UNIVERSITY OF VAASA

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**ESG AND FIRM PERFORMANCE: VARIATIONS BETWEEN INDUSTRY
SECTORS IN THE EUROZONE**

Master's Degree Programme in Finance

VAASA 2021

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LIST OF ABBREVIATIONS

CAR- Cumulative Abnormal Returns

CD – Charitable donations

CFP – Corporate Financial Performance

CSP – Corporate Social Performance

CSR – Corporate Social Responsibility

ESG – Environmental, Social, and Governance

ROA – Return on Assets

ROE – Return on Equity

SRI – Socially Responsible Investment

UN PRI – United Nations Principles of Responsible Investing

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Master's Thesis:	ESG and firm performance: Variations between industry sectors in the Eurozone
Degree:	Master's Degree Programme in Finance
Major:	Finance
Examiner:	Sami Vähämaa
Starting year:	2019
Year of graduation:	2021

Pages: 86

Abstract:

The purpose of this thesis is to examine how the ESG performance of the listed companies in the Eurozone affects their firm value and financial performance. A large number of previously conducted academic studies have shown a positive and significant relationship between CSR engagement, firm value, and financial performance, and this thesis examines whether those findings hold in the 11 Eurozone markets. More specifically, ESG performance is proxied by Thomson Reuters ESGC score, which measures the company's performance on non-financial environmental, social, and governance issues, combining possible ESG controversies into the measure. The used measure for firm value is Tobin's Q and Return on Equity ratio (ROE) for financial performance. These two measures were the most used in the previous literature and hence, it is interesting to examine whether they can exhibit a positive relationship between ESG performance, firm value, and financial performance among Eurozone companies as well.

The analyzed unbalanced panel data set consists of 793 publicly listed companies in the eleven original Eurozone countries Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain. The studied period is from 2009 to 2019. Yearly values for the ESGC score and other variables were obtained from the Thomson Reuters database. To measure the impact of firm visibility, high public awareness, and its effect on the relationship between ESG performance, firm value, and financial performance, three industry groups are formed: companies operating in the B2C sector, brand-driven companies, and environmentally sensitive companies. Their interaction with ESG performance should lead to higher firm value and better financial performance.

Empirical evidence of this thesis suggests that ESG performance does not have a positive impact on the firm value or financial performance among the Eurozone companies. The moderating effect of industries under high public awareness did not enhance these relationships and the research hypotheses were not confirmed. Out of the 20 regression specifications, only three led to statistically significant findings, but the statistical evidence was not clear enough to confirm the formulated research hypotheses. The sensitivity analysis with different firm value and financial performance measures gave additional robustness to the insignificant findings. Overall, the insignificance of the empirical findings suggests that the ESG performance does not affect the firm value or financial performance. However, it is not value-destroying either and CSR engagement cannot be considered solely as a cost for the companies.

1. INTRODUCTION

Responsible investing is currently one of the largest investment trends in the world. Even though the birth of responsible investing can be dated to the 18th century, its relative importance has grown in the last two decades (Talan & Sharma 2019). One of the most important initiatives towards a global framework for responsible investing was the United Nations Principles for Responsible Investing (UN PRI). UN PRI is United Nations and institutional investors' joint effort to implement sustainable measures to investment decisions worldwide. UN PRI was founded in 2005 by Kofi Annan, 20 institutional investors from 12 countries, and a 70-person supporting group of experts in different fields. By 2018, UN PRI has approximately 2000 signatories and over 70 trillion US dollars' worth of assets under management (UN PRI 2019).

To accommodate the need for sustainability measures for financial market participants, the UN released The six Principles for Responsible Investment, which range from incorporating Environmental, Social, and Governance (ESG) issues to investment analysis, decision making, ownership policies, disclosure practices, and reporting. As stated in the UN PRI's mission, they believe that "an economically efficient, sustainable global financial system is a necessity for long-term value creation. Such a system will reward long-term, responsible investment and benefit the environment and society as a whole" (UN PRI 2019). The first global ESG initiative was made in 2004, when the United Nations Global Compact and 23 institutional investors formed a joint effort report called "Who Cares Wins". The goal of the report is to make recommendations for professional financial investors to implement environmental, social, and governance issues into various parts of financial industry procedures (UNGC 2004).

A few prevalent issues in ESG have emerged in the scientific literature. Talan and Sharman (2019) state that developing countries are behind Western countries in ESG investment growth, expense ratios, and fees are higher in ESG-based mutual funds and sustainable investing strategies are very inconsistent regarding ESG factor implementation (Talan & Sharma 2019). At the firm level, Nabil and Stebastianelli (2017) find that ESG disclosure policies of companies in the S&P 500 vary across the three factors. Governance policies are usually the most transparent and environmental policies

are the least. Research results show that mid-and small-cap companies have lower ESG disclosure scores compared with large-cap companies. Furthermore, the ESG disclosure score is higher with firms with a more diverse and broader board of directors (Nabil & Stebastianelli 2017).

Dremptic, Klein, and Zwergel (2019) argue that that resources for data providing and firm size drive up the ESG score. This is problematic, as it should objectively measure the responsibility and sustainability of the core activities of the company. If ESG scores do not proxy for Corporate Social Performance (CSP) correctly, by giving larger companies higher ratings, it distorts the channeling of the funds for more sustainable businesses. (Dremptic, Klein & Zwergel 2019.)

Regardless of the issues, the demand for socially responsible investments is going to grow in the future. BlackRock's CEO Larry Flink wrote an open letter for CEOs around the world to spread the message of the future demands of investors. He emphasized the impact of climate change and its effects on the fundamentals of finance: how to price the climate risk and how economic growth reacts to productivity drops under extreme weather conditions. Climate change cannot be denied, and in the future, capital will be significantly reallocated. (BlackRock 2020.)

How do investors view ESG and Corporate Social Responsibility (CSR) efforts of the companies? In the previous literature, many findings indicate that investors and financial markets do react to CSR-related information. Crifo, Forget & Teyssier (2015) found with their experimental case studies that Private Equity investors do punish firms with poor ESG performance with lower valuation estimates. Event studies such as Clacher & Hagendorff (2011) and Aureli, Gigli, Medei, and Supino (2020) found positive market reactions to the positive CSR news.

The relationship between CSR performance and Corporate Financial Performance (CFP) is also studied a lot in academic history, but the debate is still inconclusive. Studies have reported a significant positive relationship between CSR performance and different CFP measures. Jo & Harjuto (2011) found a positive and statistically significant relationship between CSR engagement and industry-adjusted Tobin's Q. Eccles, Ioannou, and

Serafeim (2014) reported a positive and significant relationship between high sustainability and cumulative abnormal stock returns. Velte (2017) found that the total ESG score and individual ESG factors have a positive impact on return on assets (ROA), but no statistically significant effect on Tobin's Q.

The role of industries is important regarding the Corporate social performance (CSP) and CFP. As Griffin & Mahon (1997) stated in their literature review, CSR issues vary from industry to industry, and multi-industry studies should take this into account. Eccles et al. (2014) found that the effect between abnormal stock returns and CSR performance is stronger in the industries with high public interest. Industry groups might have some moderating role in the relationship between CSP and CFP and previous findings motivate more research in this area.

1.1. The purpose of the study

The current trend in business operations and investment decisions is to implement sustainable measures to address environmental, social, and governance issues. Hence, *the purpose of this thesis* is to focus on the European public companies and their ESG efforts, and examine, how these actions affect firms' financial performance measures and firm value. The European Commission has taken actions to encourage companies to adopt CSR practices since its 2011 CSR strategy, and with the adoption of the United Nations Social Development Goals and Paris Climate action agreement in 2015, European Union has been a leader in corporate social responsibility (EC 2019). European companies are hence a natural choice for this study, as the CSR efforts are even at the core of the EU Commission proposals and policies.

The sustainable actions of corporations should come at a price: the money used in sustainable procedures are opportunity costs for other profitable parts of the business. The conscious decision to deviate from the profit-maximization objective should be priced at the share level and it is interesting to find, how markets price the sustainability efforts. The literature regarding CSP and CFP relationship has been inconclusive and the findings

in the previous studies have varied over time. CSR issues nowadays are more prevalent than previously and customers are also paying more attention to companies sustainability measures.

In more detail, this study examines the relationship between the Thomson Reuters ESG Complete score (ESGC score) and firm value proxy measure Tobin's Q and financial performance measure Return on Equity (ROE). Tobin's Q is one of the most used firm performance measures in the previous literature. Aouadi and Marsat (2018) argued that ESG controversies play an important role regarding the CSP-CFP relationship and with the ESGC score, the controversies can be considered.

Furthermore, the data set is divided into industrial sector groups to evaluate the strength of the relationship in different parts of the economy. The companies used in the analysis are the listed companies of 11 original Eurozone countries, and they are divided into 20 industries regarding their Industry Classification Benchmark (ICB) code. A vast majority of CSP-CFP literature in the past has focused on U.S listed companies and this also motivates to study European companies. The industry groupings and their role in the analysis are discussed in more detail in chapter 5.

1.2. Research questions

The first research question is about the impact of corporate social performance on the company's financial performance. Previous literature has not come to one certain conclusion yet, and this remains a meaningful subject for study. In most studies and empirical specifications, the direct relationship between corporate social performance and corporate financial performance is insignificant (see Servayes & Tamayo 2013, Han et al. 2017 for example). This thesis uses ESGC score in analysis and hopes to shed some light on the issue.

Research question 1: How does the ESGC score impact financial performance measures and market value? What are the direction and the magnitude of the relationship?

The second research question examines the moderating effect of the industries in this relationship. Industry dummies are used previously to explain the abnormal stock market returns of sustainable companies (see Eccles et al. 2014) and to examine how the ESG performance varies between companies in sensitive industries and other companies (see Garcia et al. 2017). This study combines these tools to explain the CSP-CFP relationship:

Research question 2: What is the moderating effect of the industry group in the relationship between ESGC score and financial market performance and market value measures?

Chapters 2 will give the theoretical background and shed light on the evolution of the analyzed concepts. Chapter 3 will focus on the examined relationship between CSR, CFP, and firm value. The hypotheses for empirical analysis are formed after the literature review in chapter 5, where the analyzed data set and empirical models are formulated and presented.

2. THEORETICAL BACKGROUND

There are two distinct theories about corporations' objectives and responsibility: shareholder theory and stakeholder theory, which have sparked the debate on whether companies should strive for profit-maximization, or can they have non-economic goals and responsibilities as well. The purpose of this chapter is to give an overview of these different views and provide a comprehensive background for further chapters. Furthermore, the last part of the chapter will go through how the public and investors view and value corporate social responsibility efforts.

2.1. Shareholder theory

In his book *Capitalism and Freedom*, Friedman (1962) states that in the free economy, businesses have only one social responsibility, which is to use its resources to increase profits as long as it engages in free competition, without fraudulent activity. Businessmen should not have any other responsibility than to maximize the profits for the shareholders. (Friedman 1962: 133.) This fundamental thought is called the shareholder theory.

Friedman (1962) advocates for a clear distinction between corporate responsibility and social responsibility. Businessmen, chosen by private individuals to lead enterprises, should not decide what is social interest. In a democracy, civil servants are chosen via elections. Enterprises give shareholders decision-making power, as they are free to use their money for profitable investments or they can donate their funds to charities. Corporate social responsibility diminishes this power, as enterprises contribute shareholders' funds on behalf of them. (Friedman 1962: 134-135.)

Brown, Helland, and Smith (2006) agree with this view and state that executives' altruistic actions towards social benefit are agency costs for shareholders (Brown, Helland & Smith 2006: 856). As we can interpret from the previous references, one key idea of the Shareholder theory is that all of the actions, that are not taken towards a more profitable business, are traded off against shareholders' interests and ultimately, traded off against the interest of the economy.

Friedman (1962) argues that corporate social responsibility also deteriorates the free-enterprise system and moves society towards a centrally controlled system. If enterprise leaders take socially responsible actions, for example, set minimum wages or set price controls on certain goods, the price pressure ends up in product shortages, grey markets, or black markets. The price of a product ration labor and goods and this mechanism is impossible to bypass without a full governmental intervention with goods rationing, wage policy, and labor allocation, which effectively is a centrally controlled system. (Friedman 1962: 134.)

Friedman (1970) criticizes heavily the view that corporations have a social conscience, calling it "pure and unadulterated socialism" and states that the businessmen who are pro-social advocates are "unwitting puppets of the intellectual forces that have been undermining the basis of a free society these past decades" (Friedman 1970: 1). Friedman provides the following argument to support the criticism. Corporate executives are spending someone else's money for general interest. Such actions might reduce the returns of shareholders, raise the product prices to customers, and lower the wages for some employees. When executives are using the money for social responsibilities, they are spending shareholders' money, which is meant to be used only for company and profit-generating activities (Friedman 1970: 2).

The main point from the shareholder theory is, that the profit-maximizing goal for the shareholders is the only objective of the company. Other goals or responsibilities of the enterprises lead to inefficient allocation of capital and a decrease in the degree of freedom in the society. However, the world has evolved a lot in 50 years. Stakeholder theory assesses this change and moves the managerial focus from the shareholders to the broader audience, which is the external and internal stakeholders. One key difference between Shareholder theory and Stakeholder theory is the perspective: Shareholder theory is an economic theory, whereas Stakeholder theory is more of a business management theory.

