Investigating the impact of CSR on Firm Performance: Evidence from European Retailers

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Abstract

Research has documented the impact of CSR in various industrial domains. When discussing the impact of CSR, scholars suggest various forms such as negative, positive and in some instances, CSR is portrayed to have a neutral impact on firm performance. As such, CSR impact across different industrial sectors becomes a complex phenomenon and is still inconclusive in prior literature. Moreover, there is little consensus on the impact of CSR within the retail sector. The purpose of this thesis is to investigate how retailers' CSR efforts measured by ESG score impact firm performance, measured as Return on Assets and Return on Equity. The study aims to address this gap in current literature. We employ panel data (2015-2020) retrieved from the Thomson Reuters Eikon database. Our data consist of 118 retailers from 14 countries across Europe. Using fixed-effects regressions to test our hypotheses, the results suggest that the relationship between ESG score and financial performance is negative, indicating that firms with best-rated CSR efforts tend to yield weaker financial performance. Additionally, we find that there are geographical differences in CSR performance. Our results show that Nordic retailers have lower ESG scores, in other words, weaker CSR performance, than retailers from the rest of Europe. The main contribution realized from our results is to complement prior debate on the emerging scholarship of results that aim to understand the impact of CSR within other industrial domains, as negative, neutral or positive. Our thesis ends by offering up a polemic to the manager's use of the term "sustainability" in comparison to "circularity".

Supervisor

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Keywords

CSR, ESG score, Financial performance, Environmental, Social and Governance performance

List of Abbreviations

| CSR | Corporate Social Responsibility |
|---------|--|
| ESG | Environmental, social and governmental |
| E score | Environmental score |
| S score | Social score |
| G score | Governance score |
| ROA | Return on Assets |
| ROE | Return on Equity |

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1. Introduction

1.1 Background & Problematization

Corporate Social Responsibility (CSR) is a set of responsible actions that companies undertake to affect societies positively while pursuing profits maximization. During the past decade, nations have had to wake up to a grim reality of devastating events worldwide, which the Paris Agreement (United Nations, 2016) accentuated already in 2016. Nations are reconsidering their actions due to the increased concern for climate change and the additional loss of security caused by the pandemic. Neither the corporations can any longer ignore the necessity of their responsible actions. As Sir David Attenborough underlines with his speech to the United Nations Security Council on February 23rd 2021: "We are about to face a collapse of everything that gives us security" (Sir Attenborough, 2021). He further explains that "business leaders recognise the ongoing instability, seeing the example of Covid-19 pandemic", and points out that if one wants to create a stable world, one needs to question today's economic models and values.

Due to the above sense of urgency, large public-interest companies in the EU have been required to disclose non-financial statements. The requirement was to include responses to social and environmental challenges since 2018 as part of the non-financial reporting directive (European Commission, 2021). Consequently, along with having a substantial effect in ensuring a sustainable future, CSR has been proven to enhance returns and contribute to risk management (Bonini and Görner, 2011). Thus, CSR is gaining an unwavering position in today's business world, regardless of the field. The theme was also addressed by Bill Gates in his "Green Manifesto" (Gates, B. 2021). Joe Biden follows up with powerful words in his inauguration speech; "a cry for survival comes from the planet itself, a cry that can't be any more desperate or any more clear now" (The White House, 2021). Further, seeing large tech companies, including Google, Microsoft, and Facebook going green with some of the world's most ambitious climate targets, demonstrates the scale and significance of forward-looking behaviour (Hook and Lee, 2009).

However, all attestation to the climate targets put together, the increasing pursuit of sustainability might also backfire, as can be seen from the consequences of Danone's strategy, which was centred around keeping sustainability objectives at the core of their business.

Prioritising environmental and social objectives beyond profit eventually led the company to underperform its competitors and lose market share. Hence, Danone poorly managed the balance between shareholder value creation and sustainability (Danone, 2021; Van Gansbeke, 2021; Kostov, 2021). Thus, exploring the financial consequences appears necessary, given the observed risks and the rising demands within sustainable corporate behaviour.

On the contrary, research from Lindgreen et al. (2009) argues that "managers have a relatively positive perception of CSR practices as improving, or at least not harming, business performance". Besides causing the "soft" benefits, such as social welfare, CSR translates into "hard" benefits, such as profits and sales returns in the long run. Similar conclusions about the positive association between corporate social performance (CSP) and corporate financial performance (CFP) have been brought forward by Waddock and Graves (1997), Roberts (1992), and Cheng et al. (2011). In turn, some studies have shown the connection to be either insignificant or even harmful. Additionally, Buallay (2019) proposes that we can see both positive and negative effects between CSR and firm performance, depending on the sustainability pillars and financial measures in focus. The relationship seems challenging to generalise reliably, leading us to approach the issue by limiting the scope to geographical and industrial specific contexts. In support of this, we specifically explore the European context as a distinct geographical location and its complementary industrial characteristics that are anchored in the retail industry. There are two reasons why we focus on the retailers industry. First, is the current needs of a sustainability- conscious society that impacts the retail industry. Seeing the effects of the Uyghurs scandal and tensions it has created between Beijing and western economies. Second, is the need to compensate for ethical implications that retailers face not only within the outsourced production systems but also the need to reinforce green supply chains that facilitate "fast fashion" business models that are widely accepted with European retailers (Paulraj et al., 2015). Although not universal, following the numerous controversial findings, we recognise that the connection between retailers' CSR performance and financial performance is still inconclusive and more research is still needed.

1.2 Research Purpose

The purpose of this study is to investigate the impact of CSR on European retailers. We aim to examine CSR actions that are essential for retail companies across Europe in terms of financial

performance. Additionally, we aim to add value to the ongoing research by investigating how retailers' CSR actions measured by ESG score impact their firm performance, measured as Return on Assets and Return on Equity. Furthermore, we operatilize our investigation to focus on Nordic countries and the rest of Europe. We focus on this separation due to common agreement that has been stated that Nordic countries are at the frontiers and perform highly in CSR and sustainability (Strand et al., 2014). Van Duuren et al. (2016) has shown that European managers tend to view the ESG framework in substantially different ways; we seek to examine whether there are geographical differences in CSR performance. Specifically, we believe that investigating differences between Nordic retailers' ESG scores and ESG scores of retailers from the rest of Europe enhances the findings. Lastly, exploring the financial value of sustainability hopefully amplifies actors' interest across industries in building a better business ecosystem. Hence the ultimate purpose of this thesis. To reach the stated purpose, the thesis aims to answer the following Main Research Question (MRQ).

Does CSR performance affect retailers' financial performance?

1.3 Delimitations

The data for this thesis is retrieved from the Eikon database for the period 2015-2020, as CSR performance has been under rising concerns during this period. The study solely considered European retailers, with an additional investigation on Nordic countries to add insights to the previous research while aligning with our interest and knowledge on the retail industry. Due to our research scope being delimited to solely retailers, our sample size will have a limited population as in the topic, constraining the sample size and adding a unique contribution to previous research. Lastly, the data on 463 firms had to be excluded due to missing ESG scores or information on financial performance.

1.4 Outline

This study begins with an Introduction, which consists of presenting the background for the topic, then shedding light on the purpose of the study, and lastly pointing out the delimitations and expected contributions. In the next section, we review previous literature and present the theoretical framework. More closely, this section introduces corporate social responsibility, regards the relevance of the environmental dimension, and connects the topic to the retail

industry. Finally, the section explores previous research and gives a brief overview of four theories that lay the groundwork for our hypothesis development. In the third section, we present the methodology in detail, including explanations of research design, data sources, and sample, followed by introducing variables and the model specification. The empirical results of the tests and analysis are showcased in section four while going into more details on statistical testing, complemented with discussion and conclusions in section five. Section six outlines the findings and managerial implications, ending our suggestions for future research. Finally, the paper ends with references and appendices.

1.5 Expected contributions

The study results are beneficial for a variety of stakeholders such as investors, customers, and suppliers. Accordingly, the findings create valuable inputs for managers on whether investing in CSR activities is worth the costs it inevitably causes and how much it contributes to a firm's financial success. As most previous studies demonstrate a correlation between companies' ability to tackle sustainability issues and financial performance, it is evident that stakeholders benefit from utilising sustainability reports when comparing, ranking, and better understanding businesses' overall performance. Consequently, investors seek to find out to what extent a company regards and prioritises CSR efforts (Hillman and Keim, 2001; Chakravarthy, 1986). Clarifying the practical consequences of CSR efforts is therefore beneficial for all the mentioned purposes. Finally, finding out the potential differences between the efforts in Nordic countries compared to the rest of Europe would add insights to the existing knowledge.

2. Previous literature and theoretical framework

2.1 Corporate Social Responsibility

'Meeting the needs of the present without compromising the ability of future generations to meet their needs' (United Nations, 1987) is a widely known way of defining what the term sustainability implies. However, when looking at the broad range of previous research and literature, one can see the multifaceted ways of describing the term. In this study, we regard sustainability from the CSR point of view, similarly to Lindgreen et al. (2009). In their research, Lindgreen et al. state that there is not only one way to apply CSR practices and act responsibly,

but also multiple different types of CSR depending on the stakeholder group in the target. Furthermore, different aspects of CSR are often emphasised by different organisations, while firms are widely and increasingly investing in CSR (Lindgreen et al., 2009).

Applying responsible business standards has become a requisite for many consumers. However, the various ways of defining sustainability that have set the courses in previous studies, may have contributed to why the impact on firm performance has also differed. Ullman's (1985) research on inconsistencies amongst social disclosure, social performance, and economic performance in U.S. corporations provides more grounds for perceiving the findings to be erratic. Inconsistencies may be reasoned to be a consequence of obscurity in key term definitions, a lack in applied theory, or deficiencies in the empirical databases used (Ullman, 1985). Due to these differences, generalising previous findings is challenging and leaves space for more research that objectively scrutinises the issue from a clear CSR perspective.

