



Vaasan yliopisto
UNIVERSITY OF VAASA

Katariina Haapaniemi

CSR Reporting and its effect on the market value in Helsinki Stock Exchange

School of Accounting and Fi-
nance
Master's thesis in Accounting
and Auditing

Vaasa 2021

UNIVERSITY OF VAASA**School of Accounting and Finance**

Author:	Katariina Haapaniemi		
Title of the thesis:	CSR Reporting and its effect on the market value in Helsinki Stock Exchange		
Degree:	Master of Science in Economics and Business Administration		
Oppiaine:	Accounting and Auditing		
Työn ohjaaja:	Anna-Maija Lantto		
Valmistumisvuosi:	2021	Sivumäärä:	80

ABSTRACT:

The conversation about corporate responsibility has increased during recent years. Company's stakeholders, for example, customers and investors, are more involved in the responsibility of the company's operations than before. Stakeholders have more expectations towards companies than just financial success and maximizing future cash flows. Companies strive to meet the growing expectations of stakeholders by reporting the impact of their operations on society through corporate responsibility reports. Through these reports, companies can communicate about the transparency and responsibility of their operations to stakeholders. The thesis begins by presenting the literature and previous research done on corporate social responsibility.

The thesis aims to find out whether corporate responsibility reporting affects the market value of Finnish listed companies. The influence of company size on the relationship between sustainability reporting and market value is examined with an interaction variable. The research method used in the empirical part is linear regression, and the data consists of companies listed on the Helsinki stock exchange in 2019. The regression analysis models are based on Ohlson's valuation model, in which the model combines financial and non-financial information. According to the research results, the publication of a sustainability report positively impacts the company's market value. The results point out that a company can improve its financial position by issuing a sustainability report. In other words, investing in corporate responsibility is seen as a strategic solution aiming to influence company's market value positively. This communicates that stakeholders value responsible behavior. The thesis finds that the interaction between company size and sustainability report has a negative effect on the market value.

Furthermore, the thesis examines whether the assurance of corporate responsibility reports and following the GRI framework affects the company's market value. The results point out that the assurance of corporate responsibility reports and following the GRI framework positively impact the company's market value. The results are indicating that these practices increase the reliability and clarity of corporate responsibility reports to stakeholders. The GRI framework and assurance of corporate responsibility reports are vital parts when conducting well-performed corporate responsibility.

The results point out that corporate responsibility reporting is value-relevant non-financial information for stakeholders. The results suggest that stakeholders expect companies to report the impact of their activities on society. It is worthwhile for companies to publish sustainability reports because the company's stakeholders are more aware of responsibility matters and expect more transparency regarding responsibility.

KEY WORDS: Corporate social responsibility, corporate responsibility reporting, Global Reporting Initiative, assurance of corporate responsibility report.

VAASAN YLIOPISTO**School of Accounting and Finance**

Tekijä:	Katariina Haapaniemi		
Tutkielman nimi:	CSR Reporting and its effect on the market value in Helsinki Stock Exchange		
Tutkinto:	Kauppatieteiden maisteri		
Oppiaine:	Laskentatoimi ja tilintarkastus		
Työn ohjaaja:	Anna-Maija Lantto		
Valmistumisvuosi:	2021	Sivumäärä:	80

TIIVISTELMÄ

Yritysvastuuseen liittyvä keskustelu on lisääntynyt viime vuosien aikana. Yrityksen sidosryhmät esimerkiksi, asiakkaat ja sijoittajat ovat aikaisempaa kiinnostuneempia yrityksen toiminnan vastuullisuudesta. Sidosryhmillä on enemmän odotuksia yrityksistä kohtaan kuin ainoastaan taloudellisten hyötyjen ja tulevien kassavirtojen maksimointi. Yritykset pyrkivät vastaamaan sidosryhmien kasvaviin odotuksiin viestimällä toimintansa vaikutuksia yhteiskuntaan erilaisilla yritys vastuuraporteilla. Yritys voi viestiä yritys vastuuraportoinnilla sidosryhmilleen toimintansa läpinäkyvyyttä ja vastuullisuutta. Tutkimuksen alussa esitellään yritys vastuuta käsittelevää kirjallisuutta ja aikaisempia tutkimuksia koskien aihetta.

Tämän tutkielman tavoitteena on tarkastella yritys vastuuraportoinnin julkaisemisen vaikutusta suomalaisten pörssiyrityksien markkina-arvoon. Yrityksen koon vaikutusta vastuullisuusraportoinnin ja markkina-arvon yhteyteen analysoidaan regressioanalyysillä, jota moderoitiin yrityksen kokoa huomioivalla interaktiomuttujalla. Tutkielman empiirisessä osiossa käytetään tutkimusmenetelmänä lineaarista regressioanalyysia ja aineistona Helsingin pörssiin listautuneet yritykset vuonna 2019. Regressioanalyysimallit perustuvat Ohlsonin arvonnääritysmalliin, jossa malli yhdistelee taloudellista ja ei-taloudellista informaatiota. Tutkimustuloksien mukaan yritys vastuuraportin julkaiseminen vaikuttaa yrityksen markkina-arvoon positiivisesti. Tulokset osoittavat, että yrityksen on mahdollista parantaa taloudellista asemaa julkaisemalla vastuullisuusraportin. Tämä viestii, että sidosryhmät arvostavat vastuullista toimintaa. Lisäksi tulokset osoittavat, että yrityksen koon ja vastuullisuusraportoinnin interaktiomuuttujalla on negatiivinen vaikutus markkina-arvoon.

Tutkielman tavoitteena on myös selvittää, onko yritys vastuuraportin ulkoisella varmentamisella ja GRI-viitekehyksen käytöllä vaikutusta yrityksen markkina-arvoon. Tutkielman empiirisen osion tulokset osoittavat, että GRI-viitekehyksen käyttö ja yritys vastuuraportin ulkoinen varmentaminen vaikuttavat yrityksen markkina-arvoon positiivisesti. Tuloksista voidaan päätellä, että nämä lisäävät yritys vastuuraporttien luotettavuutta ja selkeyttä sidosryhmille. GRI-viitekehys ja ulkoinen varmennus ovat tärkeitä osia hyvin suoritettua yritys vastuuta.

Tulokset kertovat yritys vastuuraportoinnin olevan arvorelevanttia ei-taloudellista informaatiota sidosryhmille. Tulokset viittaavat siihen, että sidosryhmät odottavat yrityksen raportoivan toimintansa vaikutuksista yhteiskuntaan. Yrityksien on kannattavaa julkaista vastuullisuusraportteja koska yrityksen sidosryhmät ovat tietoisia vastuullisuuteen liittyvistä asioista ja odottavat enemmän avoimuutta vastuullisuudesta.

AVAINSANAT: Corporate social responsibility, corporate responsibility reporting, Global Reporting Initiative, assurance of corporate responsibility report.

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Abbreviations

CEP	Corporate environmental performance
CFP	Corporate financial performance
CSP	Corporate social performance
CSR	Corporate social responsibility
GRI	Global Reporting Initiative
ICB	Industry Classification Benchmark System
NGO	Non-governmental organization
SD	Standard deviation
SRT	Sustainability reporting tools

1 Introduction

Corporate social responsibility (CSR) is a progressively vital theme in the recent academic literature. As environmental difficulty occurs and following the recent environmental scandals, including various important global corporations, there has been a growing requirement to integrate social responsibility into corporate core strategy. (Carroll, 1991; D'Amato & Falivena, 2019.) For example, the Volkswagen case stands for failure in terms of CSR. Here the company deliberately set out to design a means to avoid emission control, allowing them to gain biased benefit over its competitors, making it the world's number one carmaker in 2015. The company was supposedly making environmentally friendly cars when it was poisoning the planet. (Forbes, 2015.) News like Volkswagen's failure in corporate social responsibility has been receiving more attention in the media. When the public became aware of the diesel emission cheat, the market value of Volkswagen dropped 23 % (Bloomberg, 2015).

Due to these rising societal problems, stakeholders require more transparency and responsibility from companies. The term social responsibility indicates that corporations do not partake solely in economic and legal liabilities, but in addition to these, they have responsibilities towards society (McGuire, 1963). According to the European Green Paper (2001), social responsibility goes beyond fulfilling all legal requirements. It means investing more in human resources, the environment, and stakeholder relations. Investments in ecologically responsible technologies and business practices suggest that investments beyond compliance can affect to a company's competitiveness. Corporations have incentives to behave socially responsibly (Welford & Frost, 2006; Cappelletto, Engle & Sheppard, 2006). McKinsey and company (2010) revealed that over 50 % of managers see sustainability as "very" or "extremely" vital in their business actions.

Shortcomings in stakeholder communication can cause financial harm and information asymmetry and even lose vital stakeholders' trust (Schadewitz & Niskala, 2010). Corporate responsibility reporting can be defined as providing the company's financial or non-

financial information in the company's annual report or a separate responsibility report. The information is related to the company's interaction with the social environment. This kind of disclosure on non-financial reporting can be seen as a strategic act that fundamentally advances its communication with its stakeholders. (Fonseca, 2010.) Corporate responsibility reporting is no longer voluntary to everyone or a rare phenomenon in the business world. A new European Union Directive (2014/95/EU) handling disclosure of non-financial and diversity information was created that obligated certain companies to include information about CSR from the fiscal year 31.12.2017 onward. (Bookkeeping Board, 2017.)

It has gained attention to why companies engage in CSR activities and how it can relate to corporate performance. Companies have financial incentives to conduct CSR activities because this can reflect on company valuation and competitive position. Investing in corporate responsibility is a strategic decision that aims to increase the company's market value. (Berthelot, Coulmont, Serret, 2012; Flammer, 2013.)

1.1 Purpose of the thesis

This thesis examines whether sustainability reporting positively affects the company's market value in the Helsinki stock exchange. The influence company size has on the relationship between sustainability reporting and market value is examined with an interaction variable. The thesis also examines whether the sustainability report is done following the Global Reporting Initiative (GRI) framework and does this have positive effect on market valuation. Furthermore, the thesis examines whether the sustainability report is provided by an external assurance statement's effect market valuation.

The relationship between the market value and sustainability reporting has been examined before and has resulted in mixed results (Moneva & Cuellar, 2009; Schadewitz & Niskala, 2010; Berthelot et al, 2012; Nekhili, Nagati, Chtioui, & Rebolledo, 2017). Despite the numerous studies, the relation between market value and sustainability reporting using Finnish data has not been studied on such a large scale before. Schadewitz and

Niskala (2010) examine this relation using Finnish data and found a positive relation. The thesis contributes to the limited previous literature on the relationship between corporate responsibility reporting and market value using Finnish data. The new Eu Directive on non-financial information considers the differences between small and large companies by only affecting companies with over 500 employees (Bookkeeping Board, 2017). One of the key motives for creating this new directive is to improve the positioning of stakeholders. The purpose of this thesis is to find out whether investors can benefit from sustainability reporting when making investment decisions.

1.2 Structure of the thesis

After the introduction, the theoretical part of the thesis is presented in chapters 2-4. The second chapter begins defining CSR from three different dimensions, economic, social, and environmental. The chapter presents the stakeholder theory which sets the theoretical framework for this thesis. The chapter ends by presenting the relation between CSR and firm performance. The third chapter presents theory considering corporate responsibility reporting. Previous literature on the European Union's directive for non-financial information, GRI framework, and assurance of sustainability reports are presented. The fourth chapter is divided into four different sections that deal with sustainability reporting, the interaction between company size and sustainability reporting, GRI framework, and assurance impact on market value, based on previous research. The research hypotheses are presented.