2.2.   Stakeholder theory

In his book *Strategic Management: A Stakeholder Approach,* Freeman (1984) compiles a comprehensive framework for managers to manage a company in a current quickly evolving business environment. He argues that modern companies face pressure from various groups and the stakeholder approach offers a systematic way to understand the environment and manage it positively, and proactively. (Freeman 1984: 3-4.) As shareholder theory focused on shareholders, stakeholder theory focuses on a broad set of groups, which all affect the success of a company, or are affected by the company.

Stakeholders include the owners, employees, suppliers, and contractors, but also the governments, special interest groups, and media, to name a few. The purpose is to model the organizational processes to take the relevant stakeholders into account (Freeman 1984: 25-26). It is important to note that the Stakeholder theory pushes managers to create value and cooperate with both internal and external forces.

Stakeholder theory can be stripped down to two core questions. First, what is the goal of the firm? Second, what kind of responsibility do the executives have to their stakeholders? These two questions help executives to express the shared view of the value they create to stakeholders and what kind of relationships with the shareholders they need to fulfill their objectives. (Freeman, Wicks & Pamar 2004: 364.)

The Stakeholder theory does not seek to destroy the modern corporation; it seeks to transform managerial capitalism to cover also the relationships with stakeholders (Stieb 2009: 404). Another aspect of the Stakeholder theory is the role of management and ethical decisions. Normative aspects and ethics, such as environmental principles, fair wages, and gender equality guide companies to benefit all the stakeholders (Stieb 2009: 404).

One important concept in the Stakeholder theory is the jointness of stakeholders' interests. Any business can be modeled as a set of relationships between groups that take part in the business activities. Instead of looking for trade-offs between the interests of groups, managers should look for the equilibrium for joint interests. If managers look for trade-

offs between stakeholders, they most likely will create such. Instead, managers should strive for the "sweet spot", where most of the interests are in balance and harmony. (Freeman 2010: 7-8.)

Stakeholders are interconnected to each other and the stakes of each group are multi-faceted. For managers, it is not easy to see stakeholders' interests as joint and usually, they are treated as opposed. Freeman stresses that every stakeholder is needed in the value creation process. From inside the firm to outside, management needs employees, bondholders need returns which come from selling the products, customers need products and employees need communities. (Freeman 2010: 8-9.)

If the stakeholder interests collide, the executives must find solutions and ways to solve the problems to consolidate the interests. If the trade-offs must be made, the next logical step for the executive is to improve them for every side. One way to alleviate tension between stakeholders is to communicate a purpose or a big idea of the company. If an enterprise finds a purpose that resonates with the key stakeholders, it is more likely that long-term success follows. (Freeman 2010: 9.)

To summarize the main points, Stakeholder theory helps executives to manage a company in a modern, fast-changing business environment. When making decisions, executives must take all the relevant internal and external stakeholders into account. The goal is to create as much value for as many key stakeholders and to connect the joint interest of the seemingly different interest groups. Businesses can have a purpose, other than profit-maximizing, and this purpose brings different groups together to work for a common goal.

Focusing on the production of goods or services, supply chains, and investors is not enough in the modern competitive business environment. Stakeholder theory takes a step forward and tries to give more comprehensive guidelines on how to manage a company. In the next sub-chapter, a concept called Corporate Social Responsibility (CSR) is introduced and discussed. It gives more clarity on the relationship between businesses and society, the obligations the companies face in society, and the expectations the public has on companies.

2.3. Corporate Social Responsibility

Corporate Social Responsibility (CSR) is a wide concept that affects many levels of the corporation. CSR also takes the relationship between the firm and the society in which it operates into account. Due to its multilayered nature, it has been given various definitions. Carroll (1979) defined CSR through four different categories of responsibility to cover the whole range of obligations that corporations have to society. In order of importance, the categories are economic responsibilities, legal responsibilities, ethical responsibilities, and discretionary responsibilities. The properties in Figure 1 symbolize the relative importance, and the dashed lines emphasize the fact that they are not mutually inclusive (Carroll 1979: 499).
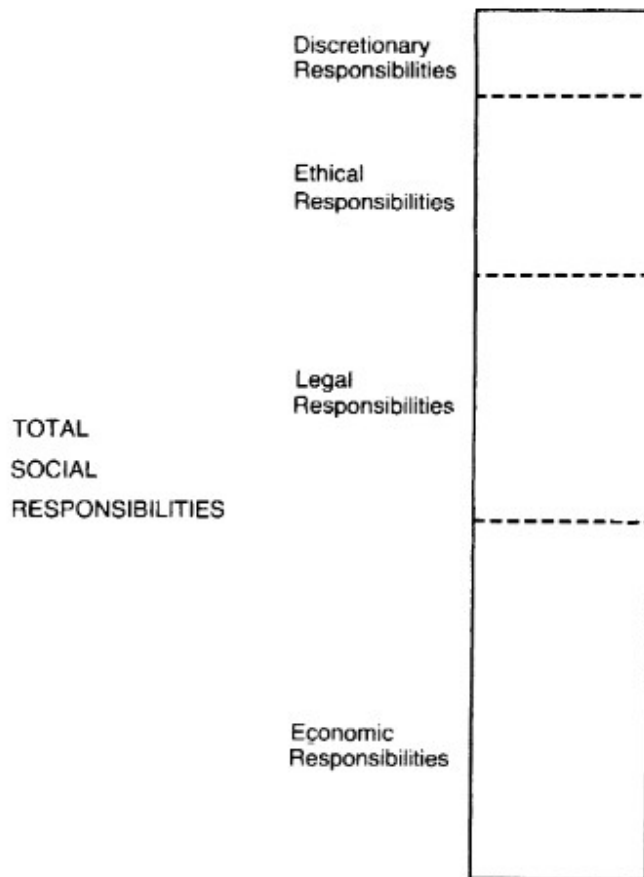

Figure 1. Social responsibility categories (Carroll 1979)

CSR means that the company matches society's expectations of these four categories of responsibility. Economic responsibility means the fundamental objective of the corporation which is to produce services and/or goods to match the public demand and sell them at profit. Legal responsibility means that society expects corporations to strive for their economic responsibilities within the legal framework. Ethical responsibility is hard to concisely define, but it means that corporations should also match society's expectations on values and norms. Discretionary responsibilities are voluntary responsibilities outside the core business activities, such as philanthropy. (Carroll 1979: 500.)

Wood (1991) defined CSR as a combination of three related, but conceptually different principles, which are institutional legitimacy, public responsibility, and managerial discretion (Wood 1991: 696). Institutional legitimacy means that companies as social institutions should not abuse their power in society. Public responsibility can be formulated as taking responsibility for the outcomes, which arise from the involvement in society. These responsibilities are scrutinized at the primary core-business level and the secondary impact level, which are the effects generated by the primary activities. The managerial discretion principle means that business managers must use their discretion toward socially responsible outcomes at every level of CSR. (Wood 1991: 696-698.)

Moir (2001) examines definitions of CSR from the scientific literature and in the practice of businesses. In practice, CSR is considered to cover a wide range of different subjects, such as human rights, business ethics, environmental issues, and employee relations. The advocates of CSR believe that through CSR activities companies accrue better public reputation, employee loyalty, and retention. However, the unsolved tension remains on whether CSR practices are motivated by the following profit or do companies follow an ethical or moral imperative. (Moir 2001: 16-17.)

From the scientific literature, Moir (2001) identifies three different theories, which try to explain and analyze corporate social responsibility. In addition to the aforementioned Stakeholder theory, Moir also introduces Social contracts theory and Legitimacy theory. Social contracts theory, in the context of CSR, means that business managers make ethical decisions in the framework of microsocial and macrosocial contracts. An example of a

macrosocial contract for Neste Oyj would be an expectation to be involved in the sustainable business and a microsocial contract would be a specific form of involvement, such as the development of cleaner energy sources. Legitimacy theory explains CSR activities in the form of seeking legitimacy – actions of a company are appropriate or desirable within the norms, values, and other social constructs of society. (Moir 2001: 19-20.)

Gössling and Vocht (2007) formulate CSR similarly as a basic idea, that businesses should meet the public expectations in their business activities. CSR is an obligation of the businesses to account for every stakeholder. Authors state that the practice of CSR is mostly a voluntary act: it is not a subject of multinational regulation. CSR is an important issue for companies for three different reasons: consumers are increasingly more aware of the environmental, social, and governance concerns, younger and educated employees desire for purposeful work and the part of the investor community is paying attention to pro-social factors. (Gössling & Vocht 2007: 363.)

The authors come to two conclusions in their study. The first conclusion is that business communities do have different perceptions regarding their social role and it has an effect on how they act towards social issues. Over half of the studied companies have adopted a broad social role and they also communicate that they are focusing on responsibilities beyond the usual legal and economic obligations. On the other hand, businesses, that signal only a narrow social role, focus only on their economic and legal obligations. The other finding is that the companies with broad social role perception have significantly higher scores regarding their social reputation and the social responsibility does pay for the companies. (Gössling & Vocht 2007: 371.)

As seen in the scientific literature, Corporate Social Responsibility is a multifaceted concept with various layers. However, there are a few key points that recur. CSR goes beyond businesses' regulatory obligations and it takes ethical and discretionary responsibilities into account. In addition to shareholders, debtors, supply chains, and other business-related stakeholders, CSR guides companies to consider a broader group of stakeholders and the whole society, when making decisions. According to CSR

advocates, making a profit should not be the only focus of the companies anymore and they should take a social, sustainable, and ethical role as well.

As Moir (2001) stated, it is not clear if companies take CSR actions to rake in larger profit, or is it motivated by an ethical or moral imperative. However, profit is not the only measure when assessing businesses' successful CSR actions. A concept called Corporate Social Performance (CSP) is made to model the relationship between CSR actions and consecutive outcomes. In the next subchapter, CSP is discussed in further detail, and various models from the scientific literature are introduced.

2.4. Corporate Social Performance

Similarly, as in CSR, the definition of Corporate Social Performance (CSP) and the models of CSP have evolved quite a bit throughout the years. One of the first conceptual models to describe CSP is by Carroll (1979), who defines CSP through three dimensions: the definitions of social responsibilities, an enumeration of the social issues involved, and a specification for social responsiveness of the company (Carroll 1979: 499-501). According to the author, these three dimensions describe the most important aspects of CSP and these are the major questions for the business managers to address (Carroll 1979: 497).

The first dimension in the model, the basic definition of social responsibility, contains the aforementioned four groups from sub-chapter 2.3: discretionary responsibilities, ethical responsibilities, legal responsibilities, and economic responsibilities. The second dimension, social issues, are the areas of involvement directly related to social responsibilities. The manufacturer has legal responsibility for its products' safety and discretionary responsibility for recycling materials. Social responsiveness means the philosophy or the strategy of the company on the two previous dimensions, which ranges from only reacting to a proactive response. (Carroll 1979: 499-501.)
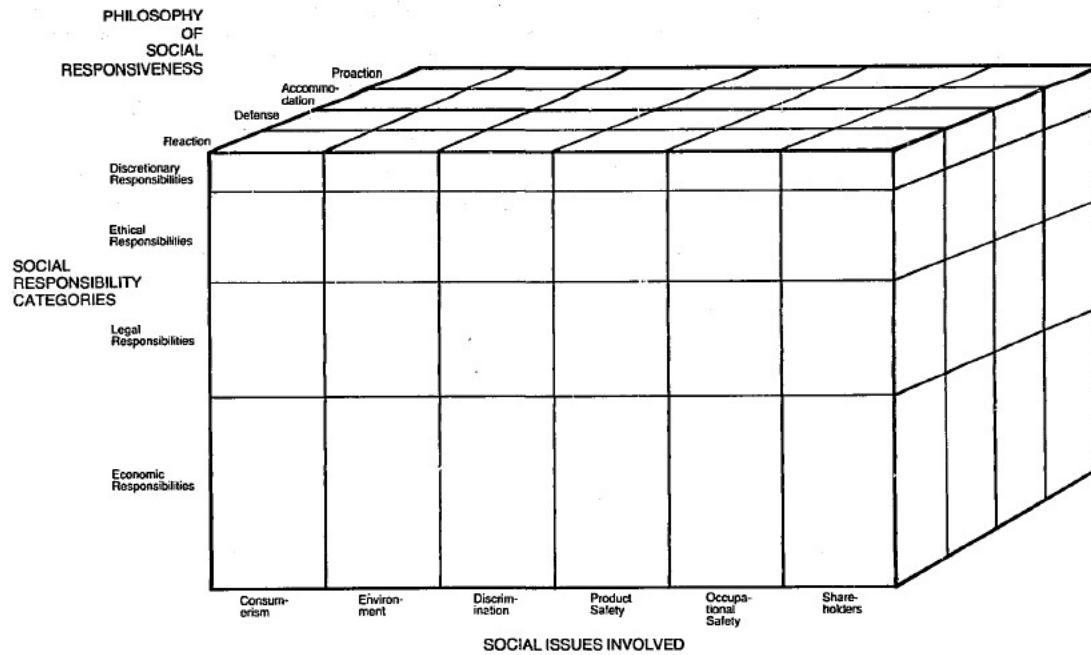
Figure 2. The Corporate Social Performance Model (Carroll 1979)

Carroll argues that this model helps business executives understand that social responsibility is not completely separate from economic performance, but just an integrated part of total social responsibility. Businesses might come across controversial issues and this tool helps them to determine their actions and responses. With this systematic framework, organizations can formulate procedures to act on various social issues. On the bottom line, more attention is given to corporate social performance. (Carroll 1979: 503-504.)