2.1.1 Importance of the environmental dimension

The environmental pillar of ESG score intuitively comes across as the dimension that has the most prominent effects on a firm's reputation in terms of its CSR efforts and as the dimension that is the most easily measured (Lanoie et al., 2011). On the same note and to this date, environmental protection is often assumed to increase fixed costs in a business context (Claver et al., 2007). However, according to Porter and Linde (1995), well-designed environmental standards can accelerate a firm's capacity to improve and innovate. Hence, instead of holding the cheapest inputs, it makes a firm internationally competitive. As a result, the costs that CSR causes can be partially or even fully offset.

Previous research from Horváthová (2012), covering a sample of Czech firms between 2004 and 2008, identifies a negative impact of environmental performance on financial performance. Interestingly, when looking at the relationship between the environmental and financial performance with a time-lag of two years, the impact turns out positive. Thus, it can evidence a win-win situation of having both the societies' welfare and private benefits of firms. Horváthová (2012) further suggests that pollution is portrayed as a sign of economic inefficiency. Thus, we may consider a solid environmental performance as crucial.

Lanoie et al. (2011) have also demonstrated that the expenses caused by environmental efforts, such as pollution reduction, may be partly or wholly compensated with the benefits they bring. Better access to specific markets, risk management, and relations with external stakeholders contribute to generating conditions where these 'win-win' situations may flourish, according to Lanoie et al. (2011) research on "green profitability". ESG disclosure, and mainly environmental, has also been favoured from investors' perspectives and positively associated with a firm value (Schiehll and Kolahgar, 2020).

2.2 Retail Industry

The retail industry is rapidly adapting to match the needs of a sustainability-conscious society. Seeing the effects of the Uyghurs scandal and tensions it has created between Beijing and western economies, one can see the power of sustainable values and the importance of meeting responsible business standards. Due to trade relationships with China's cotton and yarn producers, retailer giants such as H&M and Nike have made it clear not to overlook any violation of human rights, regardless of the impact on the bottom line (Shepherd, 2021). Consumption and brand loyalty are driven by sustainable values that align with the ones of modern consumers themselves. At the same time, the entire supply chains and business operations are expected to be socially responsible. Additionally, the abnormal circumstances we live in amid the Covid-19 pandemic have emphasised the importance of quality and durability of products we consume.

Grappi et al. (2013) have highlighted that recovering from the wounds that irresponsible corporate behaviour causes for consumers' perceptions might be challenging, because markets' demands for responsible business standards. Bhattacharya and Sen (2004) accordingly found that consumers tend to be quicker to react to irresponsible behaviour than responsible behaviour. Thus we may conclude that retailers must be cautious with 'doing bad' hurting their businesses more than 'doing good' ever benefits. A challenge that might arise in CSR has already become an integral part of many retailers' core businesses, turning the discussion from *whether* to be sustainable to *how* to be sustainable, as Bhattacharya and Sen (2004) research also accentuates.

CSR actions have become presumptions of doing business, and their impact is ethical, ideological and economical. There is evidence for beneficial impacts of CSR in terms of consumers' purchase intentions and loyalty. Through a phenomenon of so-called consumer-company identification, consumers reflect their sense of connection with firms that engage in the CSR activities (Bhattacharya and Sen, 2004). This forms further grounds for retailers to adopt CSR to their strategy going forward. Consumers' sense of well-being can also be improved by CSR, which in the long run may indirectly result in an increased bottom line (Bhattacharya and Sen, 2004). Thus, the link between retailers' sustainable actions and financial outcomes can again be perceived as worth assessing. Particularly as the prevailing pandemic is tilting the retailing landscape, retailers are forced to reconsider how to optimise their supply chains, deliveries, and inventories, in a way that satisfies the socially aware and environmentally conscious market.

2.3 Previous research on sustainability and firm performance

Several previous studies have addressed the connection between sustainability measures and firm performance, which we regard together with the relevant theories when building up the hypotheses. This link is essential for the firms, as sometimes contradicting the broad spectrum of findings impacts business performance. In addition, McWilliams and Siegel (2000) have concluded the previous research on the topic to be inconclusive, and as elaborated below to report (1) positive, (2) neutral, and (3) adverse outcomes of the association. These relevant yet scattered findings are clarified on *Table 1*.

2.3.1 Positive relationship

Research from Buallay (2019) connects the ESG dimensions with operational performance, financial performance, and market performance, demonstrating a positive causal connection in market performance. The authors demonstrate that ESG practices are part of a firm's goodwill, which may explain the relationship between ESG and firm performance (Buallay, 2019). Consequently, a firm's ESG score may positively impact ROA. ROE is expected to increase due to higher demand and more significant growth, which is in turn triggered by firms' sustainable actions.

Well-managed relationships with primary stakeholders, may also create valuable intangible assets that generate competitive advantage in terms of long-term value creation, which in turn increases shareholder wealth (Hillman and Keim, 2001). The significance of CSR efforts can also be explained by the rapidly increasing competition, which requires companies to find competitive advantages that are hard to duplicate. Gaining the attention of investors consequently provides more resources to invest in sustainability, which efficiently attracts customers and thus ultimately increases the revenues.

Moreover, CSR investments help generate productive intangible assets and increase shareholder value (Hasan et al., 2018). Previous studies show that CSR would cover the costs incurred when social aspects of shareholder benefits align the organisation's vision. Thus, it would be crucial to integrate CSR strategies with firm core business and production to maximise the shareholder value. Consequently, findings from Lindgreen et al. (2009) evidence that positive CSR perception improves business performance.

Even though current evidence can be too volatile for drawing generalisable conclusions, a firm's social performance and financial performance should not be seen as a trade-off (Orlitzky et al., 2003). Thus, Orlitzky et al. (2003) findings show that social responsibility and environmental efforts, at least to some extent, are presumably worth the costs. Findings show that Corporate Social Performance (CSP) generally correlates positively with financial performance and that firm reputation plays a crucial role in mediating the relationship.

Lastly, Waddock and Graves (1997) argue that the actual costs of CSR efforts, especially in terms of CSP, are relatively low compared to the vast benefits they can bring. We can conclude that if a firm is acting irresponsibly to reduce its implicit costs, direct costs will increase and push the firm in an unfavourable position of competitive disadvantage. In conclusion, the study on empirical linkages between financial and social performance portrays how the relationship between the two goes both ways: CSR is positively associated with both prior and future financial performance, leading to a beneficial circle (Waddock and Graves, 1997). These findings from Waddock and Graves (1997) perfectly reflect the theories of slack resources and good management, which we will elaborate on in the next section.

2.3.2 Neutral relationship

The previous research has proven a neutral relationship between the variables as well. Elsayed and Paton (2005) analysed the link between environmental and financial performance of 227 UK firms. They found the impact to vary according to the industry when it comes to measuring financial performance by Return on Assets. For the chemical and telecommunication industries, the correlation between environmental performance and ROA was positive, whereas, in textiles, clothing, metals, and motor vehicles industries, the relationship was negative. Yet, for other financial measures, there was no such differing impact found. Moreover, the impact on ROA also remained insignificant, and firms' environmental performance essentially had a neutral impact on firm financials. The findings align with the logic that firms reap the CSR investments returns when the marginal cost of such investments equals the marginal benefit (Elsayed and Paton, 2005).

2.3.3 Negative relationship

Research of Buallay (2019) concerning the ESG dimensions and their link to operational, financial, and market performance shows that both the operational and financial performance is negatively impacted by CSR activities. Based on the cost-of-capital reduction theory, ESG investments merely create costs, which results in a weaker financial performance for the firm. However, since a high ESG score may also have beneficial impacts as elaborated above, Buallay (2019) suggests the stakeholders to expand their knowledge on the effects of CSR, in order to achieve better investment choices.

Friedman (1970) has stated that corporations should not have social responsibilities. The main responsibility is to maximise profits while not violating the basic rules of our society. This profit-maximising view, named shareholder theory, functions as an argument for CSR activism not contributing to a firm's financial performance in a positive way. CSR investments can be seen as unnecessary costs, contributing to reducing the bottom line. Respectively, Elsayed and Paton (2005) describe the relationship summing up the environmental improvements and lower financial profits as a trade-off between benefits to society and costs to a firm.

2.4 Theoretical framework

2.4.1 Shareholder theory & Stakeholder theory

A classic way of defining a company's purpose entails maximising the shareholder value (Friedman, 1970). The shareholder theory argues that the few benefits arising from sustainability efforts do not offset the costs. However, this view is countered with a theory brought forward by Freeman (1984), arguing that all the stakeholders should benefit from the value creation in the firm, and their demands should be considered (Roberts, 1992). Sustainability issues play an essential role for a wide range of stakeholders, and consequently, business sustainability is primarily driven by stakeholder needs and interests (Buallay, 2019). Further, Chakracathy (1986) identified "the continued cooperation of the firm's multiple stakeholders" (pp. 448) to be a necessary condition for firm excellence, which strengthens the significance of stakeholder theory in the context of many-sided value creation. However, meeting all stakeholder demands while ticking off all strategic objectives is not a simple or straightforward task.

2.4.2 Good management theory

Similarly, a firm's overall performance can be seen as a result of well-maintained relationships with stakeholders. This consequently builds up the favourable attention to the responsible actions and positive perceptions and reputation about a company's environmental awareness. Ultimately, this serves as a competitive advantage. Waddock and Graves' (1997) research accordingly shows that CSP correlates positively with future financial performance, which can be seen as a result of a positive relationship between good management and CSP.