The empirical part begins by introducing the data and research method used in the thesis. The chapter focuses on presenting the data, the chosen research method, and the variables and empirical models. The chapter concludes by presenting the limitations of the data. The sixth chapter presents and analyzes the results of the correlation and regression results. The chapter ends by presenting results limitations that need to be taken into account. The thesis ends by presenting the conclusions of the thesis, chapter seven. The chapter ends by presenting the topics for future research.

2 Corporate social responsibility

Corporate social responsibility was initiated in the 1950s. The term is not unambiguous but rather it has a versatile definition. There are many definitions for CSR and there have been debates, which one could be the most accurate one. Companies became aware of public responses to social issues, which was not thought to be a problem before. External stakeholders are demanding more from the corporations considering transparency matters. Corporations are responsible for being good citizens and doing the right thing. (Porter & Kramer, 2006.)

2.1 Definition of CSR

The term corporate responsibility most often refers to the various actions in which a company conducts its social responsibility based on stakeholder expectations. The idea behind CSR is that firms are obligated to develop responsible citizenship while considering both economic and social terms by combining economic, social, and ecological subjects into their actions. The relationship with stakeholders such as employees, clients, suppliers, and non-governmental organizations (NGOs) needs to be considered. (Harmaala & Jallinoja, 2012, 14.) There are many definitions established for the term CSR. Bowen (1953) stated that it would be compulsory for enterprises to fulfill all society's expectations. The idea of social responsibility expands it not solely to economic and legal responsibilities but specific demands to the community (McGuire, 1963). The European Commission (2020) determines CSR as the responsibility of corporations for their effects on society. The purpose of CSR is to produce good both for society and better reputation as a company and performance. Sustainable development started to emerge into corporations' strategies, and companies began to go beyond compliance and conduct actions that produced benefits for the society. (Boehe & Cruz, 2010; McWilliams & Siegel, 2011.)

Dahlsrud (2008) defined CSR with five dimensions: environment, social, economic, stakeholder, and voluntariness. The environmental dimension refers to the surrounding environment and challenges associated with it. The social dimension indicates the relation between the corporation and society. Also, how is the corporation involved with the surrounding society. The economic dimension refers to how the corporation supports economic growth and preserving the future for the next generations. The stakeholder dimension refers to how the company interacts with employees, suppliers, and customers and takes their expectations into account. Lastly is the voluntariness dimension referring to what does the company conduct beyond obligations based on the laws. These can be based on corporations' ethical values. These five dimensions form the base for CSR. (Dahlsrud, 2008.) In the following part, the economic, social, and environmental dimensions are analyzed more in detail.

2.1.1 Economic dimension

Business operations target is to be profitable to generate economic growth and well-being for society and act responsibly both locally and globally. The economic dimension handles customer satisfaction, product safety, and supply chain management while interacting with customers, suppliers, and stakeholders (European Commission, 2003). Economic-related proactive CSR achieves value when developing new and different products to enable customer satisfaction, lowering costs, and bettering production efficiencies. The economic dimension is based on the company's competitiveness and financial performance, such as strong cash flow, profitability, and efficiency. The idea is that the company must be capable of operating in the long run. Companies should create economic well-being for all the environments in which it operates. Financial responsibility is mostly based on legislation and naturally, this differs from country to country. The minimum level of economic CSR is to operate in compliance with the country's laws and regulations. It is advantageous to take the role that stakeholders expect the company to operate in. The company chooses what kind of financial responsibility they conduct in several different principles, such as corporate governance, risk management, investment plans, purchasing policies, and insider guidelines. The habits firms have absorbed when

operating in the market show how it has implemented economic responsibility in the fundamental strategy and in the policymaking. (Harmaala & Jallinoja, 2012, 16–18; Torugsa, O'Donohue & Hecker, 2013.)

2.1.2 Social dimension

Social responsibility is related to the people affected by the company's actions, mainly the people working in the company. This emphasizes employee satisfaction, safety issues considering working conditions, and the development of their skills that go beyond the obligations of legislation and collective agreements. Companies have a responsibility to support employment and trying to minimize the effect of job losses. The company's operations affect extensively different groups such as working partners and subcontractors and producers of raw materials. Companies operate globally therefore, they have various legal obligations and societal role expectations in different countries. In welfare states such as Finland, human and labor rights, safety regulations come straight from the law. Nordic countries are affected by public authorities and the trade union. In the least developed countries, legislation and its enforcement are still being developed. Companies can affect their social responsibility measures depending on their own will. These may include forming the working conditions and determining salary terms and preventing child and slave labor. Companies carry a responsibility to offer product safety and developing consumer protection. It also includes a conversation with stakeholders and promoting good practices such as training policy, quality control, and corporate governance. Stakeholders should handle social and ethical problems. These enable companies to behave as good citizens in the local environment. Some types of business can affect the people living in the operating environment and cause noise and traffic disadvantages. Brammer and Millington (2006) state that some companies have difficulty investing in social dimensions due to limited financial resources to provide training and development opportunities. (Bansal, 2005; Harmaala et al, 2012, 18–19; Torugsa et al, 2013.)

2.1.3 Environmental dimension

Environmental dimension refers to the company's ability to operate continuously better considering the environment. Companies are responsible for the environmental impact it causes by its actions on the environment. Corporate environmental responsibility includes protecting the air, soil, reducing greenhouse gas emissions, saving biodiversity, and reducing water usage. Environmental protection has evolved from managing and diminishing the environmental effect of a specific product to its whole product life cycle. The target is to integrate these environmental aspects to the beginning of the product's design and development and the entire supply chain. An environmentally responsible company is aware of its environmental impact which its operations cause, follows the legislation, and invests in developing these operations. The legislation related to the environmental dimensions includes climate and water protection, waste and recycling, and better eco-efficiency and energy usage. Nowadays, it interferes with product design, packaging, and product labeling. The company aims to develop technologies and solutions that will improve the environmental performance and eco-efficiency of the customer's production process. (Harmaala et al, 2012, 20; Torugsa et al, 2013.)

The interaction between these dimensions has been examined. Companies acting socially and ecologically acceptable can cause the company to excel in the economic dimension. Companies have incentives to invest in socially and environmentally friendly products to avoid possible product boycotting and receiving a bad reputation. Investing in socially and environmentally friendly actions can also create innovation thus, providing the opportunity to decrease the cost of products and better the value from the customer point of view. When a company wishes for long-run profitability, it should focus simultaneously on the economic, social, and ecological scope of proactive CSR. (Torugsa et al, 2013.)

2.2 The stakeholder theory

The stakeholder theory aims to clarify the relation between a company and the people and organizations affected by the company. CSR popularity has grown amongst corporations since stakeholders demand more transparency on social and environmental factors (Siew, 2015). Milton Friedman has debated that the only function of CSR is to maximize shareholders' financial benefits (Friedman, 1970). Freeman (1984) stated that new external stakeholders should be considered, the traditional customers, employees, and suppliers and everyone who can significantly impact or be impacted by the operations of a company. This may lower transaction costs and avoid future conflicts with stakeholders while improving companies' reputations. Stakeholder approach to CSR tries to determine who the business should be accountable (Kakabadse, Lee-Davies & Rozuel, 2005). Barnett (2007) argued that CSR endorses high stakeholder and social welfare orientation and most likely will lead to corporate social performance (CSP).

On-going engagement and discussion with stakeholders are more known as elements of sustainability accounting and accountability. The stakeholders are known to be individuals or groups affected by or can affect the functions of that organization. The context of each organization is affected by which market the company is operating. Bebbington, Unerman, and O'Dwyer (2014) describe stakeholder engagement and dialogue as a process where stakeholders are a part of the reporting process in many ways, such as defining issues and being aware of how the company has performed in specific matters. AccountAbility (2008) emphasized the vitality of the stakeholder engagement in an exposure draft on stakeholder engagement, stating that having a dialogue with the individuals or organizations impacted by or can impact an organization's activities is vital for the company perform better. Better quality of stakeholder engagement can enable more robust management of risk and reputation and help comprehend complex operating environments containing market developments and cultural dynamics. The vitality of stakeholder engagement goes beyond sustainability accounting and reporting processes, for example, it plays an essential role in effectively managing projects and community planning. (Bebbington et al, 2014, 86.)

The academic literature proposes many different stakeholder groups that can, and exploit information disclosed in social and sustainability reports. The commonly recognized groups are shareholders, investors, banks, customers, suppliers, trade unions, NGOs and the media. NGOs are known to be proxies for other stakeholders who cannot take part in stakeholder dialogue processes. It is vital to identify the company's stakeholders to succeed in stakeholder engagement. Companies may face a range of mutually exclusive demands from various stakeholders, managers need to choose which demands they will address in their CSR. Companies conduct stakeholder engagement practices to identify stakeholder expectations. They operate bulletin boards on the internet, sending surveys to stakeholders and interview focus groups. Once identified the important stakeholder groups, seek to prioritize the most relevant stakeholders for their operations. The greater the vitality of the stakeholder group to the company, the more the company strives to take its views into account. (Bebbington et al, 2014, 91-97.)

Transparency, oversight, and verification of accountability activities play an essential role in maintaining stakeholder confidence. Internal and external communication of responsibility, for example, on the company's homepage and marketing communication in advertisements and product packaging, also has an essential role in attracting the trust and demand of customers and other stakeholders. Reporting on the current state and development of responsibility to investors and others who need more detailed information is also part of the stakeholder-driven strategy. (Harmaala et al, 2012, 66.)

There are two proposed reasons for the growing impact of CSR, the stakeholder value maximization vision and the shareholder expense vision. The incentive to perform CSR activities surface that these would have a positive influence on shareholder profit. (Deng, Kang & Low, 2013.) Friedman (1970) stated that the enterprises' task is to generate profit for shareholders and provide high-quality products that the government can benefit from. This statement created the base for CSR and socially responsible firms. Friedman (1970) argues that businesses need to exploit their assets and take part in actions that increase their profits while following the rules of capitalist markets without deception.

Many companies have implemented CSR into one of the core functions of company strategy. One of the motives can be to minimize the conflicts with stakeholders and provide more transparency. Companies understand that distinct stakeholders' corporate image and welfare are vital to ensure shareholder's profit maximization and long-term operation. (Becchetti, Ciciretti, Hasan & Kobeissi, 2012.) Previous research examines whether investors care about how the company is committed to social activities (Doh, Howton, Howton & Siegal, 2010). CSR can positively affect market value, thus bettering workers' productivity through wage and nonwage gains for firm employees. One motive behind supporting responsible business behavior is that it is thought to cause increase in savings, product difference, and firmer legitimacy supporting the companies' corporate financial performance (Tuppura, Arminen, Pätäri & Jantunen, 2016).

2.3 Corporate social responsibility and firm performance

The relation between CSR and corporate financial performance (CFP) has gained attention in the academic literature. The emergence of CSR has not been completely voluntary. It came as a surprise to many practitioners how companies need to pay more attention to public responses. For instance, Nike faced a customer boycott because the New York Times reported that the company was responsible for abusive labor practices. (Porter & Kramer, 2006.) Social and economic changes that happen regardless of the company are often reflected in the investment behavior of investors. For example, scandals in the corporate world, which often gain widespread visibility, increase investor demands for the reliability of investment targets. Researchers Mackey and Barney (2007) found a positive correlation between corporate responsibility-related initiatives and the valuation of a company. Their theory points out that directors in public entities potentially invest in socially responsible initiatives that do not maximize the current value of upcoming cash flow but still maximizes the company's market value. They explain the phenomenon by the fact that companies' management is believed to make all decisions about the company to maximize its operations' profitability. Investing in corporate responsibility is a strategic solution that aims to increase the company's market value. The development of corporate responsibility and the company's market

value is impacted by the demand and supply of ethical investments. The value of a company is impacted by the willingness of shareholders to invest in companies that emphasize responsibility when an alternative investment decision aims to maximize cash flow at the expense of responsibility activities.