Wartick & Cochran (1985) review Carroll's model and refine it by analyzing management studies from the 1960s to the 1980s. In their own CSP model, the three dimensions are called: principles of social responsibility, the process of social responsiveness, and policies of social issues management. The first dimension is the *philosophical orientation* of the company. The direction is to find the social contracts of the business and define economic, legal, ethical, and discretionary responsibilities. The second dimension is the *institutional orientation* of the company. The direction is to find the capacity to respond to changing societal conditions and define managerial approaches (reactive, defensive, accommodative, or proactive) to developing responses. The third dimension is the

organizational orientation of the company, where the direction is to minimize surprises and determine effective corporate social policies. (Wartick & Cochran 1985: 767.)

Wood (1991) gives the following definition for CSP as "a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships". She also proposes a three-level model to assess CSP. The first level evaluates the degree of CSR integration in the decision-making. The second level inspects the degree to which the company is implemented socially responsive processes. The third level examines the outcomes of corporate behavior (Wood 1991: 693-694.)

These levels are examined coevally. CSP can be viewed as a static snapshot of the corporation's current situation, or as a dynamic model, depending on the particular research question. The author argues that the model can accommodate multiple different behaviors, outcomes, and motives found in different companies. It does not exclude CSP from the traditional firm performance. CSP should be assessed as a relationship between explicit values of the business-society norms and corporate outputs (Wood 1991: 693-694.)

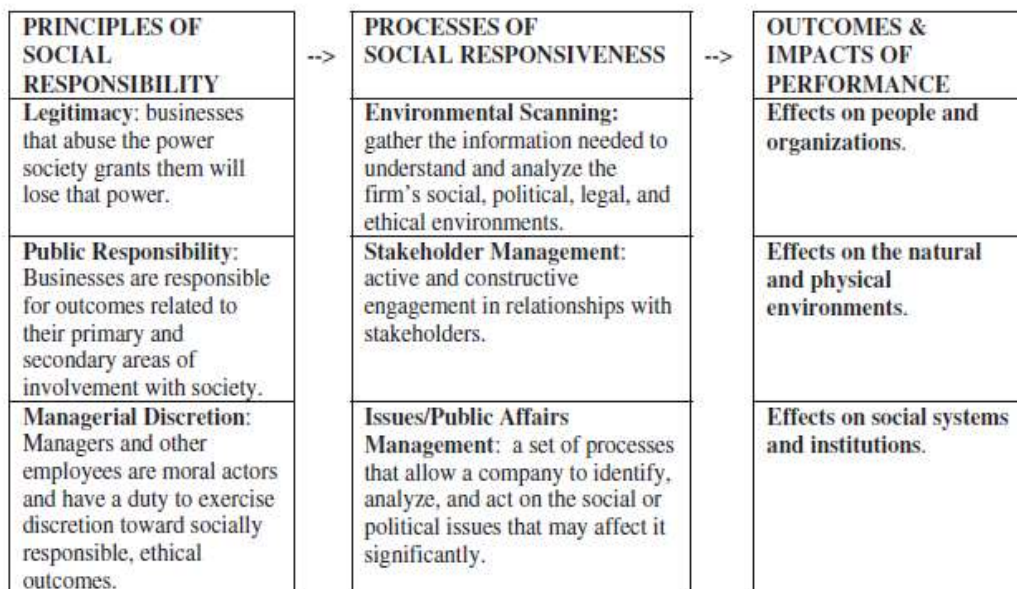| PRINCIPLES OF SOCIAL RESPONSIBILITY	-->	PROCESSES OF SOCIAL RESPONSIVENESS	-->	OUTCOMES & IMPACTS OF PERFORMANCE
Legitimacy: businesses that abuse the power society grants them will lose that power.		**Environmental Scanning**: gather the information needed to understand and analyze the firm's social, political, legal, and ethical environments.		Effects on people and organizations.
Public Responsibility: Businesses are responsible for outcomes related to their primary and secondary areas of involvement with society.		**Stakeholder Management**: active and constructive engagement in relationships with stakeholders.		Effects on the natural and physical environments.
Managerial Discretion: Managers and other employees are moral actors and have a duty to exercise discretion toward socially responsible, ethical outcomes.		**Issues/Public Affairs Management**: a set of processes that allow a company to identify, analyze, and act on the social or political issues that may affect it significantly.		Effects on social systems and institutions.

Figure 3. The Corporate Social Performance Model (Wood 2010)

Figure 2. depicts the revisited CSP model by Wood (2010). Wood organized the concepts from previous literature with a system framework. The first dimension consists of the structural principles of social responsibility, where the legitimacy principle addresses the whole business, the public responsibility principle analyzes particular organizations within the business, and the managerial discretion principle refers to individual employees and their duties as moral agents. The processes of social responsiveness reflect on specific categories of action, such as issues management, stakeholder management, and environmental scanning. The third dimension is a missing piece from earlier models, outcomes. The outcomes include effects on society, effects on stakeholders and policies, programs, and practices, which are direct consequences of what organizations and their employees decide to do. (Wood 2010: 54.)

Wood's (2010) CSP model has the business organization in the middle of the focus. Its activities are categorized descriptively, depending on the outcomes and impacts for the company, stakeholders, and society. The structural principles of CSR define general and specific linkages, which determine types of outcomes. Processes of social responsiveness evaluate, monitor, compensate and produce these outcomes (Wood 2010: 54). Wood goes further with her CSP model from Carroll's (1979) model and its subsequent extensions with the company's roles in society and the effects. Earlier studies did not differentiate between the source and the nature of corporate responsibilities, the methods of achieving them, and the ultimate results (Wood 2010: 53).

To conclude the chapter, the literature on Corporate Social Performance models has been quite uniform throughout the years on two of the three dimensions. The social responsibilities of a company have been defined already in the 1970s and the point of view has changed from philosophical orientation to structural principles of the company. Social responsiveness is included in the earlier models as well, but the definition has changed from modes and degrees of social responsiveness to actual processes of responsiveness. Wood (2010) crystalized the CSP definition by adding the effects and the outcomes as the final dimension as a performance defining element.

The previous chapters have discussed theories and concepts of business and responsibility from economic, business management, and managerial viewpoint. The next chapter introduces a concept called ESG – Environmental, Social, and Governance – which financial investors, policy makers, and other stakeholders use to analyze companies for their sustainability, ethics, and social performance.

2.5. Environmental, Social and Governance - ESG

The concept of ESG was coined in a financial sector report called "Who Cares Wins". The United Nations Global Compact (2004) oversaw the collaborative initiative of 20 financial institutions that led to the report. The purpose was to create recommendations and increase awareness of ESG issues to different levels and different participators of financial markets, including analysts, financial institutions, companies, investors, pension funds, consultants, regulators, stock exchanges, and non-governmental organizations.

Why should financial market participators pay attention to ESG issues? According to UNGC's (2004) rationale, ESG issues have material effects on investment value and intangible aspects impact on the company in the long time horizon. The three different pillars of ESG are closely linked, as proper risk management and corporate governance systems are critical to successfully implement policies to take environmental and social challenges into account. Better transparency and improved accountability in these areas are long-term drivers of shareholder value. (UNGC 2004: 2.)

What are ESG issues? They are important topics related to environmental, social, and governance problems in society. Specific ESG issues vary from industry to industry, but some of them affect every company. In figure 4, which is exhibit 6 of the UNGC (2004) report, several ESG issue examples are listed. These ESG issues have a broad range of impacts on company and investment value, and therefore they are relevant to the investment decisions. (UNGC 2004: 6.)
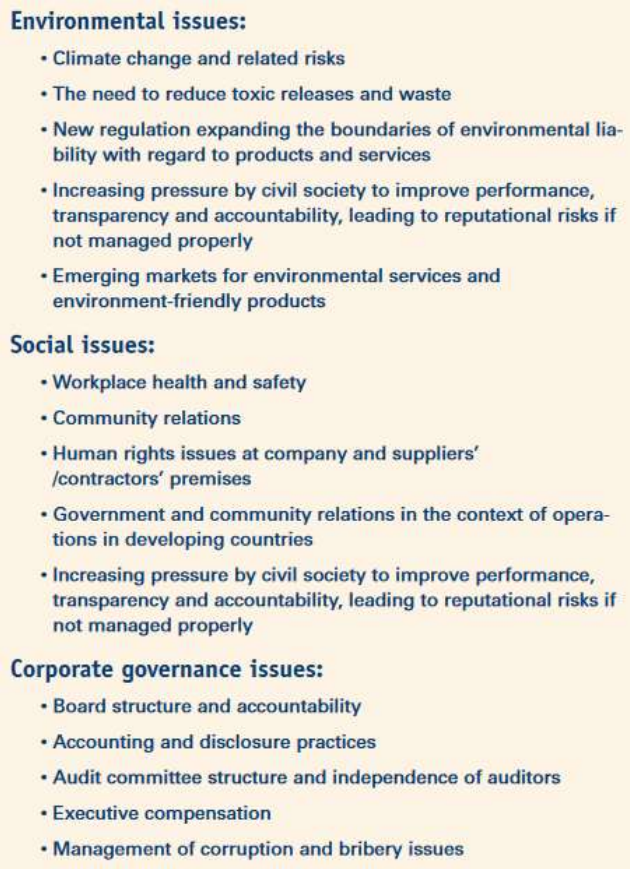
Environmental issues:
- Climate change and related risks
- The need to reduce toxic releases and waste
- New regulation expanding the boundaries of environmental liability with regard to products and services
- Increasing pressure by civil society to improve performance, transparency and accountability, leading to reputational risks if not managed properly
- Emerging markets for environmental services and environment-friendly products

Social issues:
- Workplace health and safety
- Community relations
- Human rights issues at company and suppliers'/contractors' premises
- Government and community relations in the context of operations in developing countries
- Increasing pressure by civil society to improve performance, transparency and accountability, leading to reputational risks if not managed properly

Corporate governance issues:
- Board structure and accountability
- Accounting and disclosure practices
- Audit committee structure and independence of auditors
- Executive compensation
- Management of corruption and bribery issues

Figure 4. ESG issues (UNGC 2004)

Managing ESG issues contributes to increasing shareholder value in various ways. Good ESG issue management is a useful indicator of the general management quality and overall risk level. For example, the oil and gas industry currently suffers from pressure caused by national policies and multinational agreements to cut greenhouse gas emissions. Companies with a long-term vision regarding a low-carbon future and a good track record in social responsibility usually have a larger market share of strategic projects, which is one of the key determinants of a successful business. (UNGC 2004: 9.)

In addition to managing regulatory risks, good ESG performance is linked to reduced costs of borrowing and better risk management to emerging ESG issues. Companies, which have successfully managed the whole range of ESG issues can anticipate consumer trends and enhance the value creation process with stronger brands and reputation. These

intangible assets have an impact on listed companies' market value and it is likely that in the future, ESG issues have a greater effect on long-term financial performance and competitiveness. (UNGC 2004: 9.)

The key channel between ESG management and shareholder value creation is disclosure. To asses companies on their ESG performance, investors, analysts, and other financial market participators need relevant, timely, and proper data to integrate it better into the investment analysis. It goes also the other way around; institutional investors need to pressure companies and demand better ESG coverage. In figure 5 below, from UNGC (2004) reports Exhibit 14, initiatives by institutional investors on ESG issues are listed. They range and cover the most recent ESG disclosure initiatives from that era. (UNGC 2004: 21-23.)

- The Carbon Disclosure Project, calling on companies to provide investment-relevant information relating to greenhouse gas mitigation

- The Institutional Shareholders Committee Principles, issued by a group of large institutional investors, calling on fund managers to take a more active approach in relation to their engagement with companies, which should include ESG issues

- The Pharmaceutical Shareowners Group's call for better disclosure in the pharmaceutical industry

- The Investor's Statement on Transparency in the Extractives Sector, aimed at increasing the transparency of payments made by extractive sector companies to governments and government-linked entities

- The U.S. Investor Network on Climate Risk, a group of US State and City Treasurers and Trustees with fiduciary responsibility for some of America's largest and most influential pension and labour funds, which recently called for greater investor focus on climate change risks and opportunities

- The UK Institutional Investors Group on Climate Change, with similar goals as the U.S. Investor Network on Climate Risk

- To be noted is also a 15% increase in U.S. shareholder resolutions relating to ESG issues from January 2001 to June 2003.