2.4.3 Slack resources theory

Firms that generate solid financial performance generate slack resources to spend, which in turn implies wider opportunities to invest in sustainability. Therefore, a high ESG-score could be reasoned to be a consequence of, not a predictor for, the financial status (Waddock and Graves, 1997). However, a challenge might lie in evaluating how well firms invest their slack resources, hindering the possibility to draw solid conclusions (Chakravarthy, 1986). Moreover, Chakravarthy has also highlighted the importance of slack resources regarding a firm's

flexibility and identifies a positive relationship between 'excellent' firms and their ability to engender more slack resources. In a nutshell, slack resources theory might indicate that high ESG scores are consequences of sound financial performance and the ability to invest in sustainability.

2.5 Hypothesis development

The hypotheses of this study are developed based on the above groundwork: previous research, theoretical framework, and findings of the connection between the firms' ESG score and their financial performance. Correspondingly, hypotheses are formed to determine whether CSR has different effects on different performance indicators, covering the research question. Lastly, we examine whether the ESG scores are higher in the Nordic countries compared to the rest of Europe.

There is considerable evidence of firms' CSR efforts paying back the costs they cause, not only due to reputational benefits but also enhanced productivity and attraction towards investors, which leads to competitive advantages. If we additionally regard good management theory, efforts in CSR tend to improve relationships with the key stakeholders, leading to better performance overall. Combined with favourable customer perceptions, sales can be expected to increase while stakeholder management costs can be further reduced - this creates a "virtuous circle". Moreover, considering the slack resources theory makes our arguments more solid. Better financial performance may result in firms having slack resources, converting into opportunities to invest more in sustainability. Here, the ESG score could be both a predictor and a consequence of better firm performance, as measured as ROA and ROE. This would make the relationship positive in general and lead to the hypotheses H1a and H2a below.

Regarding the three dimensions of the ESG score, the environmental pillar seems to be more beneficial than a burden for firms. Even though incurring fixed costs is unavoidable, solid environmental performance has been shown to pay itself back and steer firms in a 'win-win' situation in the long run. The social dimension is, on the contrary, much more challenging to measure, shaking the belief of forming reliable relationships or conclusions. Thus, as the environmental performance has been positively regarded from investors' perspective, we formulate the hypotheses H1b and H2b below.

H1a. There is a positive relationship between a firm's ESG score and financial performance (ROA).

H1b. Retailers' environmental activism is more positively related to their financial performance than social and governance activism.

H2a. There is a positive relationship between ESG and financial performance (ROE).

H2b. Retailers' environmental activism is more positively related to their financial performance than social and governance activism.

Lastly, the historical origin, differences in economic openness, and disparities of cultural values have impacted economic outcomes and CSR behaviour (La Porta, 2008; Scholtens and Sievänen, 2012). Additionally, Nordic countries are perceived to be forerunners in CSR, sustainability, and well-being (Strand et al., 2014). Given our scope of European retailers, we will research whether the ESG score is lower in the rest of Europe compared to Nordic countries. The relationship between a firm's ESG score and firm performance could thus be applied to find out whether the CSR efforts are of remarkable importance for the Nordic firms in particular. That is to say, if a positive relationship is identified, high ESG scores would imply major opportunities for Nordic retailers to capitalize on their CRS actions. Additionally, Nordic countries are shown to have a long history of great stakeholder engagement. Thus based on the previous research, theory of stakeholders and emphasized contribution for the Nordic retailers we have formed our last hypothesis:

H3. European non-Nordic retailers have a weaker ESG performance than Nordic retailers.

3. Methodology

3.1 Research

We conduct quantitative and deductive research and use secondary data to examine our hypotheses. We investigate hypothesis 1ab and 2ab using panel data regression. We address hypothesis 3 with an independent samples t-test. We also control for various control variables and run additional robustness tests to make our conclusions more solid.

3.2 Data Sources

In this study, the secondary data has been retrieved from the Eikon Thomson Reuters database, which includes data stream and global financial and economic data. The CSR and financial data associated with publicly listed retailers are based on European stock exchanges between 2020 and 2015 since sustainability concerns have been rising during this period. Firms that were not disclosing environmental, social, and corporate information on the Eikon database were not considered.

3.3 Sample

The first initial sample included 584 firms listed in European stock exchanges, out of which 457 were missing ESG scores, leading to a sample of 127 firms. Finally, we dropped nine firms due to missing financial data, ending up with a sample of 118 firms and 708 observations over the years 2015-2020. One explanation for the missing variables was that the firms were probably being delisted from the stock exchange. Please refer to *Table 2* for sample selection. The firms were further distributed into 14 countries across Europe, which are shown in *Table 3*. Lastly, the range of retail industries included in the sample are shown in *Table 4*.

3.4 Dependent variables - Firm Performance

Based on previous research, a mix of accounting-based and market-based measures has been applied to study the relationship between the firm's financial performance and sustainability performance (Ullman, 1985). A myriad of studies has used ROA and ROE to measure accounting returns (Waddock and Graves, 1997; Elsayed and Paton, 2005; Buallay 2019). We describe these measures below.

Return on Assets (ROA) As mentioned above, ROA has been widely used as a proxy for the firm's performance. With this dependent variable, we aim to portray how efficiently the assets are utilised (Lee and Faff, 2009). ROA is defined as the net income's ratio to the average of the opening and closing balance assets, and we computed the formula as follows:

ROA i,t = EBIT i,t / Average (Total Assets i,t + Total Assets i,t-1)

where EBIT is attributable to both shareholders and debtholders, and Average assets are measured by the average of opening and closing value of total assets.

Return on Equity (ROE) The financial performance of the retailers was additionally measured by the Return on Equity, which has as well been used as a proxy for the firm's financial performance in previous research (McWilliams and Siegel, 2000; Buallay 2019). ROE is defined as the net income's ratio to the total firm's equity, and the formula is computed as follows:

3.5 Independent variables - Sustainability Performance

This study employs the ESG score as an independent variable. The ESG scores are retrieved from the Eikon Thomson Reuters database and reflect a transparent and data-driven estimation of companies' relative CSR performance (Refitiniv, 2020). The total ESG score summarises three dimensions of a firm's CSR actions: Environmental, social, and governmental. ESG score varies in the range from 0 to 100, 100 being the highest. Our study adopts the ESG score as an appropriate measure for capturing the firms' engagement in CSR efforts as a whole. ESG score captures a wide range of sustainability measures from the firms' environmental actions (e.g.

policies for emissions reduction and use of renewable energy) and social commitments (e.g. diversity, health and safety programs) to the governmental operations (e.g. stakeholder transparency and shareholder interests) (Refinitiv, 2020; Duque-Grisales and Aguilera-Caracuel, 2019). Factors that construct the ESG framework are elaborated below.

E score denotes environmental responsibilities that a firm fulfils. Firstly, these responsibilities include matters such as policies on environmental emissions reduction in both production and operational processes. Secondly, improvements in supply chain management that enable firms to reduce their use of resources and utilise renewable energy are a part of the E score. Lastly, the E score covers the firm's innovation in creating new market opportunities, such as new environmental technologies and processes. This consequently signifies the firm's ability to reduce environmental costs for customers. Thus, the E score essentially mirrors the way and extent to which a firm manages to avoid environmental risks while seizing environmental opportunities.

S score indicates how engaged a firm is in the community it operates and beyond in terms of human rights, workforce, and product responsibility. In terms of workforce-related issues, the S score considers the degree to which a firm provides job satisfaction, offers equal opportunities, and guarantees a healthy, safe, and diverse workplace. Further, firms' commitments towards business ethics and protection of public health are considered. Goods and services must be of high quality and take customers' health, safety, integrity, and data privacy into account. Lastly, the S score implies how a firm tackles social issues, and thus it often reflects the firm's reputation.

G score mirrors the firm's management and CSR strategies in considering the interests of the shareholders in the long term. The G score includes issues around transparency, shareholder rights, and CSR strategy and is affected by how the firm is following best practice corporate governance principles. Equal treatment of shareholders is also considered, along with regarding the economic, social, and environmental aspects in decision-making processes.

By combining the environmental, social, and governmental dimensions, the use of the ESG score does not limit the study by focusing on only one aspect of the sometimes elusive concept. However, the pitfall may be summarising a broad range of acts in one measurement, potentially hiding how the factors are balanced behind the score. Strong execution of environmental acts combined with poor management of social issues may still result in a relatively high overall

ESG score. Hence, we address this concern by analysing the ESG score as a holistic proxy for sustainability performance and its three pillars.

3.6 Control variables

To complete the model, we use multiple control variables identified in a repertoire of previous research (Waddock and Graves, 1997; Horváthová, 2012; Elsayed and Paton, 2005; McWilliams and Siegel, 2000) to influence both ESG score and firm performance.