Participation in charitable activities has been found to have a positive impact on investor estimates. In his research, Godfrey (2005) presents that strategic charitable work can support responsible entrepreneurship and a company's financial viability. A company engaged in strategic charitable activities can create a positive corporate image for the company. If charitable activities are consistent with stakeholder expectations, this can increase the company's moral capital and thus the company's value in the eyes of investors.

Mackey et al. (2007) propose that not all investors primarily seek to maximize their wealth through their investments. The researchers refer to the company's market value instead of investors determining the company's value purely based on the current value of cash flow. Then the market value can be considered to be formed based on the company's strategy. In this case, the relevant factor is corporate responsibility in the company's strategy and how it institutes its corporate responsibility activities in practice. There are practical examples in the investment world that have shown that some investors favor pioneering corporate responsibility as investment targets at the expense of maximizing their wealth. There is a demand, for example, for investment funds that specialize in companies that meet specific CSR criteria. Investors in these funds often have to settle for lower return expectations. Investors' interest in such funds shows that some investors value corporate responsibility more than maximizing cash flow. Thus, the market value of a company may increase as return expectations fall. Because the researchers emphasize the balance between supply and demand for investment targets, corporate responsibility initiatives are only profitable for a company when the need for responsible operating investments is higher than supply.

Margolis and Walsh (2003) executed a meta-analysis study pointing out that there is a positive influence on the firms' financial performance when performing CSR activities. From 1972 to 2002, 127 empirical studies were conducted to study the connection between the companies' socially responsible conduct and their financial performance. Fifty-four studies found a positive association between CSR activities and the companies' financial performance.

There has been a debate that does the financial advantages occur in the short or long term. CSR activities should be done permanently for strategic purposes that the firms' value would increase. The impact of sustainability activities on performance measures is negative during the prior years in which they are used (López, Garcia & Rodriguez, 2007; Deng et al, 2013). Organizations need to be constantly ready to differentiate themselves from their competitors with long-standing, sustainable, economic advantages. Companies and investors support the idea that strategies including the sustainability criteria can result in long-term value. (López et al, 2007.) Mahoney and Thorne (2005) conducted a study to examine CSR and long-term compensation, providing evidence from 90 publicly traded Canadian firms. Their results point out that certain CSR activities related to product dimensions are connected to long-term compensation. The company's engagement in producing quality products and services from an environmental perspective is considered a long-term commitment to sustainability. Endrikat, Guenther, and Hoppe (2014) found similar results when observing the relation between corporate environmental performance (CEP) and CFP. Results point out that the association is more robust when CEP's strategic method is proactive instead of reactive, which is generally favorable. Jeong, Jeong, Lee, and Bae (2018) find similar results. Proactive CSR will better financial performance.

3 Corporate responsibility reporting

Corporate responsibility reporting can be described as providing the company's financial and non-financial disclosure in the company's annual report or in an independent responsibility report, where the information relates to the company's interaction with the social environment. The form of CSR reporting has evolved and is evolving. It was proposed that the initial form of CSR reporting was during the 1970s and 1980s where the corporation's compliance team reported about environmental management. (Marlin & Marlin, 2003.) These reports were inadequate because they lacked current and comparable data (Tschopp & Huefner, 2015). These early reports focused on reporting about employee issues. This sort of employee reporting later evolved to be known as social reporting in the 1960s and 1970s. Environmental issues were noticed, but the focus was solely on social issues. During the 1970s, only one percent of the Fortune 500 corporations delivered an individual social responsibility booklet to shareholders alongside the annual report. In the late 1980s and early 1990s, the next stage for environmental reporting emerged. More companies started to publish voluntary sustainability reports. On the other hand, certain types of information started changing mandatory for example, in Canada, the Canadian Securities Administrators issued environmental reporting guidance for demanded disclosure for listed companies. (Bebbington et al, 2014, 53-55.)

During the 2000s, companies started to publish reports named sustainability or sustainable development reports. The following reports included environmental, economic, and social aspects of corporate performance. These sorts of reports were insufficient compared to sustainability reports (Milne & Gray, 2013). When examining individual countries, it can be noticed that stand-alone reports and combined reports have grown significantly from 2005 to 2011. More firms are beginning to issue annual CSR reports containing specific data about their CSR actions and accomplishments or have a section devoted to describing their CSR actions in their annual reports. (Bebbington et al, 2014, 53-55.)

The target is to deliver information to support policymaking, both internally and externally (Harmaala et al, 2012, 225). After a decade, corporations such as The Body Shop and Ben and Jerry's started publishing CSR reports and were pioneers in this field (Marlin & Marlin, 2003). KPMG (2017) executed a study pointing out that the reporting rate is between 90 and 95 percent of the top 250 organizations listed on the Fortune Global 500 published a type of sustainability report.

CSR reporting has also been criticized. In numerous cases, CSR reporting has been created primarily as an advertising campaign rather than communicating the actual level of corporate responsibility. Reporting in companies can be a problematic process involving several people from different business units. It has been noticed that important stakeholders do not read the material of the sustainability reports. Critique has also been targeted to CSR reporting because they can be outdated when collected and reported in the following year. On the other hand, some companies publish a document or a report containing the most significant CSR monitoring figures on their websites in an up-to-date manner, exploiting the effective use of online communication tools. (Harmaala et al, 2012, 227.)

3.1 The European Union's directive for non-financial information

Sustainability reporting is no longer voluntary for particular companies or a rare phenomenon in the corporate world. A European Union Directive (2014/95/EU) handling disclosure of non-financial and diversity information was created that obligated certain companies to include information about CSR from the fiscal year 31.12.2017 onward. The directive requires public interest entities to disclose their procedures on the environment, work environment, social affairs, human rights, and actions to mitigate dishonesty and bribery. In addition to these, the company is obligated to disclose its business model and risks associated with its business. The reporting obligation will affect public interest entities, such as listed firms, financial institutions, and insurance firms, with over 500 workers and companies with over 40 million euros turnover or total assets of 20 million euros. (Bookkeeping Board, 2017.)

This directive on non-financial information and diversity changes how large firms in Europe report their non-financial matters on economic, social, and ecological issues. One of the key motivators for creating this new directive is to better the positioning of stakeholders. This disclosure on non-financial reporting could be seen as a strategic function that fundamentally advances the organization's communication with its stakeholders. The directive takes into account the differences between small and large companies by only affecting specific large firms. After developing Freeman's (1984) stakeholder theory, the management of key stakeholders has become more vital for value generation. As in large companies, small companies have important stakeholders that expectations companies are recommended to fulfill that can influence the company's value. Stakeholders can create a request to implement new organizational sustainability activities through formal and informal pressure to maintain a relationship with them. (Fonseca, 2010; Bergmann & Posch, 2018.)

The directive changes voluntary reporting to mandatory reporting for certain companies and increases non-financial disclosure on the market. The idea is that this could better the standard and comparison of non-financial reporting. The adaptation of a standardized guide does not always better the standard of non-financial reporting in annual reports. It should be distinguished that firm size, economic and financial factors can affect the disclosure quality. (Caputo, Leopizzi, Pizzi & Milone, 2019.)

3.2 Corporate responsibility reporting tools

One of the main challenges in corporate responsibility reporting has been the lack of harmonization with reporting tools. Well-recognized organizations have taken part in the conversation of CSR and provided their perceptions and guidelines, for example, the European Union, the Organization for Economic Cooperation and Development and the United Nations. International guidelines enable CSR reporting to be comparable and uniform in structure. (Harmaala et al, 2012, 226.) There are numerous CSR reporting guidelines, principles, regulations, and standards (Tschopp et al, 2015). It is observed that cor-

porate responsibility reporting has increased, and due to this, global corporate responsibility reporting tools have been developed during the last two decades. Corporations conduct sustainability activities, which should be measurable (Özdemir, Jenssen, Zech & Eltrop, 2011).

There are reporting tools such as the Global Reporting Initiative (GRI), AA1000, and Carbon Disclosure Project (CDP), among other things. These are known to be corporate sustainability reporting tools (SRTs) and are vital when informing how successful corporations can progress towards achieving sustainability targets. Corporate reporting tools can be divided into three categories: frameworks, standards, ratings and indices. Frameworks are known to be principles, initiatives, or guidelines to help companies in disclosure efforts. Standards are close to frameworks but are more official documentation with specific requirements, specifications, or characteristics that enable sustainability efforts. The third category rating and indices are provided by third parties that evaluate the corporation's sustainability performance. These SRTs also have received critique. The problem arises when there is an evident shortage of standardization when it comes to terms of criteria and methodology anticipated. (Siew, 2015.)

3.2.1 Global Reporting Initiative

The Global Reporting Initiative (GRI) guidelines are the most extensively applied sustainability reporting framework (KPMG, 2020). GRI guidelines stand for multi-stakeholder cooperation to establish commonly accepted guidelines for environmental reporting standards and social and economic reporting (Bebbington et al, 2014, 62). The GRI guidelines are originated in the year 1997 by the Coalition for Environmentally Responsible Economies and the United Nations Environmental Program to create a worldwide used reporting framework. The guidelines have been published and frequently updated since 2000. Since published, it has become an international benchmark for corporate responsibility reporting. These guidelines analyze the fairness, clearness, accurateness, timeliness, comparability, and reliability of the disclosed information. (Diouf & Boiral, 2017.)

In addition to these, GRI guidelines include additional industry-specific reporting guidelines because some industries need to provide more detailed information, such as financial, energy, and mining industries. (Harmaala et al, 2012, 228.) The development of this initiative offered a considerable leap to assist companies in creating more organized measurement and dialogue of sustainability matters to stakeholders (Schadewitz et al, 2010).

The GRI guidelines recommend CSR's fundamental content and set a minimum level for what an organization should report. The guidelines are quantitative and qualitative indicators related to the reporting organization's ecological, social, and economic responsibility. With the assistance of the GRI content index, the reader can assess how well the organization has followed the GRI guidelines when preparing the report and how closely it has followed it. (Harmaala et al, 2012, 228–229.) The standards consist of three universal standards and three topic-specific standards. The original version has already had two subsequent versions called G3 and G3.1 which the latter is an update of G3. The most recent version is the fourth-generation guideline G4, which advocates anti-corruption and greenhouse gas emissions. This initiative can be used voluntarily and is not legally obligated to being used. The GRI guidelines set the base for the report to discuss the vision and strategy, company picture, governance structure, managing structures, GRI content index, and performance criteria from economic, social, and environmental. (Bebbington et al, 2014, 62-70; Siew, 2015.)

The G3 guidelines were revealed in 2006. When developing these guidelines, it took a multi-stakeholder consensus-seeking approach. These frameworks contain reporting principles, reporting guidance, and standards disclosures. Enterprises that accompany these guidelines comment on five subject areas: strategy and study, organizational profile, report parameters, governance, obligations and engagement, management approach, and performance indicators. It suits organizations despite the size, sector, and geographic area. The organization can choose from different application levels. A vital part of CSR reporting is defining the calculation limits of the reporting organization and

the scope. Because it can be voluntary, there are no absolute definitions of the calculation limitation but only recommendations. This allows the reader to evaluate the reliability and comparability of the report. Even though they are recommendations, all information that may materially affect the assessments and decisions made by the organization's stakeholders should be reported. (Harmaala et al, 2012, 230.)