Figure 5. ESG disclosure initiatives (UNGC 2004)

UNGC (2004) gave birth to the blueprint of ESG. It gave recommendations and increased awareness of the novel concept. However, it was only a forward-looking report with case-studies from collaborating financial market companies and did not contain any actual academic research on the subject. The next step is to analyze the academic studies regarding corporate social responsibility, ESG and investing. The purpose of the next chapter is to find whether the actual financial market participators give weight to non-financial factors in their investment analysis and how well the predictions of UNGC hold in the real world.

2.6. Relationship between social responsibility and investor behavior

Nilsson (2008) examines the impact of various demographic, pro-social, and financial variables on individual investor's proportion invested in socially responsible investment (SRI)-profiled mutual funds. The investors under scrutiny are consumers, not professional investors. The dataset consists of randomly selected 2200 customers of one Swedish mutual fund provider, where 200 do not possess any SRI products in their portfolio and 2000 own at least one. The investors exhibit various levels of SRI ownership to show a range of SRI investment behavior. (Nilsson 2008: 307-308, 313.)

The author sent questionnaires to evaluate consumers' pro-social attitudes, perceived consumer effectiveness (PCE), trust in SRI, and perception of financial risk and return were measured on a 5-item scale. The response rate was 24%, so the total sample was 528 consumers, which of whom 89 were not SR-investors and 439 were. The dependent variable, the proportion of SRI investments on the portfolio, was classified with twelve ordered percentage intervals. The relationship between the dependent and independent variables was examined with ordinal regression analysis. (Nilsson 2008: 313, 315-316.)

PCE and pro-social attitudes have a statistically significant impact on the proportion of investments in SRI-profiled funds. Trust did not have any predictive ability. The perception of better-expected return of SRI funds increases the likelihood of SRI investment – the perceived risk of SRI investments has no significance. From the socio-

demographic variables, only gender (women) and a university degree are significant predictors. (Nilsson 2008: 319.)

Schadewitz and Niskala (2010) examine the relationship between responsibility reporting and firm value in the Finnish stock market. Their study aims to explain how communication through responsibility reporting enhances firm value. Their research question is closely related to the broader scientific research question of whether the role of earnings as a source of information is erased in recent years. The data set of the study consists of all Finnish listed companies, their annual reports, GRI-based responsibility reports and the period ranges from 2002 to 2005. (Schadewitz & Niskala 2010: 96 & 102.)

To examine the relationship between firm value and GRI reporting, authors use the following valuation model, where the market value of the company is determined by the book value of the company, current period earnings, risk-adjusted market return in Finnish stock market, and a dummy variable, which gets a value of 1 if the company has released a GRI-based sustainability report in the year t and 0 otherwise:

$$(1.)\ lnP_t = \beta_0 + \beta_1 lnV_t + \beta_2 GRI,\ where\ V_t = b_t + \frac{x_t}{r} - b_{t-1}$$

where P_t is the market value of the company, V_t is the accounting-based value of the company, b_t is the book value of the company, x_t is the current period earnings of the company and r is the risk-adjusted market return for the Finnish stock market. (Schadewitz & Niskala 2010: 100.)

The regression results, based on the equation (1.), suggest that GRI-based reporting has a statistically significant and positive impact on the market value of the company at the 1% level. Earnings-based company valuation (V_t) only partially explains the market value of the company and the inclusion of GRI-variable significantly improves the adjusted R^2 of the regression model. Two significant conclusions of the study are, that the results indicate responsibility reportings role as an information asymmetry decreasing factor between company managers and financial investors. Secondly, including responsibility information into conventional valuation models can refine and improve results. This

should encourage company managers into releasing and disclosing non-financial responsibility reporting. (Schadewitz & Niskala 2010: 103-105.)

Clacher and Hagendorff (2011) investigate the stock market reaction to the companies' inclusion announcement to the British FTSE4Good index of socially responsible firms. Inclusion into the FTSE4Good index is based objectively on externally set criteria, companies are surveyed, company managers provide private information about CSR activities and all of this is externally validated and quantified by the FTSE policy committee. Given that the long-term stock performance of socially responsible firms might be due to capital inflow of institutional investors or other socially responsible funds, authors argued that FTSE4Good index inclusion provides external, market-based new information that can be analyzed for the stock market response. (Clacher & Hagendorff 2011: 253-255.)

Their study is divided into two parts. In the first part, the authors conduct an event study around the inclusion date to analyze the market reaction, in terms of cumulative abnormal returns (*CAR*:s). If the stock market investors believe that the new information of FSTSE4Good inclusion is value-destroying (see Freeman (1970), Shareholder theory), then the market reaction should be negative and statistically significant. The second part of the study analyses firm-specific characteristics, such as firm size, leverage, profitability, and employee productivity, and how they are related to the *CAR*:s. Their dataset includes publicly listed companies on the London Stock Exchange and their FTSE4Good index inclusion announcements between the period of July 2001 to March 2008. (Clacher & Hagendorff 2011: 254 & 257.)

In the first part of the analysis, *CAR*:s are tested against two-sided hypotheses of significant and negative stock market reaction and significant and positive stock market reaction to inclusion in the FTSE4Good index. Tests are run with five different event windows, (-1,+1), (-2,+2), (-5,+5), (-10,+1) and (-20,+1) days around the event day. On the day of the inclusion announcement, t=0, there is a statistically significant and positive market reaction, which leads to the rejection of the first hypothesis. The trading volume of the included companies also rose on average more than the other companies in the U.K, giving more indication of a market reaction. However, on the various event windows, no

statistically significant results arise, so the authors do not make any further conclusions. (Clacher & Hagendorff 2011: 259-260.)

In the second part of the study, the authors conduct a regression analysis to estimate the cross-sectional determinants of the companies *CAR*:s after and FTSE4Good index inclusion announcements. 5-day *CAR*:s (event window t-2, t+2) are regressed against employee productivity, leverage, profitability, firm size, visibility, and various control variables (such as GDP growth, liquidity, sales, market-to-book ratio, etc.). Firm size and employee productivity have a statistically significant and positive impact on the market reaction. The regression coefficient for firm leverage is also statistically significant, but negative. (Clacher & Hagendorff 2011: 262-264.)

Two important results arise from the study. The first is, that stock markets react and adapt to the new information after an index inclusion announcement. There is no strong evidence that inclusion into an index of socially responsible firms increases value, but there is cross-sectional variation in the market reaction and some firms have positive intra-day returns on the announcement day. The second finding is that large firms with low leverage and high employee productivity experience positive market reactions. This result gives support to Stakeholder theory (Freeman 1984), as debtors and employees are important stakeholders to the companies. (Clacher & Hagendorff 2011: 265.)

Crifo, Forget and Teyssier (2015) conducted experimental research with Private Equity investors, where they examine how their company valuation changes with different ESG performance values. They have gathered 33 professional private equity investors for an experimental auction with carefully formed imaginative company case studies and the purpose is to examine which corporate practices are most valued in investment decision making. (Crifo, Forget & Teyssier 2015: 168-170.)

Corporate practices are evaluated in three different levels, factors, signs, and qualities. Factors are standard ESG factors, environmental, social, and governance. Signs are good or bad, depending on if the auctioned company was socially responsible or irresponsible. Quality refers to the form of the given information, hard information, or soft information.

Hard information refers to the policies in the core of the business and soft information means all the other, boundary policies. (Crifo et al. 2015: 169-170.)

Researchers report two important findings from the experiment. The first finding is the asymmetric effect of ESG practices on private equity financing: investors react more to the bad ESG practices than value the good ones. That means, that the bad ESG policies decrease investors' company valuations more than the good ESG policies increase. All the effects are statistically significant. The second finding is, that the bad and hard ESG practices decrease the firm value more than the bad and soft ESG practices. (Crifo et al. 2015: 178-181.)

Miralles-Qurios, Miralles-Quiros, and Arraiano (2016) investigate the value relevance of sustainability reports for financial investors in European listed companies from 2001 to 2013. Their main research question is whether investors get relevant information and value from sustainability disclosures. Authors investigate the relationship between GRI reporting and market value of the companies in ten European financial markets and their dataset consists of 306 listed companies. Considering the risk-mitigating effect of CSR disclosure for the investors, they expect that the GRI disclosure has a positive impact on the market value of the companies. (Miralles-Qurios, Miralles-Qurios & Arraiano 2016: 71-72: 76.)

To test the effect of CSR reporting on the market value of the company, Miralles-Qurios et al. (2020) use the following panel regression model, where the market value of the company is a function of account earnings, book value, and non-financial information:

$$(2.)\ MV_{i,t} = \alpha_0 + \alpha_1 BV_{i,t} + \alpha_2 E_{i,t} + \alpha_3 GRI_{i,t} + \varepsilon_{i,t},$$

where $MV_{i,t}$ is the market value of the company i at the time t, $BV_{i,t}$ is the book value of the company i at the time t, $E_{i,t}$ are the earnings per share of the company i at the time t, $GRI_{i,t}$ is a dummy variable that takes the value of 1 if the company i publishes GRI criteria fulfilling sustainability report at the time t and value of 0 otherwise. $\varepsilon_{i,t}$ is the error term of the regression. The authors expect that the relationship between GRI disclosure and the market value of the company is positive and statistically significant. The relationship

between the variables is examined for the full period between 2001-2013 and the sub-periods of pre-GFC (global financial crisis of 2007) and after GFC. (Miralles-Qurios et al. 2016: 74-75.)

In the first analysis, where all the ten European financial markets and the full period of 2001-2013 are considered, the regression coefficient for GRI disclosure is positive and statistically significant at a 1% level. When analyzing the two aforementioned sub-periods, the coefficient for GRI reporting is positive and statistically significant at a 10% level for the pre-GFC period. It is also positive for the post-GFC period, but it does not have statistical significance. These findings indicate that the financial investors in the European markets value sustainability reporting following the GRI criteria. (Miralles-Qurios et al 2016: 76-78.)

When analyzing the individual markets, only Germany's and United Kingdom's stock market exhibited a statistically significant and positive relationship between GRI reporting and market value of the company over the whole period between 2001 - 2013. Results were inconclusive for the other markets and the two sub-periods, as some countries experienced a change in the sign of the coefficient and most of them remained statistically non-significant. (Miralles-Qurios et al 2016: 76-82.)

Riedl and Smeets (2017) study the reasons why investors hold socially responsible mutual funds. They collect private investor data, socially responsible investors (N = 3382), and other investors (N = 35 000), from a large Dutch mutual fund provider. SR investor is an investor, which holds at least one SRI fund on his/her portfolio. Investors are invited to answer a survey to draw out information on their investment behavior and intrinsic social preferences. The investors also take part in interactive experiments, to find more about their risk- and social preferences. (Riedl & Smeets 2017: 2505, 2509-2512.)

Investor's social preferences increase the probability of holding socially responsible investments statistically significantly. On the other hand, most investors expect lower risk-adjusted returns, higher management fees, and sub-par returns from socially responsible investments. The study implicates that investors with strong pro-social preferences are motivated on average to forgo financial performance to invest in line with

their views. Investors, who expect socially responsible investments relative underperformance, are less likely to invest in such a manner. (Riedl & Smeets 2017: 2533-2534.)

Hsu, Koh, Liu & Tong (2019) examine how CSR performance affects investors' and analysts' considerations on firms' earnings and forecasts. To analyze the effect of CSR on the investor's and analyst's reactions, they form two research hypotheses: the first one is non-directional (H1: "*Investors' and analysts' reaction to earnings-related corporate disclosures are associated with firms' positive CSR performance*") and the second one is directional (H2: "*Investors' and analysts' to earnings-related corporate disclosures are negatively associated with firms' adverse CSR performance*"). The studied population consists of NYSE, AMEX and NASDAQ listed companies in the U.S, their share prices, financial information, earnings forecasts, and management forecasts. CSR data is obtained from KLD. (Hsu, Koh, Liu & Tong 2019: 507-511.)

Authors use two almost identical baseline models for hypothesis testing, only dependent variable is changing depending on whether they analyze investors or analysts. The empirical specifications are as follows:

$$(3.)\ CAR_{it}(REV_{it}) = \alpha_0 + \alpha_1 ESURP_{it} + \alpha_2 CSR_{Sit} \times ESURP_{it} + \alpha_3 CSR_{Cit} \times ESURP_{it} + \sum_{k=x}^{n} \alpha_k X_{it}^k \times ESURP_{it} + IndDum + YeaarDum + \varepsilon_{it}$$

$$(4.)\ CAR_{it}(REV_{it}) = \alpha_0 + \alpha_1 MFSURP_{it} + \alpha_2 CSR_{Sit} \times MFSURP_{it} + \alpha_3 CSR_{Cit} \times MfSURP_{it} + \sum_{k=x}^{n} \alpha_k X_{it}^k \times MFSURP_{it} + IndDum + YeaarDum + \varepsilon_{it},$$

where CAR_{it} is the cumulative abnormal return for the company i at the year t and REV_{it} is the change in the mean consensus forecast of analysts after annual earnings- or management earnings forecast announcements. $ESURP_{it}$ is the earnings surprise for the company i at the time t and $MFSURP_{it}$ is the management forecast surprise. CSR_{Sit} is the total of CSR strengths - and CSR_{Cit} is the total of CSR concerns for the company i at the time t in the KLD's six rating dimensions. X_{it}^k is a vector consisting of six (seven) control variables: reported loss, firm size, B/M ratio, leverage, institutional holdings, and

corporate governance (number of analysts for the company *i* at the time *t* is added in the control variables when analyzing REV_{it}). (Hsu et al. 2019: 513-515.)