Firm size can be seen as a prominent control variable due to the possible economies of scale, which is often essential in environmentally oriented investments (Elsayed and Paton, 2005). Furthermore, the pressure to act responsibly might be higher for larger companies, which is showcased by them being generally more engaged in CSR actions (Waddock and Graves, 1997), also due to more extensive resources and communication (Stanwick and Stanwick, 1998). Lastly, Bhattacharya and Sen (2004) found that as the size of a firm engaging in CSR increases, consumers' positive attitudes and attributions decrease. Aligning studies from Hasan et al. (2018) and Horváthová (2012), we define Firm size as:

Firm Size i,t = The natural logarithm of total assets i,t

Growth is found to have favourable effects on profitability through the increased motivation of managers, attracting a skilled workforce, and providing extra market power (Brush et al., 2000). In this research, Growth is defined as:

Growth i,t = (Sales i,t /Sales i,t-1) - 1

Leverage is in this study captured as long-term debt to asset ratio, in line with the method of e.g. Elsayed and Paton (2005), McWilliams and Siegel (2000), and Waddock and Graves (1997). We apply leverage as a proxy of unsystematic risk and regard Duque-Grisales and Aguilera-Caracuel's (2019) findings. A higher level of ESG can be an implication of lower perceived risk related to lower costs of debt capital. Dawar (2014) and Lazar (2016) have found that leverage negatively impacts firms' financial performance. This may be backed up by managers' actions being influenced by the level of debt. As mentioned, leverage is in this study captured as:

Advertising is a relevant control variable since it may positively correlate with the image of firm reliability based on CSR attributes, in turn influencing the firm performance (McWilliams and Siegel, 2000). The authors further explain how many companies incorporate CSR into their marketing strategies by, for instance, displaying CSR-related labels to establish a socially responsible corporate image that attracts key customer segments. As it was not possible to retrieve this information, advertising intensity has been replaced by a proxy of intangible assets to sales ratio for this variable:

Intangible assets to sales i,t = Intangible assets i,t / Sales i,t

Nordic countries vs rest of Europe To determine if there are any differences in CSR efforts between the countries examined, this study used dummy variables to separate between Nordic and non-Nordic firms. Such a variable is used as a way of quantising a categorical variable containing non-numerical data. The dummy is coded as 1 when a firm is located in a Nordic country and as 0 for a firm operating in the rest of Europe.

3.7 Model specification and Statistical tests

Our model estimates the relationship between CSR performance and the firm's performance as follows:

$$\begin{aligned} Perf_{i,t} &= \beta_0 + \beta_1 ESG_{i,t-1} + \beta_2 EnvPerf_{i,t-1} + \beta_3 SocPerf_{i,t-1} + \beta_4 GovPerf_{i,t-1} \\ &+ \beta_5 FirmSize_{i,t} + \beta_6 SalesGrowth_{i,t} + \beta_7 Adv_{i,t} + \beta_8 Lev_{i,t} + \beta_9 Year_{i,t} \\ &+ \beta_{10} Industry_{i,t} + \varepsilon_{i,t} \end{aligned}$$

Where $Perf_{i,t}$ is the dependent variable measuring ROA for hypothesis 1 and ROE for hypothesis 2, $ESG_{i,t-1}$, $EnvPerf_{i,t-1}$, $SocPerf_{i,t-1}$ and $GovPerf_{i,t-1}$ are the independent variables, and $FirmSize_{i,t}$, $SalesGrowth_{i,t}$, $Adv_{i,t}$ and $Lev_{i,t}$ are the control variables. $Year_{i,t}$, and $Industry_{i,t}$ in turn control for industry and year fixed effects, while $\varepsilon_{i,t}$ is the error term. *t* marks for the year of observation, and lastly, *i* stands for the cross-sectional unit, in this case, Firm. This baseline model is used to test our null hypothesis β_1 : level of ESG score being unrelated with firm performance.

4. Empirical Results and Analysis

4.1 Descriptive Statistics

Table 5 shows the descriptive statistics of dependent, independent, and control variables. The study incorporated two firm performance proxies as dependent variables; ROA and ROE. Correspondingly, the study incorporated CSR as an independent variable. CSR was captured with the total ESG score and the environmental, social, and governance scores separately. Moreover, the study incorporated Intangible assets to sales ratio, growth, firm size, and leverage as control variables. As we can see from *Table 5*, ROA has a mean value of 9.9% and a standard deviation of 7.9%, the standard deviation being lower than the mean. This indicates that the variable is not very volatile. Moreover, ROE does not either have a large variation in the data. The average total ESG score is 46.23. Out of the three ESG pillars, the social dimension takes the highest average score (61.15) for the cohort of retailers, followed by the environmental pillar (52.10). The lowest value is the governance pillar (44.17).

4.2 Correlation

Table 7 shows the direction of the relationships among the variables examined to get insights before running the tests. We can judge multicollinearity through the above correlation matrix, which shows the level of collinearity between the dependent and independent variables. However, the variance inflation factor VIF will better assess whether multicollinearity exists on a deep level or not, which will be discussed in the selection Diagnostic Tests. As shown in *Table 7*, the correlation coefficients are not very high, which indicates that the estimations will not suffer from collinearity among the independent variables. Therefore, we only use the correlation matrix to test the relationship between the dependent and independent variables. The results show a positive but insignificant correlation between ROA, the ESG score, and the governance score, but a negative relationship with the environmental and social scores. The correlation is also positive and insignificant between ROE and both the total ESG and governance scores, and negative with social and environmental and social, which suggests that firms performing well in sustainability are likely to have a broad responsible societal approach. Besides, size and growth are highly positively correlated with the total ESG

score and its pillars, aligned with previous research. This is evidence that larger firms are more active in CSR efforts since they are expected to act more sustainably than small scale firms. Dawar (2014) and Lazar (2016) explained that leverage is significantly negatively correlated to both ROA and ROE.

4.3 Hausman Test

In this section, we will discuss the results of the Hausman test, which was conducted to find out the most appropriate model for this study. The firm-specific terms are randomly distributed when it comes to the random-effects model, while the fixed effects model approximates a parameter for each firm. Accordingly, seeing differences between the two sets of coefficients would be a consequence of the fixed effects estimation is appropriate. Thus, we ran the Hausman test to control undetected heterogeneities and to find out whether the fixed effects model or random effect model is the most appropriate version for the analysis. The test was performed for the eight versions of the baseline model, showing that we reject the randomeffects model at 1% significance level. This led to the conclusion that the fixed effects model is the most suitable alternative for further conducting our regression tests.

4.4 Diagnostic tests

4.4.1 Multicollinearity

The study uses the Variance Inflation Factor (VIF) to examine the multicollinearity between the variables. The ESG score combines the three different dimensions E, S, and G, which are expected to be correlated. High values of VIF imply that the independent variables are highly collinear with the other variables - which is logic in the case of interrelated ESG pillars. Multicollinearity can be perceived as problematic for the independent variable if a VIF is higher than 10. Consequently, VIF lower than 10 makes multicollinearity acceptable. As per the results of the VIF test displayed in *Table 6*, both the overall ESG score and the three pillars show strong multicollinearity. As mentioned above, this is a natural consequence of the total ESG score being interrelated with its components. However, we apply these four factors to our research separately, and therefore the strong multicollinearity does not cause any issues. Lastly, the controlling variables generated no multicollinearity issues since the VIF was lower than 10.

4.4.2 Heteroskedasticity

In this section of the study, we tested heteroskedasticity based on two dependent variables; Return on Assets and Return on Equity. With heteroskedasticity, we refer to error variances that are a function of one or more variables. This impacts the coefficient's variance and results in unreliable standard errors (Wooldridge, 2002). To investigate whether heteroskedasticity is present, we performed a Breusch-Pagan / Cook-Weisberg. The results for heteroskedasticity show that the models based on ROA and ROE are heteroscedastic (F-value=30.74 and p=0.00). Hence, we will use robust standard errors in the fixed effect regressions to address the issue.

4.4.3 Serial correlation

We refer to error terms with a serial correlation over time, which impacts the standard errors by causing a bias similar to heteroskedasticity. Serial correlation violates the Gauss-Markov assumptions, making OLS estimators no longer the best linear unbiased estimators (Wooldridge, 2009). To examine the serial correlation, we run a Woolridge test for our baseline model (Wooldridge, 2002). The results show that serial correlation is present in the models based on ROA and ROE. The null hypothesis that there was no autocorrelation was rejected at a 5% significance level. To address the issue of serial correlation, we clustered the standard errors at the firm level.

4.4.4 Winsorization

To lessen the impact of spurious outliers that may bias our results, the dependent variables ROA and ROE and growth were winsorized at the 1st and 99th levels. Winsorization of these variables was cautious to prevent it from influencing the results of the study. In later robustness tests, ROE was winsorized at the 5th and 95th due to the considerable differences between its mean and median. See *appendix 6*, displaying histograms of both winsorization levels of ROE.

4.5 Endogeneity

The endogeneity dilemma in regression models occurs when the dependent variable is correlated with the error term and it appears in three different issues : correlated variables, reverse causality and simultaneity (Nikolaev et al., 2005). This problem results in biased estimators and unreliable findings. To control potential concerns with endogeneity, we followed Ketokivi and McIntosh's (2017) conventional steps on the issue of minimizing the endogeneity dilemma. First, as much as possible, we specified all the models according to the established statistical practices in literature. Second, due to the application of fixed effect models, we were able to mitigate potential endogeneity issues by controlling for the year and industry effect. This way, events such as the impact of the pandemic outbreak that may affect the financial performances of firms observed across retailers were included. Additionally, the reverse causality occurs when the independent variable can cause the dependent variable. As mentioned previously, because of slack resources, a high ESG-score could be reasoned to be a consequence of, not a predictor for, the financial status (Waddock and Graves, 1997). To reverse the causality issue, we used lagged variables between the dependent and independent variables. Finally, as much as possible, we grounded all our hypotheses in theory and we conducted various sensitivity checks to confirm the robustness of our results.