Schadewitz and Niskala (2010) found out that the public values GRI-based reports published by Finnish companies. There are benefits when publishing a GRI report. GRI-based reports can reduce time and work used answering disclosures on social and environmental information. When issuing this public report, companies can avoid the need to respond to an individual request from stakeholders, such as institutional investors or NGOs, considering transparency issues and non-financial information. (Nikolaevava & Bicho, 2011.) GRI-based reports are thought to be superior when it comes to the quality of corporate responsibility reports, affecting economic performance. On the other hand, the GRI reporting tool has received critique in many studies. The shortcoming is observed in the performance measures in the GRI. There is an imbalance among the economic, social, and environmental standards, more than 50 % of the emphasis is targeted to the social criteria. (Moneva, Archel & Correa, 2006.) This can also change the corporations' attention to focus on how they can perform well based on these criteria than observing what they can do to further their efforts. De Villiers, Unerman, and Rinaldi (2014) have presented criticism on how complex the guideline is. It may be hard for the reader to find valuable information considering decision-making.

3.3 Assurance of CSR reports

As the importance of sustainability reporting continues to grow, so tends for reports to contain an external assurance statement. The aim is to better the credibility of sustainability reporting when including an independent assurance statement to increase the confidence of the report readers. (Bebbington et al, 2014, 72.) This action started with the Social Audit Ltd and Counter Information Services during the 1970s and 1980s. These organizations conducted social audits targeting the organization's interaction with key

stakeholder groups. The reports were still very lengthy and difficult to understand. During the late 1980s, a known phase occurred called "greenwash," which reflected the considerable social and media attentiveness of potential company manipulation of environmental issues. (Bebbington et al, 2014, 108-110.)

External assurance increases the reliability and consistency of these reports. Companies have increased the use of external certification in their CSR reporting. External assurance will increase the usability of the reports and improve their data content and credibility. Compared to auditing and assurance on the financial statement, this type of CSR reporting can be voluntary. Companies try to prove their accountability for their stakeholders by providing external assurance statements. The assurance can be given by audit firms, specialists, academic institutions to individuals. (Marx & Dyk, 2011.)

The popularity of publishing sustainability reports and having them assured by a third party has become a worldwide phenomenon. There are no statutory or supervisory demands for delivering an external assurance on corporate responsibility reporting. (Junior, Best & Cotter, 2014.) The GRI guideline proposes to exploit this assurance practice to be more transparent for its stakeholders. It has been studied that corporate responsibility report assurance can endorse the willingness to invest in a company by non-professional investors. (Cheng et al, 2015.) The assurance process must offer complete transparency. The assurance statements need to be available for the public to access comprehensive information about the work been done, scope and results to stakeholders. (Junior et al. 2014; GRI, 2020.)

A problem emerged because early assurance providers did not have clear standards or guidelines that could have been exploited. There was inconsistency in headings of assurance statements and lack simplicity or clearness regarding what has been conducted. This ends up creating confusion for the readers of the statement. The target is that this

assurance statement would create added value, but there is a need for transparent regulation to execute this target. (Deegan, Cooper & Shelly, 2006.) The absence led to issuing sustainability assurance practices (Bebbington et al, 2014, 76).

There are two supreme recognized frameworks controlled for assurance services: the AA100 Assurance Standard (AA1000AS), released in March 2003 by AccountAbility, and the International Audit Assurance Standards Board's International Standard on Assurance Engagements (ISAE 3000). The combination of these frameworks can provide improved results. AA100AS is an internationally acknowledged standard to enable sustainability assurance (AccountAbility, 2008). These standard comments sustainability report reliability which is connected to principles of completeness, materiality, and responsiveness. These frameworks are exploited both by accounting specialists and non-accounting specialists. There is a difference in behavior between these groups. Non-accountants, pay more attention to completeness, objectivity, and inclusive balance in the opinion statements. Accountants produce a more valuable and higher value of assurance when reporting arrangements and practices are used. (Perego, 2009; Marx et al, 2011.)

When an accountant delivers the external assurance statement, it is connected to a higher quality compared to statements provided by non-accountants (Pflugrath et al, 2011). The most known accounting firms are the Big Four companies, and they control the assurance market. Big Four companies to proceed with the assurance statement results in higher quality assurance. KPMG International Survey of Corporate Responsibility reporting executed a study in 2017 and found out that the exploitation of AA100AS and ISAE3000 caused different audit statements (KPMG, 2017). The use of AA1000AS had the habit of resulting in a more narrative statement emphasizing the strengths and weaknesses of the published report material and the underlying management systems and how well it responds to stakeholder concerns. ISAE3000 highlights the limitations of company reporting. (Marx et al, 2011.)

The quality of corporate responsibility reporting is correlated to the stakeholder engagement carried out. The more stakeholders are involved in corporate responsibility reporting, and assurance processes, the more financial benefits the corporation can exploit due to increased interaction during policymaking procedures with the external environment and the core business system. Stakeholder engagement creates interaction, dialogue, and mutual respect. This dialogue develops benefits for both parties involved, the corporation and stakeholders. Stakeholders are involved more and more in the assurance process. (Gray, 2000; Owen et al, 2000, 2001; Junior et al, 2014.)

4 Previous research and hypotheses

In the following chapter, previous research is presented, and the four research hypotheses of the thesis are formed. The previous research focuses on the relation between sustainability reporting and the company's market value.

4.1 The impact sustainability reporting has on the market value

The research examining the relation between sustainability reporting and the company's market value has been increasing. Issuing a non-financial report has grown considerably in most western countries during current years. Berthelot et al. (2012) examine whether investors value sustainability reports, affecting the company's market value. The data was taken from the Toronto Stock Exchange S&P/TSX Composite Index from the year 2007. Publishing a sustainability report in Canada is voluntary and requires effort and financial resources. These actions can be seen as a sign of credibility by investors. Their study points out that when using valuation models' corporations with sustainability reports receive financial benefits. The researchers conclude that it may be a positive thing to publish a sustainability report, making it a financial incentive. The results can be interpreted that Investors create a positive picture of a company that publishes a separate sustainability report voluntarily.

Schadewitz and Niskala's (2010) research concentrates on whether corporate responsibility reporting affects the firm value in Finland, thus affecting the firm's performance and valuation. The research data covered annual and GRI reports for listed companies in the Helsinki stock exchange during the 2002-2005 period. The literature tries to comprehend the association between economic performance and CSR. It is concluded how vital responsibility disclosures are for the firm value. The results point that CSR disclosures have a positive effect on the market value of a firm. Executives can increase the amount of informativeness of share prices through sustainability reporting. The study also supports the usage of GRI disclosure.

Nekhili, Nagati, Chtioui, and Rebolledo's (2017) research focuses on whether the CSR disclosure affects the market value in family firms. The study analyzes 120 largest publicly traded companies in France that have published a sustainability report between 2001 and 2010 or have some part dedicated to sustainability reporting in their annual reports through these years. Industries such as financial, insurance, and real estate companies were excluded from the data, and it ended up having 91 companies. Family companies report less communication on their CSR activities than do nonfamily companies. The results point out the significant relationship between sustainability reporting and the company's market value for family companies and the negative relation for nonfamily companies. Results can be interpreted that family companies get more advantage of CSR because they could attain shareholder's endorsement compared to nonfamily companies.

All studies do not find similar results as the previously presented research on the relation between sustainability reporting and market value. Cormier and Magnan (2007) examine whether ecological reporting impacts investors' valuation of a company's earnings. The data is collected from Canada, France, and Germany to observe does the country affects the results. The empirical results point out that environmental reporting has a moderating effect on the market value of German corporations. On the other hand, ecological reporting does not significantly impact the market value of Canadian and French companies. Brown, Guidry, and Pattern (2009) examine whether issuing a sustainability report affects the company's image as examines by the Fortune Most Admin scores. They found no noteworthy variations. Moneva and Cuellar (2009) examine the effect of financial and non-financial environmental reporting on the company's value using Spanish listed companies. The study examines the value relevance of various kinds of financial and non-financial environmental disclosures. The empirical results point out the significant effect financial disclosures have on market valuation, and no significant results are found considering non-financial disclosures. The study endorses the value relevance of compulsory non-financial reporting instead of voluntarily.

The research done about the relationship between sustainability reporting and market value show mixed results. The purpose of this thesis is to repeat the study conducted by Berthelot et al. 2012, in which sustainability reporting was found to affect positively on a company's market value. Shadewitz and Niskala (2010) have found a positive link between sustainability reporting and market value using Finnish data. Therefore, based on previous research results, results in Finland, and the Berthelot et al. (2012) research, the first hypothesis of the thesis is:

H₁: The publication of a sustainability report has a positive effect on the company's market value.

4.2 The impact the interaction variable has on the market value

The empirical literature has concentrated on the relationship between sustainability reporting and market value. In this thesis, the aim is to find out can company size moderate this relationship. When talking about sustainability reporting, often the association with company size arises. Academic research has focused on whether the company size affects sustainability reporting. The research has mainly been focused on large companies. (Jamali, Zanhour & Keshishian 2009.) It is proposed that company size could be a vital driver of CSR actions. The idea behind this is that when the size increases, companies are more visible, and also their environmental impact increases exposing them to public pressure. Larger firms also have more financial resources and can conduct more complex processes. Smaller firms invest more financial assets more on conventional strategies. (D'Amato & Falivena, 2019.) The typical vision is that larger companies are more advanced at implementing CSR than smaller companies (McWilliams et al, 2011). Fortanier, Kolk, and Pinkse (2011) conducted a study to analyze what factors affect sustainability reporting, one variable being the company's size. The results point out that size has a positive effect on sustainability reporting.

Brammer and Millington's (2006) research focuses on how company size and organizational visibility affect corporate philanthropy using data from the London Stock Exchange.

The company size is measured as the natural logarithm of the company's total assets. The empirical results point out that larger companies give more to charity. Reverte (2009) examines which factors influence CSR disclosure ratings using Spanish listed companies. One of these determinants is the company size. The results state that the larger the company, the bigger its impact on the community and have a bigger group of stakeholder's expectations to fulfill. The findings propose that companies with higher CSR ratings are statistically significantly larger than companies with lower CSR ratings.

Baumann-Pauly et al. (2013) examine CSR in small and large corporations to answer whether size matters. The findings suggest that smaller corporations are not less superior in practicing corporate responsibility than larger corporations. The researchers suggest that small corporations excel in some organizational features that are advancing the internal implementation of corporate responsibility activities in core corporate purposes, but external communication and reporting are not that strong areas of expertise. On the other hand, large corporations excel in external communication and reporting about corporate responsibility but simultaneously face limitations in internal implementation.

The general impression is that smaller companies face limited resources and lower visibility, so smaller companies are less likely to execute CSR activities. Udayasankar (2008) examines companies' varied economic incentives, which vary considering visibility, resource access, and scope of actions. The assumption is that despite the visibility, resource access, and scope of actions, small and large companies are correspondingly interested conducting CSR activities. Medium-sized companies are the least encouraged to conduct CSR activities. The results suggest a U-shaped association between the company size and CSR commitment. The study rejects the statement that small and medium-sized companies do not commit to CSR due to low visibility, the scope of operations, and limited resources.

Lo and Sheu (2007) examine whether corporate sustainability affects market valuation using large US non-financial companies from 1999 to 2002. They also examined the interaction between sustainability dummy and control variable sales growth, representing the firm size in their analysis. The results point that corporate sustainability has a significant effect on the market value. The researchers are aware that corporate sustainability and control variables can interact together, thus influencing the market value. They create an interaction term between the sustainability dummy and control variables. The results point out that the only significant effect was found between the sustainability dummy and company size. In other words, the larger the firm size, the higher the effect sustainability has on the company value.