When analyzing investors' reactions to earnings and management forecast announcements, the interaction coefficients of $CSR_{Cit} \times ESURP_{it}$ and $CSR_{Cit} \times MfSURP_{it}$ are both statistically significant and negative. This means that poor CSR performance affects investors' assessment and firms with poorer CSR performance have a significantly lower response for earnings and management forecast announcements. The relationship between cumulative abnormal returns and positive CSR performance (coefficients of $CSR_{Sit} \times ESURP_{it}$ and $CSR_{Sit} \times MFSURP_{it}$) is slightly negative, but not statistically significant. (Hsu et al 2019: 515-518).

However, financial analysts have a symmetrical reaction to good and poor CSR performance. Regression coefficients α_2 and α_3 are respectively positive and negative and both are statistically significant in regression models (2.) and (3.). This suggests that financial analysts take both positive and negative CSR performance into account when revising earnings forecasts. However, financial investors have an asymmetrical reaction to CSR performance, as good CSR performance does not have any statistically significant effect on their considerations. (Hsu et al. 2019: 515-519.)

Aureli, Gigli, Medei, and Supino (2020) study the relationship between sustainability reporting and market reactions. The purpose is to find insight into the value relevance of the company's commitment to ESG issues. The study tries to answer to main research questions: do investors react to the ESG reports released by companies and has the relative market reaction increased in recent years. Their dataset consists of listed companies in the DJSI World index between the years 2009 and 2016, the companies' cumulative abnormal returns (*CAR*:s), and their respective ESG reports. Overall, 55 companies out of 62 listed companies published reports and 170 reports were analyzed and identified. (Aureli, Gigli, Medei & Supino 2020: 43:45.)

For analyzing the effect of ESG reporting, the authors use event study analysis. They compare *CAR*:s and average *CAR*:s (divided by the number of events analyzed) before and after the selected event day (ESG report publishing day). To answer the first research

question, Aureli et al. (2020) test the evidence against the null hypothesis that a given event does not have an impact on the security returns. The authors selected 33 different event windows running from (-1, +1) days surrounding the event day to (-9, +9) days. To control for other key events on the nearby dates, authors eliminated companies that had one of the following events occurring: periodical financial report, sustainability certification award, M&A action, earnings announcement, changes in the board, litigation or inclusion/exclusion from sustainability index. (Aureli et al. 2020: 46.)

Regarding the *CAR*:s on at least one event window, 53 out of 170 observations showed a statistically significant impact on the ESG report publication on a 5% significance level. Average *CAR*:s did not exhibit similar statistical significance but two event windows showed significance on 10% level, (-1, +3) and (-1, +4) days. To test the second research question about the increasing impact on recent years, the authors divided the data set into two sub-periods, 2013 being the cut-off year. (Aureli et al. 2020: 46-48.)

2013 is chosen for two reasons: growing interest in the ESG data (Bloomberg's ESG data customers doubled and peaked) and non-financial regulation and frameworks in the European Union (i.e. the revised U.K. Companies Act, European Parliament resolution of February 6, 2013). The ratio of significant to nonsignificant *CAR*:s doubled from 0,329 to 0,659 and the result was tested with Pearson's Chi-squared test and Fisher's exact test. Both tests suggested that the result is significant at the 5% level. (Aureli et al. 2020: 46-49.)

Table 1. below compiles the important findings on the relationship between corporate social responsibility and investor behavior. This relationship has been studied with case studies, interactive experiments, questionnaires, and survey data. Individual characteristics, expectations, and personal traits play a part in this relationship. Nilsson (2008) finds that perceived consumer effectiveness, perception of better-expected returns of SRI, and pro-social attitudes of the individual investor have a significant impact on the percentage of socially responsible investments in their portfolio.

On the other hand, Riedl and Smeets (2017) found that most financial investors expect higher costs of investing and lower risk-adjusted returns. But they also suggest that investors with strong pro-social characteristics are willing to invest according to their values, even if it means worse performance on standard measures. Crifo et al. (2015) found an asymmetric investor reaction to ESG news, as bad ESG news decrease the company valuations more than good ESG news increase.

This relationship has also been studied on the whole market level, where datasets are compiled of actual financial and market data of real-world listed companies versus experimental data discussed in the previous paragraph. The relationship has been empirically analyzed with event studies and regression analysis. GRI reporting reduces the information asymmetry between companies and investors (Schadewitz & Niskala 2010) and increases market valuation in the European markets (Miralles-Quiros et al. 2016).

Positive CSP-related news leads to statistically significant and positive market reactions and the trading volumes increase on the announcement day (Clacher & Hagendorff 2011). Similarly, as Crifo et al. (2015), Hsu et al. (2019) found another asymmetrical relationship between financial market reaction, CSR performance, and earnings announcements. Also, ESG reporting has been linked to positive market reactions on the report publishing days and the value relevance has increased in recent years, measured on the number of statistically significant event windows (Aureli et al. 2020).

Table 1. Relationship between social responsibility and investor behavior

	Data	Variables of interest	Results
Nilsson (2008)	2200 mutual fund private investors from Sweden, questionnaires	Dependent variable: % of investments in SRI funds	PCE & pro-social attitude have a statistically significant impact on the % of investments in SRI-profiled funds
		Independent variables: Pro-social attitude, PCE, trust in SRI & perception of financial risk & return	The perception of better-expected return of SRI funds increases the likelihood of SRI investment
Schadewitz & Niskala (2010)	Finnish listed companies 2002-2005, financial information & GRI based reporting	Dependent variable: MV of the company	GRI-based reporting has a statistically significant & positive impact on the market value of the company
		Independent variables: Accounting based value of the company & GRI reporting	Responsibility reporting has an information asymmetry reducing effect between company managers & investors.
Clacher & Hagendorff (2011)	Public listed companies on LSE & their FTSE4Good inclusion announcements between 2001 - 2008	Dependent variable: Cumulative abnormal returns (*CAR's*)	Positive & statistically significant market reaction & a surge in trading volume on the announcement day
		Independent variables: FTSE4Good inclusion announcements & firm-specific characteristics.	Investors react to positive corporate social responsibility news. The results of the second part of the analysis support Freeman's (1984) Stakeholder theory.
Crifo, Forget & Teyssier (2015)	33 Private equity professionals, auctions on imaginative case companies	Dependent variable: Change in the company valuation	Bad ESG policies decrease the company valuations more than good ESG policies increase.
		Independent variables: ESG factors, good or bad CSR policies & soft & hard information	Bad & hard ESG practices decrease company valuations more than bad & soft ESG practices.
Miralles-Qurios et al. (2016)	306 listed companies from ten European markets, financial information & sustainability disclosures.	Dependent variable: Market value of the company	GRI-based reporting has a statistically significant & positive impact on the market value of the company regarding the full sample, the full period & the pre-GFC period.
		Independent variables: Book value, account earnings & GRI-based sustainability reporting	Inconclusive findings regarding individual markets. Gives weak support for investors valuing sustainability reporting.
Riedl & Smeets (2017)	38,000+ investors from a Dutch mutual fund provider, survey data & interactive experiments	Dependent variable: Percentage in SRI equity funds	Most investors expect lower risk-adjusted returns & higher management fees from socially responsible investments
		Independent variables: Investment risk preferences & intrinsic social preferences	On average, investors with strong pro-social preferences are willing to forgo financial performance to invest according to their values
Hsu et al. (2019)	Listed companies in the U.S, financial information & earnings forecasts	Dependent variable: *CAR's* & *REV's*	Symmetrical effect of positive & negative CSR performance to financial analysts earnings forecast revisions
		Independent variables: Earnings surprises, management forecast surprises & CSR performance	Asymmetrical effect of positive & negative CSR performance to *CAR's*
Aureli et al. (2020)	DJSI World Index companies & their ESG reports between the years 2009-2016	Dependent variable: Cumulative abnormal returns *(CAR's)*	53 out of 170 observations of *CAR's* showed statistical significance on at least one event window.
		Independent variable: ESG report publishings	The number of statistically significant *CAR's* increased after 2013, suggesting ESG reporting having more value relevance for the investors

To conclude this chapter, investors react and give value to CSP practices. Past studies have found different channels in the relationship between investors and CSP, whether its investors own attributes that motivate the investment (Nilsson 2008, Riedl & Smeets 2017), or companies positive CSP news that drive up the market volume and cumulative abnormal returns on the announcement day (Clacher & Hagendorff 2011). Other important findings are the information asymmetry reducing the quality of sustainability reporting (Schadewitz & Niskala 2010) and sustainability reportings increased value relevance among investors (Aureli et al. 2020).

All these findings suggest that the companies and investors both benefit from the corporate social responsibility and the relationship goes both ways: as investors benefit from the cumulative abnormal returns and increased value of their investments, companies should benefit from releasing sustainability reporting in form of increased market value and exposure. Investors do give more value for sustainability reporting in the current period and that should motivate companies to implement GRI standards and disclose their sustainability policies.

3. CORPORATE SOCIAL PERFORMANCE, FIRM VALUE, AND FINANCIAL PERFORMANCE

The purpose of this chapter is to map what is known so far about the relationship between corporate social performance and its effects on companies' market value and financial performance. The goal is to find a sufficient amount of information on previous studies in this area and dive deeper into how CSP affects companies and which is the direction and magnitude of the effect of non-economic practices in companies' financial measures. This chapter's findings will be used as the basis for the empirical part of this thesis. The research hypotheses and empirical models are formulated in the fifth chapter, based on the literature review.

Before going into a more current stream of literature, history needs to be addressed. The earliest CSP-CFP studies were conducted in the 1970s and Griffin & Mahon (1997) did a solid literature review of the earliest studies for the background of their respective study. They systematically analyzed 51 studies from the period between 1972 and 1994 and found inconsistencies in the earlier papers which they addressed. The first one is the inconsistent use of corporate financial performance measures. Previous studies have used 80 different financial measures and 57 out of those were used only once and authors argue that this makes it more difficult to develop reliability and validity in this field. The second issue was the inclusion of multiple industries in the examined populations, which was a problem for old non-commensurate CSP measures. (Griffin & Mahon 1997: 5-11.)

After addressing these issues, they included U.S. listed companies from the chemical industry into their population. They used 3 different CSP measures: KLD, Fortune reputation survey, and Toxic Release Inventory (TRI) and five most widely used financial measures: ROE, ROA, the natural logarithm of total asses, 5-year return on sales, and asset age. The six largest chemical companies had observations for each measure for the analyzed years 1990 and 1992. Then they sorted companies into high-low groups for both CSP and CFP dimensions, according to their rank in the respective measures. (Griffin & Mahon 1997: 16-20.)

After ranking the companies within both dimensions, five out of six companies had a clear distinction between high social- & high financial performance, and low social- and low financial performance. The second finding was the persistence of these rankings; even with minor financial performance changes, top-ranked companies in the CSP dimension were relatively in the highest group in both years 1990 and 1992. The same was for the low-low group: even with consistent financial performance, they stayed in the low CSP group. (Griffin & Mahon 1997: 23-25.) Objectively, there are two issues with this study. The first one is the small sample size. Compared to later studies, six firms and two observable years are not adequate to conclude. Another one is the obvious lack of statistical analysis, which is a prevalent research method in the more recent studies. However, their study had a solid literature review with 22 years of previous research addressed and many inconsistencies found, which still hold even to this day.

Eleven years later Van Beurden & Gössling (2008) conducted a literature study of previous CSP – CFP studies. Their study's goal is to examine the CSP-CFP relationship and to find which factors influence it. They divide CSP measures into three categories, which are social disclosures, corporate actions to social outcomes, and corporate reputation ratings. CFP measures are divided into two categories: market-based measures and accounting-based measures. In their meta-study, they included 34 studies ranging from 1990 to 2007 and they divided studies regarding their outcome: positive relationship, no relationship, and negative relationship between CSP and CFP. (Van Beurden & Gössling 2008: 407-413.)

Out of the included studies, 63% showed a positive and statistically significant relationship between CSP and CFP. 26% did not show any meaningful relationship and only 6% of the examined studies showed a negative relationship. Firm size is found to be an important confounding factor in the research. But its direction and effect are unclear in the relationship between CSP and CFP, as different studies find different effects. The industry is another confounding variable in the vast amount of analyzed studies. CSR issues vary from industry to industry and they should be taken into account when analyzing the relationship between CSP and CFP. (Van Beurden & Gössling 2008: 417-418.)

Jo and Harjoto (2011) study the role of internal and external corporate governance on the choice of CSR activities and how CSR affects the value of the firms. They study the relationship based on two opposing hypotheses, the over-investment hypothesis, and the conflict resolution hypothesis. According to the over-investment hypothesis, corporate managers and board of directors have an incentive to overinvest in CSR, because it helps them to build a reputation and acquire better outside career opportunities. This comes as a cost to shareholders. According to this hypothesis, an inverse relationship between corporate governance, monitoring, and CSR engagement is expected. On the other hand, the conflict-resolution hypothesis argues that CSR engagement and effective corporate governance and monitoring mechanisms are used to resolve conflicts among stakeholders. According to this hypothesis, a positive relationship is expected between CSR engagement and corporate governance and monitoring. (Jo & Harjuto 2011: 351-354.)