4.6 Regression results

Tables 9 and *10* show the results of the regressions analysis. These results address the effects for all our independent variables: total ESG score (Model 1), and the disaggregated E (Model 2), S (Model 3), and G (Model 4) pillars separately, firstly using ROA and secondly ROE as a dependent variable. Besides, we include the control variables Intangible assets to sales ratio, Growth, Firm size, and Leverage in the regression analysis. We ran fixed effect regressions to test hypotheses 1ab and 2ab. First, we test whether a positive relationship exists between the ESG score and ROA and whether environmental activism has a stronger impact. Then, we test whether a positive relationship exists between ESG score and a firm's ROE and whether environmental activism has a stronger impact. A one-year lag between the independent variables and performance measures is incorporated in our baseline regressions. The firm and industry fixed effects are controlled throughout the testing, while standard errors are clustered at the firm level. All adjusted R squared values shown in the test results are superior to the acceptable limit for our models.

| | ROA | | | |
|---|---------------------|---------------------|---------------------|---------------------|
| | Model. 1 | Model. 2 | Model. 3 | Model. 4 |
| Explanatory variables | | | | |
| ESG | -0.0007* (0.000) | | | |
| ENV | | -0.0002 (0.000) | | |
| SOC | | | -0.0002 (0.000) | |
| GOV | | | | -0.0004 (0.000) |
| Control variables | | | | |
| Adv. | -0.034** (0.019) | -0.034** (0.019) | -0.041** (0.018) | -0.034** (0.019) |
| Growth | 0.076*** (0.015) | 0.075*** (0.015) | 0.076*** (0.015) | 0.076*** (0.015) |
| Size | 0.0007 (0.000) | 0.0007 (0.000) | 0.0007 (0.000) | 0.0007 (0.000) |
| Leverage | 0.042** (0.023) | 0.042** (0.042) | 0.042** (0.022) | 0.043* (0.023) |
| Regression details | | | | |
| Firm controls Industry FE Year FE | YES YES YES | YES YES YES | YES YES YES | YES YES YES |
| Adjusted R ² | 0.268 | 0.267 | 0.266 | 0.267 |

Table 9: Return on Assets - time-lag of 1 year

Number of observations (n) = 708; number of firms = 127. The table includes coefficients of the regression model with ROA as a dependent variable and the ESG, E, S, G scores and independent variables run separately. A one year lag is applied between the dependent and independent variables. ROA and growth are winsorized at the 1st and 99th percentile. Standard deviations are shown in parentheses. ***p < 0.001; **p < 0.01; *p < 0.05

| | ROE | | | |
|---|--------------------|--------------------|--------------------|--------------------|
| | Model. 1 | Model. 2 | Model. 3 | Model. 4 |
| Explanatory variables | | | | |
| ESG | -0.0002 (0.000) | | | |
| ENV | | -0.0002 (0.000) | | |
| SOC | | | -0.0001 (0.000) | |
| GOV | | | | -0.0001 (0.000) |
| Control variables | | | | |
| Adv. | -0.017 (0.019) | -0.017 (0.046) | -0.017 (0.046) | -0.017 (0.046) |
| Growth | 0.054 (0.046) | 0.055 (0.061) | 0.054 (0.062) | 0.053 (0.062) |
| Size | -0.0006 (0.001) | -0.0006 (0.001) | -0.0006 (0.001) | 0.0006 (0.001) |
| Leverage | -0.003 (0.059) | -0.002 (0.060) | -0.003 (0.060) | 0.002 (0.059) |
| Regression details | | | | |
| Firm controls Industry FE Year FE | YES YES YES | YES YES YES | YES YES YES | YES YES YES |
| Adjusted R ² | 0.108 | 0.108 | 0.107 | 0.108 |

Table 10: Return on Equity - time-lag of 1 year

Number of observations (n) = 708; number of firms = 127. The table includes coefficients of the regression model with ROE as a dependent variable and the ESG, E, S, G scores and independent variables run separately. A one year lag is applied between the dependent and independent variables. ROE and growth are winsorized at the 1st and 99th percentile. Standard deviations are shown in parentheses.

***p < 0.001; **p < 0.01; *p < 0.05

4.6.1 Hypothesis 1a and 1b

Regression results of the baseline model using ROA as a dependent variable (*Table 9*) present that achieving a high ESG score leads to worse financial performance ($\beta = -0.0007$; p < 0.10). Moreover, the control variables of Growth and Leverage are positively associated with ROA, at significance levels of 10% and 5% respectively, while control variable Intangible assets to

sales ratio is negatively connected to ROA ($\beta = -0.0034$; p < 0.5). Hence, we can conclude that the total ESG score impacts ROA negatively in the presence of growth, firm size intangible assets to sales ratio, and leverage. We thus reject Hypothesis 1a.

Since a strong performance in environmental sustainability may offset poor management of social issues, which results in a biased total ESG score, we ran regressions separately for all three components of the ESG score. When looking at findings using the E, S, and G pillars separately as the independent variables, environmental efforts do not appear to generate any stronger or more positive impacts on financial performance than the social and governance dimensions. Besides, the results show statistical insignificance for all of the three pillars. We thus cannot confirm Hypothesis 1b. In terms of the control variables, findings are largely coherent when examining the total ESG score. Growth, Leverage, and Intangible assets to sales ratio each imply to have a significant impact on the relationship in focus, yet they do not yield any stronger effect on the association between the environmental aspects and ROA in comparison with the social and governmental operations and their effects.

In terms of hypotheses 1a and 1b, we can conclude that the overall ESG score may negatively impact the firm's financial performance. Accordingly, the effect of the Environmental pillar may also be negative when analysed separately. However, there is no evidence for a significant association between CSR and ROA nor a stronger environmental influence. Thus, these results do not support our hypotheses 1a and 1b, which suggested the relationships to be positive and the impact of environmental actions to be the strongest out of the three dimensions. These results are consistent with Buallay (2019) and Elsayed and Paton (2005), who have suggested that CSR activities are a trade-off between additional costs and environmental improvements.

4.6.2 Hypothesis 2a and 2b

The results displayed in *Table 10* again show a negative, however statistically insignificant, relationship ($\beta = -0.0002$; p > 0.10) between the total ESG score as an independent variable and ROE as a dependent variable. When observing the impact of control variables on the firm ROE, findings similarly remain insignificant as the baseline regression is performed at 1-year lag. These results directly contradict hypothesis 2a, which proposed the relationship to be

positive in the presence of control variables of Growth, Firm size, Intangible assets to sales ratio, and Leverage.

When next analysing the effects of E, S, and G pillars separately, as the independent variables in correlation with the firm's ROE, the findings are yet again insignificant. Interestingly, the impact of environmental dimensions is even more negative than the impact of both social and governance pillars. However, the negative relationships are not of statistical significance as mentioned. Thus, hypothesis 2b is also contradicted. We can conclude that the pillars impact financial performance negatively. However, again seeing no evidence for a significant association with return on equity. Accordingly, the overall ESG score may impact the firm's financial performance negatively, in light of our findings. These results remain consistent with Buallay's (2019) findings, however, contradicting the evidence from Waddock and Graves (1997), Lindgreen et al. (2009), and Orlitzky et al. (2003).

4.7 Robustness Tests

A set of robustness tests was conducted along with our previous analysis to test our results and assess our model's sensitivity to the validity of its assumptions. We run additional regressions of ROA and ROE with a two-year time lag and no time lag. It has been advised by previous research to test the different levels of the stickiness of the environmental performance (Waddock and Graves, 1997). Further, ROE was winsorized at the 95th percentile due to its sensitive small denominator and its significant difference between its mean and median.

4.7.1 Hypothesis 1a and 1b

As a consequence of performing robustness results with Return on Assets as a dependent variable and without considering any time lag as portrayed with *Table 11*, the relationship between total ESG score and firm performance remains negative at a significance level of 10%. The relationship, however, showed to be slightly weaker than in terms of a time lag of 1 year. The effects of control variables Intangible assets to sales ratio, Growth, Firm size, and Leverage hold regardless of the time lag, allowing us to conclude these findings being relatively robust. While scrutinising the ESG pillars individually, the results do not differ between the time lags either. We can see that the effects of the environmental actions on ROA turn slightly more

negative when increasing the time lag to 2 years, shown in *Table 12*, the values still being statistically insignificant. Thus, our model appears to be relatively unaffected by the differences in the time lags, and hypotheses 1a and 1b are still contradicted.

4.7.2 Hypothesis 2a and 2b

Tables 13, 14, and *15* display the robustness tests, where ROE is used as a proxy of firm performance. In the scenario of considering no time lag between the ESG score and financial consequences, the relationship between the two variables still appears to be negative, and statistically insignificant. It is worth noting that control variables Intangible assets to sales ratio and Growth turn significant at 5% and 1% level respectively when considering a 2-year time-lag, implying them influencing the relationship between the firm's CSR efforts and bottom line. This is, however, not the case in the light of time-lag absence.

The environmental dimension does not stand out as a dimension generating the strongest positive impact on ROE in non-existing time-lag. Furthermore, as we analyse the robustness test considering a 2-year time-lag, the relationship between the environmental pillar and ROE is the most negative, nevertheless insignificant. Hence, hypotheses 2a and 2b are still contradicted.

4.8 Hypothesis 3

The independent samples t-test was used for examining the differences between Nordic and non-Nordic firms in terms of their ESG performance. The t-test allowed us to compare the means of these independent groups and evidenced differences in their engagement in CSR actions. The descriptives and t-statistic tests portrayed in *Table 16* show that the means for Nordic firms' total ESG score, Environmental, Social and Governance dimensions are 42.451, 50.659, 57.389, and 37.923, respectively. Whereas for the non-Nordic firms, the means for the same subjects are 49.791 (>42.451), 53.346 (>50.659), 62.644 (>57.389), and 45.846 (>37.923). Thus, these findings highlight that non-Nordic firms generally have higher ESG scores than Nordic firms in our sample while also showing higher performance in all three sustainability areas. The findings can be perceived as significant in terms of the total score and social and governance dimensions (p<0.05), whereas the environmental score appears

insignificant. Thus we reject Hypothesis 3 that Nordic firms have higher sustainability performance than non-Nordic firms.