D'Amato and Falivena (2019) examine whether CSR and company value are affected by size and age using European listed companies in 2008 to 2019. An interaction term between CSR dummy variable and company size is added to the regression model to examine the moderating effect of company size on the association between CSR commitment and company market performance. The results point out that CSR affects the company value otherwise depending on the company size. The interaction term between company size and CSR dummy is positive and statistically significant. The findings support the idea that the smaller the company, the less advanced it is to implement CSR activities than larger companies due to their inadequate financial funds.

Empirical research points out that company size affects sustainability reporting. Findings point out that company size is a vital factor in sustainability reporting, and based on this, the second hypothesis of the thesis is:

H₂: The association between sustainability reporting and market value is moderated positively by company size.

4.3 The impact a GRI-based report has on the market value

GRI guideline is the most broadly applied sustainability reporting framework (KPMG, 2020). Research has been done to examine whether a GRI-based report affects the market value. De Klerk and De Villiers (2012) executed a study to examine CSR reporting relation to the company's market value and presenting evidence from South Africa. The findings support the idea that using GRI disclosures can explain the better market value than those companies that do not use GRI disclosure. Schadewitz and Niskala (2010) examine the relation between CSR and its effect on a company's market value in Finland. When analyzing the results, they noticed that their applied model endorsed the conclusion when following the GRI guideline is a vital explanatory feature for a company's market value. The usage of the GRI enables the production of a more accurate market valuation of a firm, thus explaining the more robust market value. The development of the GRI reporting points out the view that GRI-based reporting has stock market advantages because it can decrease the volatility and uncertainty related to share price for listed traded companies and thus diminishing the cost of capital (Schadewitz et al, 2010)

De Klerk, De Villiers, and Van Staden (2015) examine the relation between CSR information and share price performance using large UK companies. The results point out that higher sustainability reporting levels result in higher share prices because this can diminish the asymmetry between directors and the company's shareholders. Companies located in environmentally sensitive sectors point out a more robust relationship between share prices and CSR disclosure than firms working in different sectors. The usage of CSR disclosure by firms creates value-relevant information to stakeholders. Findings support the idea that following the GRI guidelines is beneficial to stakeholders because it provides information about the share price. The results illustrate the financial vitality of CSR disclosure in with the GRI framework obligations.

Kaspereit and Lopatta (2016) in their paper, examine the value of corporate sustainability and GRI-based reporting in the European listed companies. They examine whether GRI-based reports and the level of application are linked with a higher market valuation. The

researchers conducted a value relevance analysis containing 600 of the largest European corporations from 2001 to 2011. The empirical evidence endorses the idea that there is a statistically significant positive association between GRI reporting and market valuation in some of the empirical models but not in all constructed models. Results support the idea that performing business following ethical behavior is a shareholder-supporting business strategy.

Moneva and Ortas (2008) examined whether exploiting the GRI framework positively impacts the company's market valuation. The study contained 142 European firms from several countries and industries and tested the relationship between the share-price returns for corporations exploiting the GRI frameworks and those not exploiting it. The results found no significant difference.

Schadewitz and Niskala (2010) used Finnish data in their study and endorsed the GRI framework. Because most of the studies found a positive relation between a GRI-based report and market value, the third hypothesis of the thesis is:

H₃: The publication of a GRI-based report has a positive effect on the company's market value.

4.4 The impact assurance statement has on the market value

As sustainability reporting has increased in the corporate world, so tends to provide an assurance statement. Previous research has pointed out that external assurance statement has a positive effect on market valuation. Pflugart, Roebuck, and Simnett (2011) examine whether the assurance and assurer's profession affect CSR information's trustworthiness. The study examines how financial specialists from Australia, the United States, and the United Kingdom view reliability of separate CSR reports when there is an assurance statement. Furthermore, the study examines whether the kind of assurance provider, a professional accountant or a sustainability advisor, affects credibility. They

also study whether the viewed credibility differs depending on the country. The empirical results point out that the reliability of a CSR report is more robust when a professional accountant has assured it. Financial specialists from the United States observe the report being more reliable when a professional accountant delivers the external assurance. On the other hand, financial specialists from Australia and United Kingdom do not see much difference in the reliability when different assurance providers have assured the report.

The exploitation of external assurance has been increasing amongst sustainability reports. The target is to assess the credibility of readers. Companies are more likely to issue an external assurance of their CSR report whether they operate in more stakeholder-focused countries and support sustainable development. (Kolk & Perego, 2010.) Cheng et al. (2015) analyze the effect of assurance of sustainability indicators have on nonprofessional investors' investment decisions. The researcher's results point out that an external assurance increases the investors' willingness to invest when the environmental, social, and governance indicators are implemented in the company's core strategy.

Adams (2004) examines how sustainability reporting on ethical, social, and environmental concerns affects corporate performance in a case firm called Alpha from 1993 to 1999. The study also examines whether external assurance adds value from the investor's point of view. The results point out that it adds only value when the assurance is provided by a professionally qualified person who comprehends the assurance process and the firm's ethical, social, and environmental responsibilities. The assurance process needs to be conducted according to the generally accepted standards, and there should be clear criteria for evaluating the quality of the assurance statement.

Coram, Monroe, and Woodliff (2009) examine whether the assurance statement impacts the stock price estimates of professional financial report users. The research conducted an experiment where contributors were given a case study and a hypothetical firm's annual report. The professionals read the material and were asked whether the stock price increase or decrease estimation was believable. Results point out that non-

financial performance indicators had a noteworthy impact on the stock price effect, and assurance significantly affected the stock price.

Because most of the studies found a positive relationship between assurance statement and market value, the fourth hypothesis of the thesis is:

H₄: External assurance of a sustainability report has a positive effect on the company's market value.

5 Data and methodology

This thesis aims to determine whether sustainability reporting has a positive effect on the company's market value. The interaction effect between sustainability reporting and company size on market value is also examined. Furthermore, the thesis examines whether the fact that the sustainability report is prepared following the GRI guideline and provided with an independent assurance statement have a positive impact on the market value. The study follows Berthelot et al. (2012) study, they examine whether investors value the release of an independent separate corporate responsibility report in Canadian firms on the Toronto Stock Exchange S&P/TSX Composite index. This chapter presents the data and research method. The subsections of the chapters present the data used in the thesis and how it is collected, the research method, the chosen regression models, and its variables. At the end of the chapter possible limitations, related to the data and used research method are discussed.

5.1 Data collection

The starting point of this thesis is to examine the relationship between sustainability reporting and market value. The data consists of Finnish listed companies in the Helsinki stock exchange during 2019. The data has been collected by combining information from different databases. The data is collected from the Thomson Reuters database and Nasdaq Helsinki OMX homepages. The financial information collected from the Thomson Reuters database includes the market value, earnings before taxes, book value, and total assets of the company. Information about whether the company has issued a sustainability report, GRI-based report, or an assurance statement is collected from the Thomson Reuters ESG database. The industry classification of the study is done according to the Industry Classification Benchmark System (ICB), which the Nasdaq Helsinki OMX also uses.

The initial data of the thesis contains all the companies listed on the Helsinki stock exchange. There are two criteria that need to fulfill that it can be included in the data, the company needs to be listed and formed before 1.1.2020. The original data consisted of 129 listed companies. The companies listed on the stock exchange after 1.1.2020 were left out from the data to get more robust results that favor the study. Musti Group Oyj, Verkkokauppa.com Oyj, United Bankers Oyj, Eezy Oyj and Neles Oyj are listed on the main market during 2020, thus these companies were left out from the data. Two of the companies have a negative book value and these were left out from the data. The data used in the results contained 122 companies in total.

5.2 Research methods and variables

The method of the thesis is linear regression analysis to find a possible relation between the variables and describe it statistically. Linear regression analysis is a statistical method in which a mathematical model is developed that describes the dependencies between variables. In the model, explanatory variables explain the dependent variable. Regression analysis can be used to model a phenomenon, but it can also be used to predict observations. (Holopainen & Pulkkinen, 2008, 261.) The linear regression analysis was chosen as the statistical method of the study because it was also used in Berthelot et al. (2012) study. The linear regression models are based on the Ohlson model (1995). The first step of making a regression model is to select one variable as the dependent value, the Y variable, and then one or more variables, the X variables to be explanatory variables.

The use of regression analysis involves specific requirements to ensure that an applicable model is formed. The first requirement is that the values of the dependent variable should be random, and the importance of the explanatory variable should be fixed or random. The variables should have a correlation to some extent with each other, and a linear dependence can be observed between them. (Tähtinen, Laakkonen & Broberg, 2020, 194-195.) When selecting the explanatory variables X, the purpose is to ensure that they do not correlate too much with each other. Suppose some variables correlate

very strongly with each other. In this case, there is multicollinearity, and variables do not create new information, and it is challenging to notice which explanatory variable impacts the dependent variable. (Holopainen et al, 2008, 275.) There is a requirement that the dependent variable is normally distributed with the variables to be explained. The linear dependence between the variables and the possible multicollinearity is examined in the correlation matrix.

The study's dependent variable is the market value. Market value is evaluated from financial data four months following the end of the fiscal year as in the Berthelot et al. (2012) study. The purpose of this is to guarantee that sustainability reports are accessible to investors and adjust this external material into the company evaluation within the framework of the thesis. The market value is counted as share price multiplied by the number of the shares issued. For companies with more than one type of shares, the average was calculated according to them, used as the market value. Most of the company's fiscal year ended 31st December 2019, and the market value is taken on 30th April 2020. One company's fiscal year ended 31st October 2019, and the market value was taken on 28th February 2020. The variable is the natural logarithm of the market value four months after the fiscal year-end in the regression model.

The explanatory variables in this study are the book value, earnings before taxes, negative earnings before taxes, total assets, sustainability report, GRI framework, and assurance statement. Dummy variables can get two values, 1 or 0. When a variable has a value of 1, it can be interpreted that it belongs to that group and 0 otherwise. (Tähtinen et al, 2020, 195.)

The company's book value is the book value on 31st December 2019. The book value of a company is counted by adding the company's total assets minus total liabilities. One company's fiscal year ended on 31st of October 2019 and the book value was taken from this day. The earnings before taxes variable represents value on 31st December 2019.

One company's fiscal year ended on 31st of October 2019 and the earnings before taxes value was taken from this day.

In contrast to Berthelot et al. (2012) firm size variable is also taken into account when analyzing the effect that sustainability reporting has on the market value. The impact that company size has on the market value is ambiguous. For example, Lang and Stulz (1993) endorse that company value decreases the larger and more diversified the company is. On the other hand, El Ghoul, Guedhami, Kwok, and Mishra (2011) state that larger companies appeal more media and analyst attention, reducing information asymmetry and improving company value. The company's size variable is the natural logarithm of the company's total assets at the end of the fiscal year.

The thesis has four dummy variables. The first dummy variable of the study is called negative earnings before taxes. If this dummy variable is equal to 1, the earnings before taxes value is negative. If the company's earnings before taxes is positive, the dummy variable is equal to 0. The second dummy variable of the study is sustainability report. If a company has issued a sustainability report, the dummy variable is equal to 1. If the company has not issued a sustainability report, the dummy variable is equal to 0. The third dummy variable examines the incremental value-relevance of publishing a GRI-based sustainability report. The dummy variable is equal to 1 if the firm has published a GRI-based sustainability report and 0 otherwise. The fourth dummy variable examines the incremental value-relevance if the sustainability report has an independent assurance. A third party has reviewed the credibility and accuracy of the released information. The dummy variable is equal to 1 if the sustainability report is provided with an external assurance and 0 otherwise.