After the first part of the analysis, the authors test two additional hypotheses. If the over-investment (conflict-resolution) hypothesis is correct, there is an inverse (positive) relationship between Tobin's q and CSR engagement. To test these hypotheses, authors use KLD data to measure CSR engagement, *I/B/E/S* database for analyst data (external monitoring), and CRSP database for financial data. Their sample consists of 2952 U.S.-listed companies between the years 1993 to 2004. They also use the RiskMetrics database for additional corporate governance measures. (Jo & Harjuto 2011: 355-356.)

The first part analysis is done by using probit function and estimating different models with different sets of explanatory, control, and corporate governance variables. Firms with CEO in the board of directors, CEO in the nomination committee, a higher percentage of outside independent directors, a higher percentage of institutional investors, and more analyst following are more likely to choose CSR activities, giving support to conflict-resolution hypotheses. In the second part of the analysis, after correcting for the endogenous treatment effect and using Heckman two-stage model, CSR engagement is statistically significantly and positively related to industry-adjusted Tobin's q. Out of the monitoring control variables, analyst coverage has the largest positive and statistically significant impact on Tobin's Q. (Jo & Harjuto 2011: 361-366.)

Servaes and Tamayo (2013) examine the impact of Corporate Social Responsibility (CSR) on the firm value and argue that the effect of customer awareness drives the relationship. Consumer awareness is proxied by advertising intensity. Consumer awareness is motivated by the previously studied facts, as advertising has an important role in reducing the information gap, which increases the probability for customers to find the firm's CSR efforts. Customers reward the company for their CSR efforts if they know about them. Customer awareness helps companies with strong CSR but is harmful to firms with CSR concerns. (Servaes & Tamayo 2013: 1045-1046.)

The main hypothesis is that "advertising intensity enhances the impact of CSR on firm value" and it is tested with an OLS regression. They analyze a set of U.S. companies between the years 1991-2005. The dependent variable, for measuring firm value, is Tobin's Q and the main independent variable is CSR activity, which is proxied with a CSR index measure obtained from KLD Inc. After controlling for size, advertising intensity (which is calculated by advertising expenditures divided by sales) and R&D-intensity, the authors find a statistically significant positive relationship between the firm value and the CSR measure. This result disappears after including the firm fixed effects. However, the interaction between CSR measure and advertising intensity remains positive, statistically, and economically significant. (Servaes & Tamayo 2013: 1049-1053.)

The study makes four arguments. The first one is, that companies with high public awareness can increase their firm value with CSR activities. Firms with high public awareness and CSR concerns are also penalized more. Secondly, the impact of CSR activities is insignificant for companies with low public awareness. Thirdly, if the company has a poor overall reputation, advertising has a negative CSR-value relation. Lastly, a direct relationship between CSR and firm value is not found. (Servaes & Tamayo 2013: 1058.)

Eccles, Ioannou, and Serafeim (2014) investigate the difference between the companies that adopted the sustainability policies and the companies that did not and examine the effect of CSR efforts on long-term organizational performance. They look for the CSR data of U.S. companies between the years 1993-2010 and form a matched sample of 180

companies, 90 highly sustainable and 90 with low sustainability. They regress the stock market returns against the Fama-French four factors and the Carhart momentum factor and divide the companies into three different industry clusters. (Eccles, Ioannou & Serafeim 2014: 2835-2837, 2849-2850.)

Authors form two portfolios, high sustainability- and low sustainability-portfolio, and use both value-weighting and equal weighting. The high sustainability group relatively outperformed the low sustainability group by almost 5%, measured with yearly abnormal returns on a value-weighted basis. This was significant at a 5% level. On an equal-weighted basis, the outperformance was 2,3% (with a 10% significance level). High sustainability companies outperform the low sustainability portfolio in 11 of the 18 years, combined with a lower annual standard deviation. (Eccles et al. 2014: 2849.)

Furthermore, they use three dummy variables to examine the mechanisms of outperformance, one for B2C-businesses, one for brand & reputation-driven companies (M/B ratio of every company in the industry in the 4th quartile in 1993), and one for natural resources extracting companies. They rationalize the use of these moderators, as public perception, reputational risks, and social pressure are higher for these companies. Interaction terms between the moderator variables and high sustainability companies were all statistically significant and positively impacting abnormal stock market performance. (Eccles et al. 2014: 2850-2851.) As in Servaes & Tamayo's (2013) study, the interaction between public awareness and high sustainability seems to explain the better financial performance of a company.

Han, Kim, and Yu (2016) study the relationship between ESG score and financial performance of listed Korean companies in the period of 2008-2014. Their dataset consists of 94 listed firms out of the 700 listed companies. The companies in the sample are chosen because their ESG scores are available from Bloomberg. Companies' financial performance is measured with three different variables, market-to-book ratio (a proxy for Tobin's Q), Return on Equity, and annual stock returns. The authors examine both linear and non-linear relationships between CSR and corporate financial performance. (Han, Kim & Yu 2016: 66-67.)

In their panel regression models, dependent variables are the company's financial performance measures and independent variables are the three different ESG-scores: environmental-, social- and governance-disclosure scores. This model also includes a vector of control variables for each firm. They also use various specifications, such as firm random effects and firm fixed effects. Non-linear relationships are examined with similar regression models augmented with quadratic terms. (Han et al. 2016: 69.)

Governance disclosure score is significant in 7 out of 8 linear regression models, suggesting a statistically positive relationship between better governance and financial performance. Environmental- and social disclosure scores did not have meaningful linear relationships with financial performance measures. From the quadratic models, environmental disclosure score and return on equity has a U-shaped relationship, which implies that environmental efforts turn profitable after sufficient investments in it. (Han et al. 2016, 72-74.)

Fatemi, Glaum & Kaiser (2017) study the relationship between ESG performance and firm value and focus on the moderating effect of ESG disclosure. The main analysis focuses on how ESG performance, ESG disclosure, and the interaction term between ESG performance and ESG disclosure affects firm value. Their studied sample consists of publicly-traded companies in the U.S. between the years 2006 and 2011. ESG performance data is obtained from the KLD database, the extent of ESG closure is from Bloomberg and financial data is compiled from Eikon, I/B/E/S, and Bloomberg. (Fatemi, Glaum & Kaiser 2017: 45-51.)

To address potential endogeneity among independent variables of interest, the authors use 2SLS estimation. In the 3 first stage regressions, ESG disclosure (ESG disclosure * ESG strengths & ESG disclosure * ESG concerns interaction terms) is estimated as a function of three instrumental variables called CSR committee, analysts earnings forecast dispersion, firm's stock ownership concentration, and set of control variables. In the second stage, firm value (measured by Tobin's Q) is regressed against first stage estimates and the same set of control variables. (Fatemi et al. 2017: 49-50.)

From the main second stage analysis, the authors find that ESG strengths impact firm value positively and statistically significantly. ESG concerns have a negative and statistically significant impact. However, the interaction term between ESG strengths and ESG disclosure is statistically significant but negative. The opposite holds for the interaction term between ESG concerns and ESG disclosure. High disclosure with strong ESG performance firms may signal to overinvest in ESG, which affects investors, and high disclosure among firms with poor ESG performance may alleviate the negative sentiment among investors. This finding depicts an interesting moderating effect of ESG disclosure. (Fatemi et al. 2017: 54-55.)

Garcia, Mendes-Da-Silva, and Orsato (2017) conduct a study with 365 Brazilian, Russian, Indian, Chinese, and South African companies, between the years 2010 and 2012. The authors examine the opposite relationships compared with the previous studies. They formulate two different research questions and examine, whether the company's profitability affects its ESG performance and whether the company's industry sector affects its ESG performance. The main dependent variable of interest is the Thomson Reuters ESG overall score, but analyses are also conducted with individual environmental-, social -, and governance pillars. For proxies of profitability, authors use Return on Assets-ratio (ROA) and free cash flow, obtained from DataStream. Sensitive industries are defined as sinful industries (tobacco, alcohol, gambling, adult entertainment, and artillery) and environmentally sensitive, such as fossil fuels, mines, forestry, chemical companies, and metals. (Garcia, Mendes-Da-Silva & Orsato 2017: 138-140.)

Relationships are examined with a regular OLS regression model, random effects-model, and fixed effects-model, and each model utilizes two different sets of control variables to examine the relationships closer. The overall ESG score is not affected by the company's profitability and operations in a sensitive industry. From the individual pillar scores, profitability and industry sensitivity have an impact only on the environmental performance (Garcia et al. 2017: 143-145). The obvious limitation of this study is the limited study period, but also the examination of only the direct relationship between variables. Usually, the indirect relationship, or interaction between variables, is the main driver of significant results.

Velte (2017) examines the relation between ESG performance and its impact on financial performance. Thomson Reuters ESG grade and its components (E, S, and G pillar scores) are regressed against financial performance proxies ROA and Tobin's Q, to investigate the relationship on both accounting- and market-based measures. The study uses 412 firm-year observations from the 80 to 85 largest German companies from the years between 2010-2014, depending on the availability of the data. Financial institutions and companies with missing data are excluded from the dataset (Velte 2017: 169-170.)

The main result of this study is that the total ESG score and individual ESG factors have a positive impact on the ROA variable. The governance factor has statistically the most significant impact from the three pillar scores, but this might be due to Germany's legal environment and the long history of corporate governance reporting. Velte also finds that ESG performance has no statistical nor economic impact on Tobin's Q (Velte 2017: 176). One limitation of this study is the relatively small sample period of four years and the limited sample size. However, Velte's (2017) study provided additional support for the positive CSP-CFP relationship.

Aouadi and Marsat (2018) examine the relationship between ESG controversies, CSP score, and firm value. They build upon Servayes and Tamayo's (2013) findings, as the ESG controversies are beyond the control of the company and disclosed by other external stakeholders. On the other hand, advertising intensity is adjustable by the company. They study 3000 ESG controversies for 4312 different companies worldwide over 10 year period and they test for three different hypotheses: "ESG controversies are negatively and directly linked to firm value", "ESG controversies are not significantly linked to firm value" and "ESG controversies have an indirect impact on firm market value, depending on firm visibility". (Aouadi & Marsat 2018: 1029-1030.)

The authors use an international sample of 4312 companies and investigate 10 year period. Tobin's Q is the main measure for firm value, but they use alternative measures such as market-to-book ratio and return on equity in the sensitivity analysis. CSP scores are obtained from Thomson Reuters. They also use a variety of different control variables linked to firm value. In the main analysis, they use OLS time series regression with industry-, geographic area- and year-fixed effects. All the variables are also transformed

by subtracting the mean from each explanatory variable, to alleviate multicollinearity. (Aoudadi & Marsat 2018: 1031-1033.)

The main analysis is performed with 4 different models, where the first two include ESG controversies and CSP score separately as independent variables, the third one includes both, and the fourth one includes both and an interaction term between the two. ESG controversies seem to have a significant and positive relation with Tobin's Q, contrasting the first hypothesis. The positive relation survives in the third model. However, when the interaction term between CSP score and ESG controversies is included, the relation is no longer significant. Instead, the coefficient for ESG controversies turns insignificant and the interaction between CSP score and ESG controversies is positive and statistically significant. This turn of the sign gives support to the second hypothesis. (Auoadi & Marsat 2018: 1035-1036.)

The third hypothesis is tested by dividing the companies into two subsamples based on three different visibility measures, Google Search Volume (GSV), analyst coverage, and a dummy variable for CSR award. The interaction term between CSP score and ESG controversies remains significant and positive for only high-attention firms and the difference between the coefficients in the two subsamples is also significant. This finding supports the third hypothesis (Aouadi & Marsat 2018: 1038-1039). The findings partly refute Servaes & Tamayo's (2013) findings, as the interaction between ESG concerns and CSP score positively impacts the firm value of high visibility companies.

Choi, Kim & Yang (2018) examine the relationship between CSP and CFP among Korean Small and Medium Enterprises (SME's). According to the authors, the relative importance of SMEs is undeniable: they accumulate 97-99% of all businesses in the EU and employ over half of the population. SME's also have different characteristics compared to larger companies, such as smaller visibility and less public pressure from the company's stakeholders. They have two research questions: The first one is will the impact of CSR be equal to SME's as it is for larger companies, and the second one is are there any sub-groups within SME's that have different characteristics in the CSP-CFP relationship. (Choi, Kim & Yang 2018: 1-2.)

Their studied sample consists of all the publicly listed companies in the two Korean stock markets, KOSPI and KOSDAQ. Their study period covers the years 2003 to 2015. Financial performance measures and control variables were obtained from the DataGuide database. For CSP, authors used charitable donations (CD), because KLD and other CSP rating systems tend to focus only on the largest companies, and using them would lead to too many empty values. They use return on assets (ROA) as a dependent variable and using OLS regression, analyzed how CSP affects CFP. (Choi et al. 2018: 5-7.)