5. Discussion and Conclusions

We started this thesis by arguing that the current understanding of CSR is still inconclusive and less generalized across industry and commerce. Thus far, we aimed to explore CSR and its impact on retailers. Past research on the relationship between CSR and retailers' financial performance has achieved limited advances (UIIlman, 1985; Waddock and Graves, 1997; Buallay, 2019; Lindgreen, 2009). Regardless of their differing outcomes, these findings repeatedly demonstrate that sustainability initiatives do affect firm financials. To the best of our knowledge, there is still limited research on the impact of CSR in the retail industry, emphasising how Nordic countries perform. Thus, we strive to address this gap by investigating if CSR affects retailers' performance, considering differences between Nordic and non-Nordic retailers' ESG scores. Our findings add to the previous research of whether firms respond or resist the pressure to engage and invest in CSR and the consequences these actions have.

According to the fixed effects regressions, our main findings express that firms' total ESG scores are negatively associated with firms' financial performance. This indicates that the firms yielding the highest scores with their sustainable behaviour tend to have weaker financial performance than the firms not investing in CSR. These findings are in line with Buallay's (2019) conclusions and can be reasoned with the view on cost-of-capital reduction; investing in sustainability increases costs which naturally weakens firms' financials. As noted by Waddock and Graves (1997), these costs may fall directly to the bottom line and consequently reduce shareholder wealth. Duque-Grisales and Aguilera-Caracuel (2019) further conclude the financial harm may result from ESG initiatives not being performed correctly or most effectively. Moreover, the CSR efforts may not be visible enough due to a lack of institutional support. Applying these arguments to our findings, we can infer that stakeholders of these European retailers do not perceive the sustainability initiatives to account for beneficial enough consequences. In line with previous arguments, Orlitzky et al. (2003) has noted that multiple researchers have blamed any positive correlation between sustainability and firm financials on halo effects, meaning that firms with solid financial performance would generally be rated highly in terms of sustainability.

In light of our theoretical background, the findings can be backed up with the shareholder theory, which maximises firm value with other objectives than investments in CSR. On the contrary, the negative association between firms' ESG scores and financial performance is hard to reason with good management theory, as investments in CSR and good stakeholder relationships do not, according to our study, contribute to firm financials. The same but reversed logic applies when we view the research question from the perspective of slack resources theory. Hence we can infer that low investments in sustainability lead to reduced cost of capital, which in turn enables better financial performance. These good monetary results that could be seen as 'slack' do not lead to an increased focus on sustainability. The negative relationship between the ESG score and financial performance could be a consequence of the poor implementation of the ESG initiatives, which may ultimately lead to the decreased trust of investors. Poorly implemented sustainability decisions that generate inefficient results do not arguably attract the most knowledgeable employees, who would have the ability to apply ESG operations in a way that would also foster financial growth.

Additionally, our findings show that in regression 1 (ROA), the total ESG score is negatively associated with firms' ROA at a significance level of 10%, whereas in regression 2 (ROE), the total ESG score is again negatively associated with firms' ROE, however insignificantly. Thus both our hypotheses 1ab and 2ab are rejected. The findings on the relationship between ESG score and ROA may be more significant than the relationship between ESG score and ROE, since the ESG efforts can be seen as a portion of goodwill which is a part of the firm's assets - thus reflected in ROA (Buallay, 2019). The effect of ESG on a firm's equity on the other hand is more indirect - and thus remains more insignificant.

We further broke down the total ESG score to analyse separate effects of the E, S, and G scores on firm performance, since a strong performance in environmental sustainability may offset poor management of social issues, resulting in a mediocre total ESG score. Our findings coherently show negative associations with ROA and ROE regarding every dimension, although insignificantly. This still seems rational, as the total ESG score is composed of its three dimensions. However, our hypothesis predicted strong effects of the E score and positively influenced firm performance. The unexpected findings may result from research design, scope, or chosen variables. The findings for hypothesis 3 challenge the previous literature that has stated Nordic countries to be perceived as forerunners in CSR (Strand et al., 2014). When comparing Nordic retailers with non-Nordic ones, the reason for the unforeseen findings of Nordic retailers' ESG scores being the lowest may be that the division of retailers was based on the location of headquarters instead of regarding sales volumes per country - this will be reflected more in the last section of the paper. The purpose for the comparison between Nordic retailers with non-Nordic ones was to add insights and practical implications for our findings for hypotheses 1 and 2, which however based on our results does not bring more extensive contribution for this paper.

Horváthová (2012) found that it takes time before firms financially benefit from their environmental investments. Negative performance within the governance dimension may be affected by efforts generating mainly short-term benefits, such as external auditors. At the same time, investments in social sustainability may be seen merely as moves aiming to generate more money, which causes a lack of trust. Seeing the examples of the retail industry where meeting responsible business standards are under hard scrutinisation, firms may lightly be perceived as ungenuine. Since CSR investments are commonly used to define a firm's corporate image, consumers are left with difficulties identifying legitimate, responsible players (Parguel et al., 2011). This in turn may make firms' CSR initiatives less effective, or even negative. The same phenomenon can be illustrated because control variable Intangible assets to sales ratio is also negatively associated with ROA. Preserving firm reputation and image with articulated CSR investments comes with a danger of being perceived as 'selling CSR' (Bhattacharya and Sen, 2004). Thus, recognising the importance of *how* to be sustainable instead of *whether* to be sustainable becomes even more vital.

Therefore it can be concluded that if sustainability is not at the core of a company and environmental goals are not prioritised over other objectives in corporate strategy, to begin with, excessive investing in CSR can be seen as a waste of valuable resources. As we can see from the example of Danone, a firm has to pay the price for prioritising people, planet, and social responsibility for its shareholders. Correspondingly when measuring the firm success by shareholder acceptance, this CSR-centered strategy can be seen as a defeat. Nevertheless, the long-term value of CSR investments can not be denied. Considering Sir Attenborough's words of "a collapse of everything that gives us security", companies' necessary CSR actions that are reflected on ESG scores are mainly about having to perform them effectively and transparently, not about them being fruitless.

6. Managerial Implications

There are two important managerial implications realized in this thesis. First, regardless of our implications on CSR actions causing large and sometimes unnecessary costs, managers will now realize to consider CSR as an investment for the long term. Following our findings and conclusions, investments in sustainability are not merely expensed and applied correctly. Therefore, stakeholders' environmental, social, and governmental needs and expectations should be addressed to increase competitiveness over non-sustainable peers and achieve a desired long-term financial performance. Competitiveness could also be enhanced by the transparent and responsible decision-making of managers, tackling the perceptions of a firm not being genuine.

Besides, we have presented our findings to the CEO and co-founder of a digital marketing platform for second-hand garments. By discussing our results, we found that the term "sustainability" has a tendency to be vaguely interpreted, misused and poorly applied which leads to a perception of greenwashing in several organizations (Knape, 2021). As such, managers may stay mypoic to the broader environmental pursuit. Our results therefore suggest that managers should tap into the circular economy perspective instead of CSR performance. We advance the notion of circularity in retailers' business models which yields better results (Frei et al., 2020). Our results also call for managers with the need to rise above the inconclusivity of ESG scores and CSR measures and integrate innovative business models that deal with circularity. As an implication, the notion of circular economy may take different forms for firm performance and higher ESG scores. The need of circular business enhanced with its features such as product returns and R principles (Reduce, Reuse, and Recycle) would set the debate from the aforementioned inclusivity to a more stable and predictable ESG performance.

7. Limitations and Suggestions for future research

This study has contributed to the existing evidence on how much investing in sustainability is worth the inevitable costs and deemed necessary. Previous findings are hard to generalise due to differences in economic openness, cultural values, laws, and regulations between countries. The gap of investigating the differences between Nordic and non-Nordic retailers' CSR performance has also been bridged. However, deficiencies in our sample and methodology are left to cover, and the topic suggested to be researched further.

Regarding the variables, McWilliams and Siegel (2000) have recognised a need to control for R&D investments' influence when determining firm performance. As the data in question was not publicly available for our research, we followed Chapple et al. (2001) and Elsayed and Paton (2005). We replaced this control variable with intangible assets to sales ratio - a proxy for advertisement intensity. This gave us insights into the potential adverse effects of CSR on corporate image. However, and if the data is made available, controlling for R&D could be beneficial for future research (McWilliams and Siegel, 2000).

Further, unexpected findings of comparing the Nordic and non-Nordic firms may result from having selected the firms based on the country of headquarters. We deem the sales volume to be a more significant determinant of how the observations should be approached. Thus our suggestion for future research is to control for the sales volume per Nordic and non-Nordic countries if the information is made available. Another potential explanation for the insignificant findings is that only three of the Nordic countries are included in our sample due to the unavailability of data. Thus, we encourage future research to be conducted when ESG scores on Danish and Icelandic retailers are made available.

Moreover, the sample was narrowed down excessively to only cover retailers with European headquarters. This leads to having limited generalizability and challenges in applying the findings for other types of firms. Therefore we suggest future studies on the topic to apply the analysis on retailers located in geographical scope broader than Europe, which will allow for more comprehensive comparisons between the countries. What is more, the period of observations 2015-2020 may be insufficient, especially as we decided to perform regressions beyond one year lag.

Finally, we recognise a few limitations regarding the ESG score as the independent variable. The data regarding sustainability performance is still not widely available, which has led to limited observations in our sample. Thus, in future research, we suggest conducting a study when sustainability reporting and ESG scores are more widely available. Another possible imperfection in ESG scores, consisting of E, S, and G variables, is that the scores of these variables are objects of subjective influences and therefore decrease the validity of results they yield. Lastly, quantifying rather abstract concepts such as sustainability is never straightforward, and technical differences in ESG ratings may cause further limitations. Future research regarding sustainability could thus use other secondary databases, complemented by questionnaires and interviews.