5.3 Empirical models

An empirical version of the Ohlson model (1995) is formed, to examine the value-relevance of issuing a corporate responsibility report. The Ohlson model (1995) aims to study

the connection between financial and non-financial information using the same regression model. For this reason, the model is exploitable in this study, and it is used in many studies when examining non-financial information value relevance. In this study, the sustainability report is used as non-financial information in the original form of the model. As in Berthelot et al. (2012), the market value is four months after the end of the financial year.

$$\text{Market value} = \beta_0 + \beta_1 BV + \beta_2 EBT + \beta_3 EBT * NEG + \beta_4 SIZE + \beta_5 SR + \varepsilon_i \quad (1)$$

Where,

β_0	=	Intercept
$\beta_1 \dots \beta_5$	=	Regression coefficient
BV	=	Book value
EBT	=	Earnings before taxes
NEG	=	A dummy variable equal to 1, if company's earnings before taxes is negative at the end of the fiscal year, 0 otherwise
SIZE	=	The logarithm of total assets
SR	=	A dummy variable equal to 1, if the company issues a sustainability report, 0 otherwise
ε_i	=	Error term, residual

The regression coefficient β tells how much the company's market value changes when the explanatory variable changes by one unit. The higher the regression coefficient, the stronger the variable's value affects the variable to be explained. When the value of the correlation coefficient is positive, the values of the variables change in the same direction, which means when values of X increase, usually the values of Y also increase. Whether the value of the correlation coefficient is negative, the value of the variables X and Y change in different directions. When values of X increase, the values of Y decrease. (Holopainen et al, 2008, 245-246.) The model's error term indicates the scale of the error in the model, so-called random variation (Heikkilä, 2014, 222).

The influence of company size on the relationship between sustainability reporting and market value is examined with an interaction variable. The moderating effect of a variable is taken into account in the regression analysis using an interaction variable to express the combined effect of the two measures. Assuming that the regression of Y with X depends on the value of another explanatory variable, Z, the regression equation can be written in a moderated form (Hill, Griffiths, & Lim 2012, 195). In this equation SIZE*SR is the interaction term. In the equation, the regression between market value and sustainability reporting is moderated by the company size.

$$\text{Market value} = \beta_0 + \beta_1 BV + \beta_2 EBT + \beta_3 EBT * NEG + \beta_4 SIZE + \beta_5 SR + \beta_6 SIZE * SR + \varepsilon_i \quad (2)$$

The purpose of the thesis is to analyze whether the assurance of the corporate responsibility report and issuing a GRI-based report affects the company's valuation. The data used in this is smaller than analyzing the sustainability reports effect on the market value. The data includes only those companies that have issued a sustainability report. The equation is formed according to Berthelot et al (2012) empirical model but the sustainability report dummy variable is replaced by GRI guideline and assurance statement dummy variables in the empirical model. These are analyzed separately. In the following model, the sustainability dummy is replaced by the GRI framework dummy variable. The regression model is described in equation 3.

$$\text{Market value} = \beta_0 + \beta_1 BV + \beta_2 EBT + \beta_3 EBT * NEG + \beta_4 GRI + \varepsilon_i \quad (3)$$

In the following model, the sustainability dummy is replaced by the assurance dummy variable. The regression model is described in equation 4.

$$\text{Market value} = \beta_0 + \beta_1 BV + \beta_2 EBT + \beta_3 EBT * NEG + \beta_4 ASSUR + \varepsilon_i \quad (4)$$

5.4 Data description

Nasdaq OMX uses the ICB to classify the listed company's industry. There are eleven industries, and the newest addition being real estate. The eleven industries and the division between the industries are presented in the following table. The table presents the breakdown of the industries into a size distribution based on the market value. According to size, Nasdaq OMX divides the companies into three categories: small-cap, medium-cap, and large-cap companies. A small-sized company has a market value of less than 150 million euros. A medium-sized company has a market value of more than 150 million euros but less than one billion euros. Large-sized companies have a market value more than one billion euros.

Table 1. Industry classification and size distribution of the data.

ICB	N	Large	Mid	Small
Oil & Gas	1	1	0	0
Basic Materials	12	7	1	4
Industrials	35	8	8	19
Consumer Goods	8	1	6	1
Consumer Services	21	3	11	7
Health Care	7	2	3	2
Telecommunications	4	3	0	1
Utilities	2	1	1	0
Financials	13	2	8	3
Technology	17	1	4	12
Real Estate	4	2	0	2
Total	124	31	42	51
Proportion %		25 %	34 %	41 %

The highest number of companies belongs to the industrials sector, and the second largest is the consumer services sector, and the third largest is the technology sector. The majority of the companies are categorized as small and medium-sized companies, 75 % of data belong to these categories. Only 25 % of the companies are classified as large companies.

Table 2 presents the distribution of the sustainability report by industry according to the ICB. All eleven industries have published at least one sustainability report. The data consisted of 40 sustainability reports, thus having a 32 % publishing percentage in the data. When observing the connection between the size and publication, 94 % of the large-sized companies published a sustainability report. From the medium-sized, 27 % and only 2 % of the small-sized firms published a sustainability report. Concluding that the larger the company is, the more likely the company has issued a sustainability report.

Table 2. Publishing a sustainability report by industry.

ICB	Published	Not published	Total
Oil & Gas	1	0	1
Basic Materials	6	6	12
Industrials	13	22	35
Consumer Goods	1	7	8
Consumer Services	5	16	21
Health Care	2	5	7
Telecommunications	3	1	4
Utilities	1	1	2
Financials	3	10	13
Technology	3	14	17
Real Estate	2	2	4
Total	40	84	124
Proportion %	32 %	68 %	

The largest industry is industrials, and 37 % of the companies had published a sustainability report. The highest percentage of publishing sustainability reports belongs to telecommunications, 75% had published a sustainability report. Then comes the basic materials, utilities, and real estate, with a publishing percentage of 50 %. Thus, at least half of the companies in these industries value sustainability and are more transparent to shareholders considering non-financial matters. The lowest percentages belong to the financials and technology industries, only six companies had published a sustainability report in total in the two industries. The majority of companies were large and medium-

sized that had published a sustainability report. There was only one small-sized company that published a sustainability report.

From the data, 32 % had published a sustainability report. The following table presents how many of the sustainability reports were done according to the GRI framework. The companies that issued a sustainability report used the GRI framework to support reporting by 85 % of the companies. Six companies used another framework. All of the large-sized companies had used the GRI framework in reporting, and 55 % of the medium-sized companies had used the GRI framework. The data did not consist of small-sized companies that would have used the GRI framework when reporting sustainability.

Table 3. The use of GRI framework and other reference frameworks by industry.

ICB	GRI framework	Other framework	Total
Oil & Gas	1	0	1
Basic Materials	6	0	6
Industrials	10	3	13
Consumer Goods	1	0	1
Consumer Services	4	1	5
Health Care	2	0	2
Telecommunicatios	3	0	3
Utilities	1	0	1
Financials	3	0	3
Techonology	1	2	3
Real Estate	2	0	2
Total	34	6	40
Proportion %	85 %	15 %	

Table 3 presents that it is more common to use the GRI framework than another framework. The industrials sector had the most sustainability reports in a total of 13. From the published sustainability reports 77 % of these were done according to the GRI framework. There are eleven industries, and eight of them had 100 % of the published sustainability

reports done following the GRI framework. The technology industry had the lowest percentage of 33 % that used the GRI framework. It is more common to use another framework in the technology industry.

The sustainability reports were assured by 65 % of the 40 companies that published the sustainability report, and 14 companies did not provide independent assurance. From the 26 provided assurance statements, 88 % are classified as large companies, and the rest 12 % were provided by medium-sized companies. The data did not include a small company that would have provided an assurance.

Table 4. Assurance of sustainability reports by industry.

ICB	Assurance	No assurance	Total
Oil & Gas	1	0	1
Basic Materials	6	0	6
Industrials	8	5	13
Consumer Goods	1	0	1
Consumer Services	2	3	5
Health Care	1	1	2
Telecommunications	3	0	3
Utilities	1	0	1
Financials	1	2	3
Technology	1	2	3
Real Estate	1	1	2
Total	26	14	40
Proportion %	65 %	35 %	

Five industries provided an external assurance statement for all the published sustainability reports, oil & gas, basic materials, consumer goods, telecommunications, and utilities. In the financials and technology industries, both provided only 33 % assurance statements for published sustainability reports.

There are limitations to the data and methods used in the thesis, which should take into account before presenting the results and generalizing them. The most important limitation is the small data and the study period only being one year. Due to the small data size, the study results on the factors influencing the market value are weakly generalizable but can be considered indicative. The generalizability of the results to all Nasdaq Helsinki companies is problematic. The research material covers only a small part of the companies on the Helsinki stock exchange. The data selected for the 3 and 4 regression models only had 40 companies which is too small to generalize the results. Thus, results need to be interpreted critically. Besides, according to Berthelot et al (2012) the review period is relatively short. The thesis solely observes the year 2019, which affects the scarcity of the data and the results. To better the generalizability of the results, more years should be taken into the data, for example, five to ten years.

6 Results

This chapter presents the results of the statistical tests of the thesis. Before presenting, the research results, the descriptive statistics of the data are reviewed. The variables of the thesis were presented in the previous chapter. Now the correlation between the variables is examined, followed by statistical testing of the four hypotheses. The purpose of analyzing the results is to find out the accuracy of the presented hypotheses. In the following parts, SAS Enterprise Guide 7.1. program is used in the analysis. The chapter ends by showing the results of the analysis and interpreting the results. The limitations regarding the results are also presented at the end.

6.1 Descriptive statistics of the variables

Table 5 presents descriptive statistics of the data. The variables included in the table are market value, book value, earnings before taxes and size. The descriptive statistics include mean, standard deviation (SD), median, minimum and maximum. The company's market value presents the value four months after the fiscal year has ended, and the book value, earnings before taxes and total assets are from the date the fiscal year has ended. Three companies had financial information presented in other currencies than euros, the data was changed to euro values with euro course according to the Thomson Reuters database.

Table 5. Descriptive statistics.

Variable	Mean	SD	Median	Minimum	Maximum
Market value	1 806.82	4 786.19	199.17	4.90	25 070.30
Book value	1 141.24	3 694.05	112.12	-8.32	31 528.00
EBT	139.35	392.78	10.93	122.35	2 113.00
Size	6 625.38	50 447.56	224.09	0.056	554 848

Financial figures are presented in millions and currency is EUR.

From table 5, it can be noted that the difference in market value between the companies varies from 4.9 million euros to 25 billion euros. The firms have an average market capitalization of 1.8 billion euros (median=199 million euros). The standard deviation of the market value is about 4.8 billion euros. The variation between the market value is high and strongly skewed, and many observations are located in the negative tail. When adding logarithm to the market value, it is corrected to have a normal distribution. (Metsämuuronen, 2008, 101.) The average book value of the listed companies is 1.1 billion euros (median= 112 million euros). The data consists of 124 companies, and two of them had a negative book value. These are left out from the data before analyzing the correlation.

The third examined variable is the earnings before taxes of the company. The average earnings before taxes of the listed companies is 139 million euros (median=10.93 million euros). In total the data consists of 30 companies that have negative earnings before taxes value. The average of size variable is 6.6 billion euros (median=224.09 million euros). The minimum and maximum values show that data includes companies of different sizes. Due to this, the logarithm of the total assets is taken when doing the analyzes.