 Authors split the studied sample into sub-samples by sales volume, total assets, and employee thresholds to investigate the CSP-CFP relationship across larger and smaller companies. CD has a positive and statistically significant impact on ROA in the full sample, non-SME sample, top-20% SME sample, and upper 50% SME sample. For the smallest SMEs, the relationship was statistically insignificant and for the lowest 10%, even negative. Even though CD does not capture every dimension of CSP, this study gave additional evidence on the positive CSP-CFP relationship. (Choi et al. 2018: 9-13.)

Alareeni & Hamdan (2020) investigate the relationship between ESG disclosure and firms' operational, financial, and market performance. Their sample consists of S&P 500 listed companies in the U.S. between the years 2009-2018. For measuring companies' social responsibility, they use Bloomberg ESG disclosure scores. Researchers consider four different research hypotheses to find how individual E, S, and G dimensions and the whole ESG score affect CFP. The authors use three different measures for dependent variables, return on assets (ROA), return on equity (ROE), and Tobin's Q to analyze the studied relationship. (Alareeni & Hamdan 2020: 1409-1416.)

After descriptive analysis and additional testing, the authors use a random-effects model to study the effect of ESG performance on financial performance measures. As in previous studies, a wide array of control variables (leverage, firm size, assets growth, and assets turnover) were used in the regression model. The impact of the ESG score on all the studied measures (ROA, ROE & Tobin's Q) is positive and statistically significant on a 1% level. The governance dimension has a positive and statistically significant impact on every dependent variable. (Alareeni & Hamdan 2020: 1419-1420.)

Table 2. CSP and, firm value and financial performance

	Data	Methodology	Results
Griffin & Mahon (1997)	7 U.S. companies in the chemical industry 1990 & 1992	Ranking firms by their CFP and CSP measures	Most high CSP firms are in the high CFP group and the opposite holds true
	ROE, ROA, 5-year return on sales, size, and asset age. KLD rating, TRI, Fortune survey & Corporate philanthropy	CSP-CFP matrices for the year 1990 & 1992	Relative positioning remained unchanged between 1990 and 1992
Beurden & Gössling (2008)	34 CSP-CFP studies between the years 1990 - 2007	Meta-analysis with three categories for CSP-CFP relationship: positive relationship, no relationship & negative relationship	The vast majority (68%) show a positive and significant relationship. Only 2 studies showed a negative relationship.
		Market-based and accounting-based CFP measures	Industry and firm size are important confounding variables
Jo & Harjuto (2011)	2952 listed companies in the U.S	Probit function for the 1st part analysis	CSR engagement is influenced by internal and external monitoring and corporate governance systems
	Tobin's Q, KLD rating, and additional CSR engagement measures	Heckman two-stage model for the second part of the analysis	CSR engagement is positively impacting industry-adjusted Tobin's Q
Servaes & Tamayo (2013)	400-2000 U.S. companies in 1991-2005	OLS regression, firm fixed effects	No direct relationship between CSR and firm value.
	Tobin's Q, advertising intensity, and KLD CSR index measure		Firms with high public awareness can increase firm value with CSR, but they are also penalized more for CSR issues.
Eccles et al. (2014)	180 U.S companies in 1993-2010	OLS regression	High sustainability companies outperformed low sustainability companies.
	Stock market returns, FF 4 factors, and Carhart momentum factor	Industry group dummies	Interaction between high sustainability and high public awareness-industries positively affects abnormal returns
Han et al. (2016)	94 listed Korean companies in 2008- 2014	OLS panel regression, firm-fixed- and firm random effects	The relationship between financial performance and governance disclosure score was significant and positive in almost every specification
	Bloomberg E, S, and G disclosure score, M/B ratio, ROE, and annual stock returns	OLS regression with quadratic terms	No meaningful direct relationships between environmental (and social) disclosure score and financial performance
Fatemi et al. (2017)	The U.S. listed companies between 2006-2011	2SLS estimation	ESG strengths (concerns) have a positive (negative) impact on firm value
	KLD ratings, Bloomberg ESG disclosure measure, Tobin's Q		Interaction between high disclosure and high (low) sustainability has a negative (positive) impact on firm value
Garcia et al. (2017)	365 BRICS listed companies in 2010-2012	OLS regression, random-effects model, and fixed effects model	Profitability and industry sensitivity increases environmental score
	ESG-, individual pillar scores, ROA and FCF	Companies grouped by industries	Overall ESG score is not affected by profitability nor industry sensitivity
Velte (2017)	80-85 German companies in 2010-2014	OLS regressions	ESG score and the individual pillar scores have a significant and positive impact on ROA
	ROA, Tobin's Q, and Thomson Reuters ESG score		ESG performance has no statistical nor economic impact on Tobin's Q
Aoudadi & Marsat (2018)	4312 companies worldwide between 2002-2011	OLS time series regression with industry-, geographic area- & year fixed effects	The relationship between firm value and the interaction term between CSP and ESG controversies is positive and significant
	ESG controversies, Thomson Reuters ESG score, Tobin's Q, M/B and ROE		Holds for high visibility companies
Choi et al. (2018)	Korean listed companies on KOSPI & KOSDAQ between 2003-2015	OLS regressions	CD has a positive impact on ROA for the full sample, Non-SME's and largest 50% of the SME's
	Charitable donations (CD) & ROA		For other SME's, the relationship was statistically insignificant
Alereeni & Hamdan (2020)	S&P 500 listed companies between the years 2009-2018	OLS regressions with random effects	ESG score had a positive impact on all studied measures
	Bloomberg ESG score, individual pillar scores, ROE, ROA, and Tobin's Q		Out of the individual dimensions, Governance had a positive and significant impact on all CFP measures

Table 2. above composes the main findings of this chapter. The first important finding of the literature review is the direct, positive, and statistically significant CSP-CFP relationship, which many studies uncovered. Han et. al (2016) found that the Bloomberg governance disclosure score has a positive impact on studied CFP measures. Velte (2017), Fatemi et al. (2017), and Alereeni & Hamdan (2020) also found direct positive relationships between ESG (CSP) performance and CFP measures. Van Beurden & Gössling (2008) stressed the need to use recent studies in their meta-analysis, as the attention towards CSR has grown, the role of the business has changed and consumers' reactions have increased. Even though CSP-CFP studies have been conducted as early as the 1970s, it is still interesting to find that this relationship holds still in the recent literature.

The more important findings are the indirect relationships found in Servaes & Tamayo (2013), Eccles et al. (2014), and Aoudadi & Marsat (2018), where high public awareness seems to be an important mediator variable explaining the positive relationship between CSP and financial performance. It has been proxied with advertising intensity, industry characteristics, GSV, and analyst coverage, and these measures almost always seem to enhance the relationship. Another interesting moderating variable is the ESG disclosure in the study by Fatemi et al. (2017). Interaction between high ESG disclosure and high CSR performance negatively impacts firm value, and the opposite holds for high ESG disclosure and low CSR performance. This means, that ESG disclosure may signal overinvesting in ESG and it also can alleviate concerns for the firms with poor CSR performance.

Servaes & Tamayo (2013) found also that the high public awareness companies having CSR concerns have lower firm value, but Aoudadi & Marsat's (2018) findings refuted that. Servaes & Tamayo (2013) also did not find a direct relationship between CSP and firm value, even though many studies after them reported a positive relationship. These inconsistencies and contradicting findings are inherent to academic research and they show the natural evolution of knowledge. As the recent studies are still somewhat inconclusive about the nature of this relationship, it motivates to conduct more research about in this area.

The third main finding, which will carry to the empirical part of this thesis, is the consistent use of firm value and corporate financial performance measures. Tobin's Q was the most used firm value proxy in the analyzed studies and it will be used as a dependent variable going forward. Return on Equity (ROE) was the most used CFP measure and hence, it is used as the main CFP measure in this thesis. Also, OLS regression was the main statistical model to analyze the CSP-CFP relationship, although there were some varying model specifications. The empirical models used in this thesis will be presented in chapter 5.

4. OVERVIEW OF VARIABLES

This chapter will go through each of the variables used in the empirical part of the study. The variables will be divided into three parts, firm performance and firm value measures, independent variables, and control variables. The uses of the following variables are justified and motivated by existing and previously discussed literature, as they are the most used variables in this strain of literature. The regression models used in the empirical part will use the following discussed variables.

4.1. Firm value and firm performance measures

For the main measure for firm value, this thesis will utilize Tobin's Q, popularized by James Tobin and William C. Brainard in their 1976 discussion paper "Asset Markets and the Cost of Capital". Q is a ratio between any asset market valuation and its reproduction cost, and authors argue that the ratio provides a useful link between production markets and financial markets (Brainard & Tobin 1976: 1-2). Tobin's Q for a company is measured with the following equation:

$$(5.)\ Tobin's\ Q = \frac{\overline{MV}}{V},$$

where $\overline{MV}$ denotes the market value of the company (market price of the shares times the number of shares) and V denotes the replacement cost of invested capital, which is the book value of the company (book values of long-term debt, preferred stock, and common stock.) corrected with an annual index of the replacement cost to book value. (Brainard & Tobin 1976: 24-25). In an economic equilibrium, the normal value for Q is 1 for reproducible assets and below 1 for others. If the company's value for Q exceeds 1, it should courage investment, as the company's ability to generate earnings and profits exceeds the replacement costs. Q's values below 1 should implicate the opposite (Brainard & Tobin 1976: 6).

As in Aoudi & Marsat (2018) and Servaes & Tamayo (2013), we will test the results with alternative firm performance measures. One widely used ratio for measuring CFP is called the Return on Equity (ROE) ratio, which describes the earnings growth of a company. ROE is also called the "accounting rate of return" to separate it from the capital market appreciation of the shares (Penman 2013: 147). ROE for period 1 is calculated as follows:

$$(1.)\ ROE_1 = \frac{(Net\ income + Other\ comprehensiv\ \ income)_1}{Book\ value\ of\ the\ equity_0},$$

where Net income and Other comprehensive income are from the company's equity statement and the Book value of the equity is the book value of the common shareholder's equity in the previous period (Penman 2013: 147). It uses regulated data from official financial statements, which makes it a reliable ratio and it shows, how well the company can generate profit with investors' money.

Another alternative measure for firm performance is the market-to-book ratio (M/B), which Han et al. (2017) used as an alternative measure for Tobin's Q, and Aoudadi & Marsat (2018) used this ratio in the sensitivity analysis. M/B ratio is calculated as below:

$$(6.)\ M/_B = \frac{Market\ Capitalization}{Total\ Book\ Value\ of\ Assets}$$

M/B ratios above one mean that the company can generate value over its assets over time.

4.2. ESG Combined score

The main independent variable used in the empirical analysis is the Thomson Reuters ESG Combined score (ESGC score), which constitutes a company's performance on environmental, social, and governance issues and it combines the ratings with ESG controversies in the media, to enhance the evaluation of the company. Thomson Reuters ESG consists of more than 7000 companies around the world, where over 1200 is located in Europe. The data series for DAX index companies dates back to 2003. (Thomson Reuters 2020: 5-6).

On the company level, the service captures over 400 ESG measures and depending on the industry, data availability, and comparability, 178 most relevant measures are selected for the scoring purposes. The measures are grouped into ten categories, which are proportionately weighted to form the three pillar scores – Environmental, Social, and Governance Score – and the final ESG score. For the ESGC score, additional 23 controversy measures are added to the analysis. (Thomson Reuters 2020: 6-7.)

Individual category scores are calculated as an equally weighted sum of the relevant indicators of the industry. Each indicator gets a percentile rank score, where three factors are taken into consideration: the total numbers of firms with a value, the number of companies with the same value, and the number of companies with a worse value. The percentile rank score is calculated as follows:

$$(7.) \ score = \frac{\# \ of \ companies \ with \ a \ worse \ value \quad \frac{\# \ of \ companies \ with \ the \ same \ value}{2}}{\# \ of \ companies \ with \ a \ value}$$

As stated earlier, the category scores are proportionately weighted to form the pillar scores. The weight of a single category to the pillar score depends on the maturity and the commonness of the disclosure: categories with higher transparency and categories with more reporting get a higher weight on pillar score. (Thomson Reuters 2020: 8.) The range values and descriptions for the Thomson Reuters ESGC score are depicted in figure 6 below:

Score range	Description	
0 to 25	First Quartile	Scores within this range indicates poor relative ESG performance and insufficient degree of transparency in reporting material ESG data publicly.
> 25 to 50	Second Quartile	Scores within this range indicates satisfactory relative ESG performance and moderate degree of transparency in reporting material ESG data publicly.
> 50 to 75	Third Quartile	Scores within this range indicates good relative ESG performance and above average degree of transparency in reporting material ESG data publicly.
> 75 to 100	Fourth Quartile	Score within this range indicates excellent relative ESG performance and high degree of transparency in reporting material ESG data publicly.

Figure 6. Thomson Reuters ESGC Score (Thomson Reuters 2020)

As seen in previous studies (Servaes & Tamayo 2013, Aouadadi & Marsat 2018), the interaction between CSR concerns and CSP measures does impact the firm value. Using the ESGC score helps to streamline the empirical model, as the unnecessary interaction term between CSR concerns and ESG performance can be omitted.