8. Appendix

| Authors | Publication year | Sample size | Country | Dependent variables | Independent variables | Findings |
|---------------------------------|---------------------|--|--|--|---|---|
| Buallay, A. | 2019 | 342 listed financial institutions, 3,420 observations | Top 20 countries in achieving sustainable development goals | ROE, ROE, Tobin's Q | ESG score | ESG positively affects market performance, ESG negatively affects financial and operational performance. |
| Elsayed, K. and Paton, D. | 2005 | 227 UK public limited companies | UK | Firm performanc e: Tobin's Q, ROA, ROS | Firm environmental performance: Community and Environmental Responsibility score (CER) | Environmental performance has a neutral impact on firm performance. |
| Hasan, I. et al. | 2018 | 5516 firm- year observations including 986 unique firms | US | Tobin's Q | Index of CSP | A significant and positive relationship between CSP and TFP (total firm productivity), TFP significantly mediates the CSP– CFP relationship. |
| Hillman, A. and Keim, G. | 2001 | 500 firms | Canada | Shareholder value creation (MVA) | Stakeholder management, social issue participation | Stakeholder management leads to improved shareholder value, while social issue participation is negatively associated with shareholder value. |
| Lindgree n, A. et al. | 2009 | 401 US organization s | US | CSR practices | Five different stakeholder groups | CSR is not the result of episodic and unrelated CSR activities but rather that many organisations systematically monitor and |

Table 1: previous literature and findings

| | | | | | | address different stakeholder groups' demands. Managers have a relatively positive perception of CSR practices as improving, or at least not harming, business performance. |
|--|------|--|----|---|--|--|
| McWillia ms, A. and Siegel, D. | 2000 | 524 firms | US | Firm performanc e | CSR | CSR has a neutral impact on firm performance when correctly specified. |
| Orlitzky, M. et al. | 2003 | Meta- analysis of 52 studies, yielding a total sample size of 33,878 observations | US | CFP | CSP | Corporate virtue in the form of social responsibility and, to a lesser extent, environmental responsibility is likely to pay off, although the operationalisation of types of CSP and CFP also moderate the positive association. |
| Ullman, A. | 1985 | Variety of prior studies on the topic | US | Firm social disclosure, social performanc e | Firm social performance, Economic performance | No clear tendency can be detected due to a lack, in theory, the inappropriate definition of critical terms and deficiencies in the empirical databases currently available. |
| Waddock , A. and Graves, S. | 1997 | 469 firms | US | CFP (ROA, ROE, ROS) | CSP | CSP positively associated with both prior and future financial performance. |

Table 2: Sample Selection

| Sample selection process | Observations | Firms |
|--|--------------|-------|
| Initial sample of firms covered by EIKON data base | 3510 | 585 |
| Firms not covered by ESG score rating | -2742 | -457 |
| Firms missing financial data | -54 | -9 |
| Final sample | 708 | 118 |

This table describes our sample selection process. All our variables were retrieved from EIKON data base. The first initial sample included 584 firms headquartered in European countries, out of which 457 were missing ESG scores, leading to a sample of 127 firms. We dropped nine firms due to missing financial data, ending up with a sample of 118 firms and 708 observations over the years 2015-2020.

| Country | Percentage | Listed Firms | Observations |
|--------------------|------------|--------------|--------------|
| Germany | 23% | 28 | 168 |
| UK | 23% | 28 | 168 |
| Sweden* | 27% | 20 | 120 |
| Italy | 10% | 12 | 72 |
| Spain | 7% | 8 | 48 |
| Netherlands | 4% | 5 | 30 |
| Belgium | 3% | 4 | 24 |
| Norway* | 3% | 4 | 24 |
| Austria | 2% | 2 | 12 |
| Poland | 2% | 3 | 18 |
| Finland* | 1% | 1 | 6 |
| Greece | 1% | 1 | 6 |
| Portugal | 1% | 1 | 6 |
| Switzerland | 1% | 1 | 8 |
| Total Observations | | | 708 |

Table 3: Sample Country Distribution

*Nordic countries

| Retail Industry | Percentage | Listed Firms | Observations |
|--|------------|--------------|--------------|
| Advertising & Marketing | 2.54% | 3 | 18 |
| Apparel & Accessories | 3.39% | 4 | 24 |
| Apparel & Accessories Retailers | 3.39% | 4 | 24 |
| Appliances, Tools & Housewares | 2.54% | 3 | 18 |
| Auto & Truck | 5.08% | 6 | 36 |
| Auto Vehicles, Parts & Service Retail | 3.39% | 4 | 24 |
| Auto, Truck & Motorcycle Parts | 6.74% | 8 | 48 |
| Brewers | 2.54% | 3 | 18 |
| Broadcasting | 5.08% | 6 | 36 |
| Casinos & Gaming | 4.24% | 5 | 30 |
| Computer & Electronics Retailers | 0.85% | 1 | 6 |
| Construction Suppliers & Fixtures | 3.39% | 4 | 24 |
| Consumer Goods Conglomerates | 2.54% | 3 | 18 |
| Consumer Publishing | 2.54% | 3 | 18 |
| Department Stores | 0.85% | 1 | 6 |
| Distilleries & Wineries | 0.85% | 1 | 6 |
| Fishing & Farming | 2.54% | 3 | 18 |
| Food Processing | 10.17% | 12 | 72 |
| Food Retail & Distribution | 7.63% | 9 | 54 |

Table 4: Sample Retail Industry Distribution

| Footwear | 3.39% | 4 | 24 |
|---|--------|-----|-----|
| Home Furnishing | 2.54% | 3 | 18 |
| Home Furnishing Retailers | 0.85% | 1 | 6 |
| Home Improvement Products & Services | 2.54% | 3 | 18 |
| Homebuilding | 1.69% | 2 | 12 |
| Hotels, Motels & Cruise Lines | 3.39% | 4 | 24 |
| Household Products | 0.85% | 1 | 6 |
| Leisure & Recreation | 3.39% | 4 | 24 |
| Miscellaneous Specialty Retailers | 2.54% | 3 | 18 |
| Personal Products | 1.69% | 2 | 12 |
| Personal Services | 0.85% | 1 | 6 |
| Recreational Products | 0.85% | 1 | 6 |
| Restaurants & Bars | 2.54% | 3 | 18 |
| Tires & Rubber Products | 0.85% | 1 | 6 |
| Tobacco | 1.69% | 2 | 12 |
| Total | 100.0% | 118 | 708 |

| Variables | Observations | Mean | S. Dev. | Minimum | Maximum |
|-------------------|--------------|--------|---------|---------|---------|
| | | | | | |
| ROA | 708 | 0.099 | 0.079 | -0.030 | 0.376 |
| ROE | 708 | 0.160 | 0.119 | -0.154 | 0.454 |
| ESG | 708 | 46.236 | 28.022 | 0 | 93.545 |
| Environment | 708 | 52.097 | 25.194 | 0 | 98.739 |
| Social | 708 | 61.153 | 22.205 | 0 | 96.237 |
| Governance | 708 | 44.167 | 28.463 | 0 | 94.788 |
| Intangible assets | 708 | 0.149 | 0.213 | 0 | 1.447 |
| Growth | 708 | 0.044 | 0.236 | -1 | 2.669 |
| Size | 708 | 21.792 | 1.680 | 17.757 | 26.913 |
| Leverage | 708 | 0.195 | 0.179 | 0 | 1.319 |

Table 5: Descriptive Statistics

The above results are showing the descriptive statistics of dependent, independent, and control variables. The study incorporated two proxies as dependent variables; ROA and ROE and CSR as an independent variable. CSR was captured with the total ESG score and the environmental, social, and governance scores separately. Intangible assets to sales ratio, growth, firm size, and leverage as control variables. ROA ROE and Growth are winsorized at 1% and 99% levels.

| Dependent variable ROA | VIF | 1/VIF | |
|------------------------|------|--------|--|
| ESG | 7.23 | 0.1383 | |
| Environment | 2.43 | 0.4115 | |
| Social | 2.53 | 0.3952 | |
| Governance | 4.85 | 0.2061 | |
| Intangible assets | 1.13 | 0.8849 | |
| Growth | 1.10 | 0.9090 | |
| Size | 1.20 | 0.8333 | |
| Leverage | 1.11 | 0.9009 | |
| Mean VIF | 2.70 | | |
| | | | |
| Dependent variable ROE | VIF | 1/VIF | |
| ESG | 7.16 | 0.1396 | |
| Environment | 4.81 | 0.2076 | |
| Social | 2.53 | 0.3950 | |
| Governance | 2.42 | 0.4131 | |
| Intangible assets | 1.21 | 0.8837 | |
| Growth | 1.13 | 0.960 | |
| Size | 1.11 | 0.8238 | |
| Leverage | 1.10 | 0.8999 | |
| Mean VIF | 2.69 | | |

Table 6: Variance Inflation Factor Tests for Multicollinearity

| | ROA | ROE | ESG | Env. | Social | Gov. | Adv. | Growth | Size | Risk |
|----------|-----------|----------|----------|----------|----------|----------|--------|---------|---------|------|
| ROA | 1 | | | | | | | | | |
| ROE | 0.399 | 1 | | | | | | | | |
| ESG | 0.014 | 0.018 | 1 | | | | | | | |
| Env. | -0.006 | -0.060 | 0.663*** | 1 | | | | | | |
| Social | -0.008 | -0.015 | 0.671** | 0.703*** | 1 | | | | | |
| Gov. | 0.033 | 0.050 | 0.857*** | 0.467** | 0.453** | 1 | | | | |
| Adv. | -0.167*** | -0.097** | -0.069* | -0.174** | -0.182** | 0.005 | 1 | | | |
| Growth | 0.185*** | 0.048 | -0.129** | -0.053 | -0.100** | -0.117** | 0.248 | 1 | | |
| Size | 0.085** | 0.069* | 0.250** | 0.312** | 0.258** | 0.266** | -0.061 | 0.076** | 1 | |
| Leverage | -0.044 | -0.151** | 0.145** | 0.072* | 0.124*** | 0.141*** | 0.039 | -0.022 | 0.249** | 1 |

Table 7: Pearson's correlation analysis

The above table shows the correlation between the main variables used in the regressions and their significance. ROA is the return on assets ROE is the return on equity, which are the measures used as a proxy for the financial performance. ESG (t-1) is the Environmental Social and Governance score, presented with its subcomponents. Adv is the measure of intangible assets to sales ratio. Growth is the difference between the previous year's and the actual year's revenue. Size is the natural logarithm of total assets. Leverage is the long-term debt to assets. * Significant at 10% level ** Significant at 5% level *** Significant at 1% level (two-tailed). The results presented are after winsorization of ROA, ROE, and Growth at 1% and 99% level.

