/Sustainable_Signals_Individual_Investor_White_Paper_Final.pdf> [Accessed 5 April 2020].

Mortier, V., 2020. *ESG Investing In Recent Years: New Insights From Old Challenges*. [online] Research Center. Available at: <<https://research-center.amundi.com/page/Publications/Discussion-Paper/2020/ESG-Investing-in-Recent-Years-New-Insights-from-Old-Challenges>> [Accessed 10 May 2020].

Nibe. 2020. *Investorinformation, Nyheter Och Rapporter - NIBE Group*. [online] Available at: <<https://www.nibe.com/sv/investerare#Rubrik>> [Accessed 12 May 2020].

Neste. 2020. *Neste MY HVO Förnybar Diesel*. [online] Available at: <<https://www.neste.se/neste-my-hvo>> [Accessed 12 May 2020].

Novozymes. 2020. *Novozymes - Investors - Financial Reports - Annual Reports*. [online] Available at: <<https://investors.novozymes.com/investors/financial-reports/annual-reports/default.aspx>> [Accessed 12 May 2020].

Rockwool. 2020. *ROCKWOOL Sustainability Report 2019*. [online] Available at: <<https://www.rockwoolgroup.com/about-us/sustainability/sustainability-report/>> [Accessed 12 May 2020].

Statistiska Centralbyrån. 2018. *Sveriges BNP*. [online] Available at: <<https://www.scb.se/hitta-statistik/sverige-i-siffror/samhallets-ekonomi/bnp-i-sverige/>> [Accessed 6 May 2020].

Spglobal.com. 2020. *Exploring Links To Corporate Financial Performance*. [online] Available at: <<https://www.spglobal.com/en/research-insights/articles/the-esg-advantage-exploring-links-to-corporate-financial-performance>> [Accessed 5 April 2020].

Sustainabledevelopment.un.org. 2020. [online] Available at: <<https://sustainabledevelopment.un.org/content/documents/11803Official-List-of-Proposed-SDG-Indicators.pdf>> [Accessed 6 May 2020].

Tomra., 2020. *Investor Relations : TOMRA*. [online] Tomra.com. Available at: <<https://www.tomra.com/en/investor-relations>> [Accessed 12 May 2020].

UNDP. 2020. *Background Of The Sustainable Development Goals | UNDP*. [online] Available at: <<https://www.undp.org/content/undp/en/home/sustainable-development-goals/background.html>> [Accessed 5 April 2020].

UN. 1987. *Brundtland Report: Our Common Future*. New York: United Nations, pp.1-117.

UN. 2004. *Who Cares Wins*. [ebook] New York: United Nations & Swiss Federal Department United Nations of Foreign Affairs, pp.1-58. Available at:
<https://www.ifc.org/wps/wcm/connect/de954acc-504f-4140-91dc-d46cf063b1ec/WhoCaresWins_2004.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-de954acc-504f-4140-91dc-d46cf063b1ec-jqeE.mD> [Accessed 12 May 2020].

Unglobalcompact.org. 2020. *Social Sustainability | UN Global Compact*. [online] Available at: <<https://www.unglobalcompact.org/what-is-gc/our-work/social>> [Accessed 5 April 2020].

Vestas. 2020. *Vestas | Financial Reports*. [online] Vestas.com. Available at:
<https://www.vestas.com/en/investor/financial_reports#!csr_reports> [Accessed 12 May 2020].