6.2 Pearson correlation and linear regression results

The following table 6 presents the results of the Pearson correlation tests between the market value, book value, earnings before taxes, negative earnings before taxes, size, and sustainability report variables. Regression analysis assumes that the explanatory variables do not correlate too strongly with each other. If the correlations are not large enough, proper models will not emerge. Excessive correlations between explanatory variables cause multicollinearity. Thus, before performing regression analysis, the correlations between the variables are examined. The correlation results are divided into three different values. The correlation is statistically significant at the 1 % significance level ($p < 0.01$). The correlation is statistically almost significant at the 5 % significance level ($p < 0.05$). The correlation is statistically indicative at the 10 % significance level ($p < 0.10$). The values of the correlation between the coefficients can be anything between +1 and -1. The closer the correlation is to zero, the smaller the correlation between the variables is. If the correlation is 0.80 or higher, the correlation is considered to be very high. Correlation up to 0.60 remains to be high. Even the correlations between 0.40 and 0.60 can be considered to be relatively high. A correlation less than 0.30 is considered to be low. (Metsämuuronen, 2005, 346.)

Table 6. Pearson correlation results.

Variable	Market value	Book value	EBT	NEG	Size	Sustainability report
Market value	1					
Book value	0.534***	1				
EBT	0.608***	0.777***	1			
NEG	0.113	0.050	0.129	1		
Size	0.664***	0.481***	0.440***	-0.054**	1	
Sustainability report	0.733***	0.398***	0.453***	-0.246***	0.542***	1

*** Correlation is statistically significant at the 1% significance level ($p < 0.01$). The correlation is statistically significant.

** Correlation is statistically significant at the 5% significance level ($p < 0.05$). The correlation is statistically almost significant.

* Correlation is statistically significant at the 10% significance level ($p < 0.10$). The correlation is statistically indicative.

Table 6 presents the Pearson correlation results. It can be observed that there is a linear relationship between all the variables because the correlation is not 0. The dependent value has a positive correlation with all the variables in the correlation matrix. These correlations can be said to high expect the correlation with the negative earnings before taxes variable (0.113). Market value has the highest correlation with the sustainability report variable (0.733), which is statistically significant. The correlation between market value and company size is high and statistically significant.

The table also presents the correlation between the explanatory variables, which is used to explain the multicollinearity. The book value and earnings before taxes have the highest correlation in the matrix (0.777), which is statistically significant. The results point out that the negative earnings before taxes variable has a low correlation with all the variables in the study and a negative correlation with the size variable (-0.054) and sustainability report variable (-0.246). Sustainability reporting and company size have a positive and statistically significant correlation (0.542). None of the variables correlate too much with each other. Therefore, it can be concluded that there is no multicollinearity problem in this study. The following table presents the results of the regression analysis based on the variables in the correlation matrix.

6.2.1 Regression results for model 1

Table 7. Regression analysis results for model 1 (N=122).

Variable	Parameter estimate	P-Value
Intercept	1.339*** (0.130)	<0.0001
Book value	1.007E-6 (0.0001)	0.960
EBT	0.001*** (0.0001)	0.003
NEG	0.005 (0.003)	0.129
Size	0.277*** (0.057)	<0.0001
Sustainability report	0.841*** (0.120)	<0.0001
F-Value 54.051***		
R-Square = 0.700		Adjusted R-Square = 0.687

*** Result is statistically significant at the 1% significance level ($p < 0.01$). The result is statistically significant.

** Result is statistically significant at the 5% significance level ($p < 0.05$). The result is statistically almost significant.

* Result is statistically significant at the 10% significance level ($p < 0.10$). The result is statistically indicative.

The regression results for model 1 are presented in table 7. The dependent value in the model is market value. From table 7 it can be noticed that the regression models r-square is 0.700 and adjusted r-square is 0.687, which are high. Regression models r-square describes how well the model's explanatory variables explain the dependent variable (Metsämuuronen, 2005, 658). The closer the number is to 1, the better the model explains the dependent variable. Meaning the variables explain 69 % of the variance of the

market value changes. The F-value describes the statistical significance of the model. The F-test tells whether the variables in the regression equation can explain the variation of the variable being explained. In other words, whether the variables of the Y variable can be defined statistically significantly by the X variables (Laininen, 2000, 94). The P-value for the F-test is under 0.0001, making the model statistically significant.

The parameter estimates are positive thus the explanatory variables affect the dependent variable positively. The regression results indicate that market value has a statistically significant ($p < 0.01$) positive relation with the earnings before taxes (0.001), company size (0.277), and the sustainability report (0.841). Book value and the negative earnings before taxes variables are not statistically significant in this regression model. The tolerance values are above 0.2, and the variation inflation factor values are under 5. Therefore, it can be concluded that there is no multicollinearity problem in this model. (Nummenmaa, Holopainen & Pulkkinen, 2014, 236.) Companies issuing sustainability reports receive a substantial premium in the financial market. The findings are supported by Berthelot et al. (2012) and Schadewitz et al. (2010).

6.2.2 Regression results for model 2

Furthermore, the thesis examines whether the company's size and sustainability report have an interaction impact on the company's market value. Table 8 presents the regression results for model 2. The adjusted r-square is 72 % which is higher than in model 1, thus this model explains better the variation of the dependent variable. F-value is 51.42 and is statistically significant at one percent level. The coefficients for size and sustainability report variables are higher than in model 1, which implies that the effect on the dependent variable is higher in model 2.

The dependent variable and size variable have a statistically significant relation. Thus, the larger the company is, the higher the market value of the company is. The results

indicate that the main effects of the interaction term are positive and statistically significant at one percent level, company size (0.416) and sustainability report (1.902) on market value. The interaction term size*sustainability report variable (-0.396) is negative and statistically significant at one percent level. The interaction term is negative, and this illustrates the higher the company's total assets are the weaker the relationship between the sustainability report and market value is. In contrast, the lower the company's total assets are, the stronger the relationship between the sustainability report and market value is. The result indicates that the value-enhancing effect sustainability report has on the market value will weaken the higher the company's total assets are.

Table 8. Regression analysis results for model 2 (N=122).

Variable	Parameter estimate	P-Value
Intercept	1.051*** (0.148)	<0.0001
Book value	2.257E-5 (0.0001)	0.267
EBT	0.001*** (0.0001)	0.003
NEG	0.006* (0.003)	0.053
Size	0.416*** (0.067)	<0.0001
Sustainability report	1.902*** (0.322)	<0.0001
Size*Sustainability report	-0.396*** (0.112)	<0.001
F-Value 51.542***		
R-Square = 0.729		Adjusted R-Square = 0.715

*** Result is statistically significant at the 1% significance level (p <0.01). The result is statistically significant.

** Result is statistically significant at the 5% significance level ($p < 0.05$). The result is statistically almost significant.

* Result is statistically significant at the 10% significance level ($p < 0.10$). The result is statistically indicative.

6.2.3 Pearson correlation and regression results for model 3 and 4

Furthermore, the thesis examines whether GRI-based reporting and assurance statements positively impact the market value. The results need to be interpreted critically because the data has limitations due to its size. There should be more data to ensure more robust results. In this part, the data is classified to those companies that had published a sustainability report. The companies that had published a sustainability report are now analyzed whether they had done the reporting according to the GRI guidelines and provided an external assurance effect on the market value. The general observation was that large companies primarily conducted these actions, which was not common in small and medium-sized companies. The results of the Pearson correlation are presented in the following table.

Table 9. Pearson correlation results.

Variable	Market value	Book value	EBT	NEG	GRI	ASSUR
Market value	1					
Book value	0.629***	1				
EBT	0.755***	0.745***	1			
NEG	0.372**	0.104	0.200	1		
GRI	0.490***	0.219	0.266*	0.368**	1	
ASSUR	0.407***	0.227	0.204	0.160	0.572***	1

*** Correlation is statistically significant at the 1% significance level ($p < 0.01$). The correlation is statistically significant.

** Correlation is statistically significant at the 5% significance level ($p < 0.05$). The correlation is statistically almost significant.

* Correlation is statistically significant at the 10% significance level ($p < 0.10$). The correlation is statistically indicative.

The results indicate that the correlation between the market value and all the explanatory variables is statistically significant. The market value and earnings before taxes have the highest correlation in the matrix (0.755). The correlation between the market value and GRI framework (0.490) and assurance (0.407) variables can be considered to be relatively high. The correlation between the explanatory variables with each other is not too high to cause a multicollinearity problem. The correlation between the book value and earnings before taxes can be considered high (0.745). Book value does not have a statistically significant correlation with the GRI framework and assurance statement variables. The correlation between earnings before taxes and GRI is statistically indicative, and there is no statistically significant correlation between earnings before taxes and the assurance variable. The correlation that book value and earnings before taxes have with the GRI framework and assurance statement is considered to be low. Now the regression analysis is made and the results are presented separately. The regression models are based on Berthelot et al. (2012) regression models replacing sustainability report with the GRI framework and assurance statement dummy variables.

Table 10 presents the results for model 3 and shows a statistically significant positive relation between the market value and earnings before taxes. There is a statistically almost significant ($p=0.019$) positive relation between the market value and the GRI framework. According to the model's r-square, the model can explain 65 % of the changes in the market value. The variables that are not statistically significant are the book value and the negative earnings before taxes variables. The results are indicating that a GRI-based report has a positive effect on the market value.

Table 10. Regression analysis results for model 3 (N=40).

Variable	Parameter estimate	P-Value
Intercept	2.673*** (0.167)	<0.0001
Book value	1.577E-5 (0.0001)	0.296
EBT	0.001*** (0.0001)	0.001
NEG	0.009 (0.006)	0.143
GRI	0.443** (0.180)	0.019
F-Value 19.35***		
R-Square = 0.689 Adjusted R-Square = 0.653		

*** Result is statistically significant at the 1% significance level ($p < 0.01$). The result is statistically significant.

** Result is statistically significant at the 5% significance level ($p < 0.05$). The result is statistically almost significant.

* Result is statistically significant at the 10% significance level ($p < 0.10$). The result is statistically indicative.

The following table 11 shows the regression results of model 4 whether the external assurance statement affects the market value. The adjusted r-square is 65 % which is the same as in the GRI regression model 3 thus, the models explain the variation of the market value the same amount. The negative earnings before taxes variable is statistically almost significant compared to model 3 it was not statistically significant. The assurance variable (0.296) has a positive relation with the market value, and the results are almost statistically significant. The results indicate when the sustainability report is provided with an external assurance statement, positively affecting the market value.

Table 11. Regression analysis results for model 4 (N=40).

Variable	Parameter estimate	P-Value
Intercept	2.863*** (0.108)	<0.0001
Book value	1.360E-5 (0.0001)	0.374
EBT	0.001*** (0.0001)	<0.0001
NEG	0.013** (0.006)	0.041
ASSUR	0.296** (0.128)	0.027
F-Value 18.854		
R-Square 0.683		Adjusted R-Square 0.647

*** Result is statistically significant at the 1% significance level ($p < 0.01$). The result is statistically significant.

** Result is statistically significant at the 5% significance level ($p < 0.05$). The result is statistically almost significant.

* Result is statistically significant at the 10% significance level ($p < 0.10$). The result is statistically indicative.

6.3 Testing the research hypotheses

This thesis examines whether the publication of the sustainability report, use of the GRI framework, and having an assurance statement have a positive effect on the company's market value. Additionally, the thesis examined whether company size impacts the relationship between sustainability reporting and market value. Regression analyses was conducted with SAS Enterprise Guide 7.1. program. The research hypotheses of the thesis are the following:

H₁: The publication of a sustainability report has a positive effect on the company's market value.

H₂: The association between sustainability reporting and market value is moderated positively by company size.

H₃: The publication of a GRI-based report has a positive effect on the company's market value.

H₄: External assurance of a sustainability report has a positive effect on the company's market value.

According to the research hypotheses, the publication of a sustainability report, the GRI framework, and providing an external assurance statement have a positive relation to the company's market value. The second research hypothesis suggests that the company size positively influences the relationship between the market value and sustainability report. In other words, the expectation of the hypotheses based on the previous research is that companies that have a sustainability report perform financially better, receiving a significant premium than other companies that do not have a sustainability report. The thesis also had expectations that using the GRI framework and assurance statement gives the company financial benefits and significantly affects the market value.