Appendix 8: Histograms on ROE winsorization at 1st and 99th levels on the left, and 5th and 95th levels on the right



| | ROA NO lag | DA NO lag | | |
|---|---------------------|---------------------|---------------------|-----------------------|
| | Model. 1 | Model. 2 | Model. 3 | Model. 4 |
| Explanatory variables | | | | |
| ESG | -0.0001* (0.000) | | | |
| ENV | | -0.0003 (0.000) | | |
| SOC | | | -0.0003 (0.000) | |
| GOV | | | | -0.0001 (0.000) |
| Control variables | | | | |
| Adv. | -0.035* (0.018) | -0.037** (0.019) | -0.036** (0.019) | -0.036 (0.019) |
| Growth | 0.075*** (0.015) | 0.076*** (0.015) | 0.076*** (0.015) | 0.075** (0.015) |
| Size | 0.0008 (0.005) | 0.0006 (0.000) | 0.0006 (0.000) | 0.0008*** (0.0005) |
| Leverage | 0.040* (0.023) | 0.042* (0.023) | 0.043** (0.02) | 0.041* (0.023) |
| Regression details | | | | |
| Firm controls Industry FE Year FE | YES YES YES | YES YES YES | YES YES YES | YES YES YES |
| Adjusted R ² | 0.270 | 0.268 | 0.268 | 0.269 |

Table 11: Return on Assets - no time-lag

Number of observations (n) = 708; number of firms = 127. The table includes coefficients of the regression model with ROA as a dependent variable and the ESG, E, S, G scores, and independent variables run separately. ROA and growth are winsorized organisations at the 1st and 99th percentile. Standard deviations are shown in parentheses. ***p < 0.001; *p < 0.01; *p < 0.05

| | ROA 2 year | DA 2 year lag | | |
|---|---------------------|---------------------|---------------------|---------------------|
| | Model. 1 | Model. 2 | Model. 3 | Model. 4 |
| Explanatory variables | | | | |
| ESG | -0.0004 (0.000) | | | |
| ENV | | -0.0005 (0.000) | | |
| SOC | | | -0.0004 (0.000) | |
| GOV | | | | -0.0006 (0.000) |
| Control variables | | | | |
| Adv. | -0.034* (0.019) | -0.034** (0.019) | -0.034** (0.019) | -0.034* (0.019) |
| Growth | 0.076*** (0.015) | 0.076*** (0.015) | 0.076*** (0.015) | 0.076*** (0.015) |
| Size | 0.0006 (0.005) | 0.0007 (0.000) | 0.0007 (0.000) | 0.0006 (0.0005) |
| Leverage | 0.043* (0.024) | 0.042* (0.023) | 0.042** (0.023) | 0.044* (0.023) |
| Regression details | | | | |
| Firm controls Industry FE Year FE | YES YES YES | YES YES YES | YES YES YES | YES YES YES |
| Adjusted R ² | 0.267 | 0.268 | 0.267 | 0.268 |

Table 12: Return on Assets - time-lag of 2 years

Number of observations (n) = 708; number of firms = 127. The table includes coefficients of the regression model with ROA as a dependent variable and the ESG, E, S, G scores, and independent variables run separately. A two-year-lag lag is applied between the dependent and independent variables. ROA and growth are winsorized at the 1st and 99th percentile. Standard deviations are shown in parentheses. ***p < 0.001; *p < 0.01; *p < 0.05

| | ROE No lag | DE No lag | | |
|---|--------------------|--------------------|--------------------|--------------------|
| | Model. 1 | Model. 2 | Model. 3 | Model. 4 |
| Explanatory variables | | | | |
| ESG | -0.0003 (0.000) | | | |
| ENV | | -0.0004 (0.000) | | |
| SOC | | | -0.0005 (0.000) | |
| GOV | | | | -0.0009 (0.000) |
| Control variables | | | | |
| Adv. | -0.018 (0.046) | -0.020 (0.047) | -0.021 (0.048) | -0.017 (0.046) |
| Growth | 0.053 (0.062) | 0.055 (0.061) | 0.055 (0.061) | 0.055 (0.062) |
| Size | -0.0004 (0.001) | -0.0007 (0.001) | -0.0007 (0.001) | 0.0006 (0.001) |
| Leverage | -0.007 (0.060) | -0.003 (0.060) | -0.002 (0.060) | 0.0006 (0.060) |
| Regression details | | | | |
| Firm controls Industry FE Year FE | YES YES YES | YES YES YES | YES YES YES | YES YES YES |
| Adjusted R ² | 0.108 | 0.107 | 0.107 | 0.106 |

Table 13: Return on Equity - no time-lag

Number of observations (n) = 708; number of firms = 127. The table includes coefficients of the regression model with ROE as a dependent variable and the ESG, E, S, G scores, and independent variables run separately. ROE and growth are winsorized at the 1st and 99th percentile. Standard deviations are shown in parentheses. ***p < 0.001; **p < 0.01; *p < 0.05

| | ROE 2 year | year lag | | |
|---|--------------------|--------------------|--------------------|--------------------|
| | Model. 1 | Model. 2 | Model. 3 | Model. 4 |
| Explanatory variables | | | | |
| ESG | -0.0004 (0.000) | | | |
| ENV | | -0.0002 (0.000) | | |
| SOC | | | -0.0005 (0.000) | |
| GOV | | | | -0.0007 (0.000) |
| Control variables | | | | |
| Adv. | -0.017 (0.046) | -0.017 (0.046) | -0.017 (0.048) | -0.017 (0.047) |
| Growth | 0.055 (0.061) | 0.055 (0.061) | 0.055 (0.061) | 0.055 (0.062) |
| Size | -0.0006 (0.001) | -0.0006 (0.001) | -0.0006 (0.001) | 0.0007 (0.001) |
| Leverage | -0.004 (0.060) | -0.003 (0.059) | -0.003 (0.060) | 0.0021 (0.060) |
| Regression details | | | | |
| Firm controls Industry FE Year FE | YES YES YES | YES YES YES | YES YES YES | YES YES YES |
| Adjusted R ² | 0.106 | 0.106 | 0.106 | 0.107 |

Table 14: Return on Equity - time-lag of 2 years

Number of observations (n) = 708; number of firms = 127. The table includes coefficients of the regression model with ROE as a dependent variable and the ESG, E, S, G scores, and independent variables run separately. A two-year lag is applied between the dependent and independent variables. ROE and growth are winsorized at the 1st and 99th percentile. Standard deviations are shown in parentheses. ***p < 0.001; **p < 0.01; *p < 0.05

| | ROE | | | |
|---|---------------------|---------------------|---------------------|---------------------|
| | Model. 1 | Model. 2 | Model. 3 | Model. 4 |
| Explanatory variables | | | | |
| ESG | -0.0004 (0.000) | | | |
| ENV | | -0.0005 (0.000) | | |
| SOC | | | -0.0001 (0.000) | |
| GOV | | | | -0.0001 (0.000) |
| Control variables | | | | |
| Adv. | -0.042** (0.019) | -0.042** (0.023) | -0.017** (0.023) | -0.042* (0.023) |
| Growth | 0.056*** (0.046) | 0.055*** (0.023) | 0.056*** (0.023) | 0.056*** (0.023) |
| Size | -0.0006 (0.001) | -0.0005 (0.001) | -0.0005 (0.001) | 0.0006 (0.001) |
| Leverage | -0.018 (0.059) | -0.017 (0.033) | 0.017 (0.033) | 0.002 (0.033) |
| Regression details | | | | |
| Firm controls Industry FE Year FE | YES YES YES | YES YES YES | YES YES YES | YES YES YES |
| Adjusted R ² | 0.145 | 0.145 | 0.107 | 0.147 |

Table 15: Return on Equity - time-lag of 1 year + winsorization at 95th level

Number of observations (n) = 708; number of firms = 127. The table includes coefficients of the regression model with ROE as a dependent variable and the ESG, E, S, G scores and independent variables run separately. A one year lag is applied between the dependent variables and independent variables. ROE and growth are winsorized at the 5th and 95th percentile. Standard deviations are shown in parentheses. ***p < 0.001; **p < 0.01; *p < 0.05

| | Mean difference by region | | Difference tests | | |
|---------------|---------------------------|------------|------------------|------------------------------------|--|
| | nordic | non-nordic | t-statistic | <i>p</i> -value Sig. (2-tailed) | |
| Variables | | | | | |
| ESG | 42.451 | 49.791 | 2.862 | 0.000** | |
| Environmental | 50.659 | 53.346 | 1.166 | 0.244 | |
| Social | 57.389 | 62.644 | 2.605 | 0.009** | |
| Governance | 37.923 | 45.846 | 3.044 | 0.002** | |

Table 16: ESG disclosure based on region

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