All four hypotheses have been measured in this study with their regression models, and the research hypotheses concern the effect of explanatory variables on the company's market value. The research hypothesis is accepted if the explanatory variable positively and statistically significantly explains the dependent value. If a positive and a statistically significant relationship is not found, the hypothesis is rejected. Table 12 summarizes the results of the regression analyses.

Table 12. Variable relation and statistical significance.

	Market Value	Hypothesis
Sustainability report	+ ***	Accepted
Size*Sustainability report	- ***	Rejected
GRI framework	+ **	Accepted
Assurance statement	+ **	Accepted

*** Result is statistically significant at the 1% significance level ($p < 0.01$). The result is statistically significant.

** Result is statistically significant at the 5% significance level ($p < 0.05$). The result is statistically almost significant.

* Result is statistically significant at the 10% significance level ($p < 0.10$). The result is statistically indicative.

As shown in table 12, the first significant finding of this thesis was the positive relation of sustainability reporting on the market value. The effect that sustainability reporting has on the market value is statistically significant ($p < 0.01$). Sustainability reporting has a statistically significant positive relation with the dependent value of the study, which is why H_1 is accepted. According to this thesis, the company's market value increases as the company issues a sustainability report compared to those that have not issued a sustainability report.

When examining the relation between company size and sustainability reporting with market value, the results point out that there is a statistically significant negative relation at one percent level ($p < 0.01$). Based on the previous research (Lo & Sheu, 2007; D'Amato & Falivena, 2019), the thesis suggested that there would be a positive relation between the interaction term and market value, and the results show otherwise. The results suggest the larger the company is, the weaker the relation between the sustainability report and market value is. Thus, the H_2 of the thesis is rejected because a positive relation was not found.

The third finding of this study was the positive relation of the GRI framework on the market value. The effect of the GRI framework on the market value is statistically almost significant ($p < 0.05$). The GRI framework has a statistically almost significant positive relation to the market value, therefore H_3 of the thesis is accepted. The thesis indicates that the company's market value increases when the company publishes a GRI-based sustainability report.

The fourth finding of the thesis was that the assurance statement positively relates to the market value. Providing an external assurance statement was found to have a statistically almost significant ($p < 0.05$) relation to the company's market value. The assurance statement has a statistically almost significant positive relation to the market value, which is why H_4 is accepted. Thus, the company's market value improves when the company provides a sustainability report with an assurance statement. Concluding that three of the study's hypotheses are accepted and one hypothesis is rejected. In the following part, the results are interpreted.

6.4 Interpreting the results

The relationship between sustainability reporting and market value was positive and statistically significant ($p < 0.01$). The results can be explained by society's interest in the company's environmental impact. Environmental issues can be easy to report on, and stakeholders are interested in them. Companies are more pressured to report their operations' environmental impact. The findings are supported by Berthelot et al. (2012) and Schadewitz et al. (2010) findings that sustainability reporting positively affects the company's market value. When issuing a sustainability report, investors can anticipate more future cash flows. Investing in sustainable conduct can lead to lowering production costs or increasing sales of the company. Companies can see this also as a communication tool to better the corporate's public picture and receiving competitive advantage through this (O'Dwyer, 2002; Brown et al, 2009) or intending to manage public relations (Reverte, 2009).

Company size can be a significant factor influencing sustainability reporting (Reverte, 2009). Results point out that company size and market value have a positive and statistically significant relation at one percent level. The interaction between company size and sustainability report on market value was negative and statistically significant ($p < 0.01$). Therefore, it can be concluded that the company size moderates the relationship between sustainability reports and market value. This thesis pointed out that the interaction term had a negative impact on the market value. The larger the company is, the weaker the relationship between the market value and sustainability report is. The company size negatively reinforces the relationship between sustainability reporting and market value. The results are not consistent with Lo et al. (2007) and D'Amato et al. (2019), which found that the interaction term between company size and sustainability was positive and statistically significant on the dependent value. Their results suggested that corporate sustainability positively relates to the market valuation when a company's size is relatively large. The results can be interpreted that smaller companies are not less advanced in practicing CSR than larger companies. They can gain more financial benefits from sustainability reporting than larger companies. Previous research has found that smaller companies are more advanced in implementing CSR activities than larger companies (Baumann-Pauly et al, 2013). The results are supported by Udayasankar (2008) that despite visibility, resource access and scope of operations, small companies are motivated to conduct CSR activities.

The results need to be interpreted critically, considering the impact GRI has on the market value because the data faced limitations. GRI framework has a statistically almost significant ($p < 0.05$) positive relation to the company's market value. The results can be explained by using the GRI framework when reporting about sustainability matters makes it more precise and higher quality, thus positively affecting the company's market value. The GRI framework might improve sustainability performance and improve risk management and investor communication. The GRI framework is a sign of credibility and communicates to stakeholders that the company has incentives to be sustainable. These findings are supported by Clarkson et al. (2011), De Klerk et al. (2012), and Kaspereit et

al. (2016). Schadewitz et al. (2010) notice that this is a vital explanatory factor for a company's market value when following the GRI guideline. GRI-based reporting increases the company's accountability and enhances transparency, thus gaining financial benefits.

The results need to be interpreted critically, considering the impact assurance has on the market value because the data faced limitations. Providing an external assurance statement has almost a statistically significant ($p < 0.05$) positive relation to the market value. The results indicate that the trustworthiness of a sustainability report is more robust when a third party has assured it, which creates financial benefits for the company. The assurance communicates to stakeholders that the reporting is reliable. The results can be explained that investors' motivation to invest in the corporation increases when the sustainability report has been assured. Investors can consider companies that have published a corporate responsibility report and assured it by a third party to be a more potential investment target than companies that have not assured their sustainability report. These findings are supported by Pflugart et al. (2011) and Cheng et al. (2015).

6.5 Limitations of the results

When interpreting the results of this thesis and generalizing these results, it is vital to notice the limitations previously identified considering the research data and research methods. The most noteworthy limitation in the thesis is the limited data and the fact that the research period is only one year. Due to the small size, the study results on the factors influencing the market value should be critically generalized. The data in models 3 and 4 was minimal, and the results cannot be generalized. The data contained only a small part of the companies in the Helsinki stock exchange thus, the results cannot be generalized for all companies in the Helsinki stock exchange. In purpose to improve the generalizability of the results, the study period should be extended. If the data would be extended to at least five fiscal years, the results could be generalized to Finnish listed companies.

7 Conclusions

The conversation around sustainability reporting has been increasing during recent decades. Company's stakeholders are more interested and cautious on sustainability matters than before. Stakeholders have more expectations towards companies besides maximizing financial benefits and future cash flows. The stakeholder theory has supported the growth of sustainability reporting. Companies need to identify their stakeholders aiming to fulfill their expectations. Sustainability reporting can be seen as a communication channel that allows companies to report their responsible practices to the public. This thesis aimed to determine whether sustainability reporting affects the company's market value in the Helsinki stock exchange. In practice, this meant repeating Berthelot et al. (2012) research instead of Canadian data using Finnish data. The thesis also examines the influence company size has on the relationship between sustainability reporting and market value. Furthermore, the thesis examined whether GRI reporting and external assurance statements affect the company's market value.

As in the Berthelot et al. (2012) study, the research method was linear regression analysis. The original data consisted of 129 companies, and seven of these were left out of the final data because they had listed on the main market during 2020 or had a negative book value. The final data consisted of 122 companies listed in the Helsinki stock exchange during 2019. The four hypotheses of the thesis, the sustainability reporting, the relationship between sustainability reporting and market value moderated by company size, GRI reporting, and external assurance statements, were believed to have a positive and statistically significant relationship with the market value based on previous research. Each hypothesis had an own linear regression model, which was tested on the SAS Enterprise Guide 7.1. program.

The thesis has four hypotheses, three research hypotheses were accepted, and one hypothesis was rejected. The research found a statistically significant association between

the sustainability report and market value. This means that companies that have published a sustainability report have a higher market value than those that have not. Companies have more pressure to report sustainability matters to the public. Companies' management is responsible for making all decisions about the company that would maximize the profit. In other words, investing in corporate responsibility is seen as a strategic solution that aims to increase the company's market value (Mackey et al, 2007). The stakeholder theory can also explain the positive effect, stakeholders have more demands for companies to report their corporate responsibility practices. (Harmaala et al, 2012, 66.)

A regression model was made that had an interaction term to examine whether company size impacts the relation between the sustainability report and market value. The research found a negative and statistically significant association between the interaction term and market value. Therefore, the size moderates the relation, meaning that the smaller the company is, the stronger the relationship between sustainable reporting and market value is. Previous research has found that the interaction between company size and CSR on market value is positive (Lo et al, 2007; D'Amato et al, 2019). This is explained that larger firms are more advanced in executing CSR activities and have more financial resources than smaller firms. Baumann-Pauly et al. (2013) and Udayasankar (2008) support the findings of this research that smaller firms are motivated and should be encouraged to conduct CSR activities as larger companies. This contributes to the present academic literature on the relation between sustainability reporting and market value by presenting company size as a variable that impacts the direction of this association. The findings can motivate smaller companies also to conduct sustainability reporting.

The third hypothesis stated that GRI reporting has a positive association with the market value is accepted. This can be explained by the fact that GRI reports result in better quality and credibility of sustainability reports. When publishing a GRI report, companies can avoid responding to a request from stakeholders considering transparency issues and

non-financial information. Thus, this can reduce time and work used to responding to information on social and ecological matters. (Nikolaevava & Bicho, 2011.) A positive association between the external assurance statement and market value was found. This can be explained that external assurance increases the reliability and consistency of sustainability reports. Companies try to prove their accountability for their stakeholders by providing externally assured sustainability reports. (Marx & Dyk, 2011.) These need to be interpreted critically because the data had limitations, and the results cannot be generalized. The results can be seen as indicative.

The research creates new information on Finnish listed companies' corporate responsibility reports from a quantitative perspective with 2019 data. Empirical literature focusing on the moderating variables of the relationship between sustainability reporting and market value remains limited. This study brings the subject to a new decade and contributes to the academic literature. The research motivates companies to continue to produce sustainability reports and give new and smaller companies incentives to start reporting on their corporate responsibility. Thus, the research provides stakeholders information on the importance of sustainability reports.

There are limitations to the research method and data used in the research, which should be considered when interpreting the research results and generalizing the results. The research only looks at the year 2019, which affects the scarcity of data and the results. Not all companies publish sustainability reports annually. The companies involved in the study are different in size and operate in various industries and have different financial situations. Due to the small sample size when examining the GRI report and assurance statement, the study results in the factors influencing the market value are not generalizable, but they can be considered indicative. Conducting this research with a small amount of data provides interesting information about the relation between sustainability reporting and market value in the Finnish business environment.

The thesis also raised suggestions for future research. Corporate responsibility is more common and mandatory for some companies. Thus, companies are issuing more sustainability reports than before. This study could be repeated using more extensive data to have better results for Finnish listed companies. One of the limitations of this study was the small data used when analyzing the GRI-report and assurance statement have on the market value. These could be repeated using data from five to ten years. This would better the generalizability of the results. It would be interesting to examine has the global pandemic increased or decreased the demand for corporate responsibility and which dimension is emphasized. Research could focus on the different dimensions of CSR disclosure separately and which dimension is valued the most. Future research could examine the global pandemic affected the way how corporate responsibility is viewed. It is also essential not solely to explore the relation between CSR and market value but also in what conditions CSR positively and negatively affect its performance. Further research could focus on other vital potential moderators that could affect the relationship between CSR and market value and its methods.

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