4.3. Control variables

To find the effect of corporate social performance on the firm value, the regression model must be correctly specified, and the proper control variables must be included. Studies like Han et al. (2016), Velte (2017), and Auodadi & Marsat (2018) included a parsimonious set of control variables to their respective empirical models and this thesis will follow their methodology in this sense. As in previous studies, the used regression models will control for the following variables:

Company size

Company size will be measured with the natural logarithm of total assets at the end of the year. Clacher & Hagendorff (2017) state that firm size is an important variable related to shareholder value, as they have the "ability to pay" new investment opportunities, finance their ongoing operations and they undertake more CSR activities to mitigate public scrutiny and political exposure. Aoudadi & Marsat (2018) argued that company size has been directly attributed to firm value, but there is no consensus on whether company size positively or negatively affects firm value. Alareeni & Hamdan (2020) found that company size impacts positively CFP measures.

Idiosyncratic firm risk

Firm-specific risk is proxied with leverage, which is calculated as the ratio between the book value of debt and the book value of assets of a company. Firm leverage is an important driver of firm value. Clacher & Hagendorff (2017) state that increased leverage leads to larger public scrutiny and forces managers to increase the value of the corporation. Alereeni & Hamdan (2020) also found a positive link between financial leverage and a company's financial performance.

Systematic firm risk

Systematic firm risk is measured with beta. Beta measures an individual company's sensitivity against the movements of the market. A larger beta means that the stock price moves more when the market moves. The beta of the whole market is 1. The estimations are obtained from the Thomson Reuters Datastream and the obtained values are the historical betas of the company against the corresponding market index, as in the studies of Velte (2017) and Choi et al. (2018).

Company's profitability

The company's profitability is proxied with return on assets (ROA), which measures how well the company can generate returns on the total assets of the company. As seen in the previous research (for example Fatemi et al. 2017), profitability affects the firm value directly, and hence, it needs to be controlled in the regression models.

Capital expenditure

Capital expenditure is measured as the percentage of capital expenditures from the total assets of the company. Capital expenditure can be considered as a forward-looking measure for growth, as it is a cash flow statement item used to finance more production capacity and maintain the current operational level.

Sales growth

The growth rate of the company is proxied with the annual growth rate of sales. As the capital expenditure is a more long-term measure for growth and financial health, the annual growth rate of sales shows directly how a company generates income and how it evolves over time.

5. DATA AND METHODOLOGY

This study uses the publicly listed Eurozone companies from 11 countries and the studied period is 2009-2019. Data for financial variables and ESGC ratings are collected from Thomson Reuters Datastream. The used panel data consists of 10 variables (Tobin's Q, M/B, ROE, ESGC score, total assets, leverage, sales growth, ROA, beta, and capital expenditures) with annual values for every company and every variable.

Chosen companies are listed companies from the 11 Eurozone countries: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain. After cleaning the data from dual-listings, depositary receipts, duplicates, and companies with no ESGC scores, the final number of companies is 793.

This number of companies includes every company, active or dead, that had at least 1 ESGC score during the studied period. The inclusion of dead companies is motivated to alleviate any concerns of survivorship bias. Below, in table 3, is the distribution of the analyzed companies between Eurozone countries. The distribution follows pretty closely the relative size and economic importance of each country, as the number of the companies range from 8 (Luxembourg) to 204 (Germany):

Table 3. Distribution of companies

Country	Number of companies
Austria	31
Belgium	50
Finland	38
France	164
Germany	204
Ireland	19
Italy	103
Luxembourg	8
Netherlands	69
Portugal	23
Spain	84
Total	793

Furthermore, every analyzed listed company has a static industry code. The studied companies are distributed between 20 different industry sectors by their ICB code in the following way pictured in table 4. Sector Industrial Goods & Services have most companies by far (130), but otherwise, companies distribute relatively evenly across the rest of the industries, from 12 (Retailers) to 56 (Health Care):

Table 4: Industry sectors

Industry	Number of companies
Automobiles & Parts	26
Banks	53
Basic Resources	28
Chemicals	26
Constructions & Materials	45
Consumer Products & Services	39
Drug & Grocery Stores	22
Energy	32
Financial Services	42
Food, Beverages & Tobacco	25
Health Care	56
Industrial Goods & Services	130
Insurance	25
Media	32
Real Estate	51
Retailers	12
Technology	53
Telecommunications	33
Travel & Leisure	22
Utilities	41
Total	793

5.1. Research hypotheses

This thesis will use two research hypotheses in the empirical analysis. Based on the literature review in chapter five, many studies confirmed a positive and statistically significant relationship between CSP and CFP. As Aoudadi & Marsat (2018) reported,

the interaction between CSP score and CSR controversies impacts firm value positively and significantly. Thomson Reuters ESGC score takes ESG controversies into account in the rating, so it should proxy the same relationship with a similar impact. Hence, the first hypothesis can be formulated as:

H1: ESGC score of the company is positively and significantly linked to the firm value and financial performance.

The other research hypothesis considers the effect of industry sensitivity and customer awareness, which could potentially enhance the relationship between ESGC score and firm value. Garcia et al. (2017) specified sensitive sectors with an ethical and environmental basis and found out that companies in sensitive industries report the best environmental performance. Servaes & Tamayo (2013) found that combined with high public awareness, CSR engagement leads to higher firm value.

Eccles et al (2014) divided their sample into three groups based on their industry group, which are companies in B2C sectors, brand & reputation-driven companies, and natural resources extracting companies. They reported that the interaction between these moderator dummies and high sustainability has a positive impact on abnormal stock market returns. Combining these findings with the hypothesized relationship between ESG performance, firm value, and financial performance, the second hypothesis can be formulated as:

H2: The interaction between ESGC score and industries under high public perception is positively linked to firm value and financial performance.

5.2. Descriptive statistics and data diagnostics

The panel data set is winsorized at 1% and 99% thresholds to eliminate the effect of extreme outliers, as in previous studies (see Aouadi & Marsat 2018, Servaes & Tamayo 2013 for example). Due to missing values in the panel data, the unbalanced panel consists of ten variables with sample sizes ranging from N = 4616 to N = 7995. The descriptive statistics of the used variables are in Table 5 below.

Table 5. Descriptive statistics

	Beta	CapEx	ESGC	ln(Tot. As.)	Leverage	M/B	ROA	ROE	Sales growth	Tobin's Q
Mean	0,892	4,14 %	53,250	15,256	26,67%	2,297	4,47 %	9,58 %	8,16 %	1,538
Median	0,844	3,17 %	51,420	15,082	25,32%	1,650	4,28 %	10,49 %	4,52 %	1,216
Maximum	2,354	21,31 %	87,610	20,595	80,38%	12,824	27,17 %	66,05 %	165,43 %	6,258
Minimum	-0,330	0,00 %	18,195	10,876	0,00%	-0,501	-24,26 %	-79,53 %	-42,71 %	0,706
Std. Dev.	0,513	3,942	16,558	1,984	17,854	2,147	6,673	18,462	20,887	0,928
Skewness	0,377	1,818	0,070	0,387	0,555	2,476	-0,487	-1,372	3,453	2,879
Kurtosis	3,252	7,217	2,183	2,940	2,990	10,643	8,199	10,039	21,238	12,660
Observations	7722	7499	4616	7995	7929	7313	7777	7728	7804	7533

The descriptive statistics do not exhibit anything counterintuitive behavior among the variables. From the descriptive statistics above we can see that both means and medians for Tobin's Q and Beta are fairly close to 1. ESGC scores (mean 53,250 and median 51,420) suggest that on average, studied listed companies in the Eurozone have slightly above average ESG performance. Minimum and maximum values make sense as well, as there are no perfect or zero scores.

The simple bivariate correlation coefficients between variables are presented in Table 6. As seen in the correlation matrix, the main variables of interest, ESGC score and Tobin's Q are not significantly correlated with each other. The largest correlations are between Tobin's Q and M/B ratio (0,8291) and ROA & ROE (0,8093). However, the M/B ratio is used as Tobin's Q: s alternative in the sensitivity analysis, and they are not used in the same model specifications. ROE is used to measure the effects of CSP into CFP, and due to its similarities in the calculation, ROA is then removed from the control variables in the corresponding model.

Other bivariate correlations stay on relatively moderate levels, ranging between [-0,3318; 0,5335], which alleviates some of the multicollinearity concerns. In the next sub-chapter, econometrical model specifications are formulated for empirical analysis. The baseline models for testing the research hypotheses are panel regressions with cross-sectional and year fixed effects.

Table 6. Correlation matrix

	Beta	CapEx	ESGC	ln(Tot. Assets)	Leverage	M/B	ROA	ROE	Sales Growth	Tobin's Q
Beta	1,0000									
CapEx	-0,1668	1,0000								
ESGC	0,0191	0,0055	1,0000							
ln(Tot.Assets)	0,2253	-0,1894	0,0633	1,0000						
Leverage	0,0456	0,0848	0,0163	0,1835	1,0000					
M/B	-0,2485	0,1339	0,0286	-0,3318	-0,1200	1,0000				
ROA	-0,2975	0,1984	0,0133	-0,2025	-0,2070	0,4126	1,0000			
ROE	-0,2782	0,1448	0,0535	-0,0600	-0,1616	0,3738	0,8093	1,0000		
Sales Growth	-0,1092	0,0957	-0,0663	-0,1150	-0,0448	0,1280	0,1774	0,1360	1,0000	
Tobin's Q	-0,2596	0,1250	0,0275	-0,3738	-0,2825	0,8291	0,5335	0,3397	0,1321	1,0000

5.3. Research methodology

To evaluate the relationship between firm value and ESGC score, the panel regressions will use Tobin's Q and ROE as a dependent variable and a 1-period lagged ESGC score as an independent variable. Following the methodology of Velte (2017) and Alereeni & Hamdan (2020), where they examined the CSP-CFP relationship with panel regression and adding the vector of lagged control variables following Auodadi & Marsat (2018), the baseline models are formulated as:

$$(8.)\ \ln (Tobin's\ Q_{i,t}) = \beta_0 + \beta_1 ESGC_{i,t-1} + \boldsymbol{\beta CV}_{i,t-1} + \boldsymbol{\gamma z_i} + \varepsilon_{i,t},$$

$$(9.)\ ROE_{i,t} = \beta_0 + \beta_1 ESGC_{i,t-1} + \boldsymbol{\beta CV}_{i,t-1} + \boldsymbol{\gamma z_i} + \varepsilon_{i,t},$$

where $CV_{i,t-1}$ is a vector of previously defined lagged control variables for the company i at the year t-1, and z_i is a vector of unobserved individual effects for the company i which vary over time. The error term $\varepsilon_{i,t}$ is assumed to be independently and identically distributed over time with mean 0 and variance σ_u^2. The baseline models will be run for the whole sample and after that for every industry group sub-sample.

To examine the second research hypothesis, the industry group dummies are added to the regression analysis. Industry group dummy *B2C* gets the value of 1 if the company is located in one of the following industries: Consumer Products & Services, Drug & Grocery Stores, Food, Beverages & Tobacco, Health Care, Media, Retailers or Travel & Leisure. The B2C businesses are usually producing their products straight to the consumers, whereas B2B businesses produce their products or services to companies or governments. The additional pressure from public scrutiny should drive their sustainability higher, as Eccles et al. (2014) rationalized.

Industry group dummy *Brand Driven (BD)* gets a value of one, if the M/B ratio is in the fourth quartile across every company in the industry at the start of the study period, following Eccles et al. (2014) definition. These companies are in a highly competitive environment, where human capital, innovation, and marketing efforts are required for surviving. Authors argue that a good reputation and good brand help companies in this field to attract a quality workforce and reputational risk management is highly valuable. As Eccles et al. (2014) used matched sample and this thesis uses panel data, the industry group *BD* is defined by industries, which are in the fourth quartile at the start of the study period (2009), measured by the average M/B ratio across every company in the industry. In this thesis, industry group *BD* consists of the following five industries: Telecommunications, Retailers, Health Care, Drug & Grocery Stores, and Media.

Industry group dummy *Environmentally Sensitive (ES)* gets the value of 1 if the company operates in one of the following industries: Automobiles & Parts, Basic Resources, Chemicals, Energy, Industrial Goods & Services, or Utilities. Increasing regulation in these areas, scarcity of the used resources, and the environmental impact of the industries should motivate these companies to put more effort into their CSR disclosure and performance.

The industry group dummies are included in the regression analysis in the following manner, following the methodology of Eccles et al. (2014). Combining the industry group dummies and their interaction with ESGC score to the first two regression models, we get the following empirical models.

$$(10.) \ln\left(Tobin's\ Q_{i,t}\right) = \beta_0 + \beta_1 ESGC_{i,t-1} + \beta_2 ESGC_{i,t-1} * DV_{B2C} + \beta_3 ESGC_{i,t-1} * DV_{BD} + \beta_4 ESGC_{i,t-1} * DV_{ES} + \beta_5 DV_{B2C} + \beta_6 DV_{BD} + \beta_7 DV_{ES} + \boldsymbol{\beta CV}_{i,t-1} + \boldsymbol{\gamma z}_i + \boldsymbol{\varepsilon}_{i,t}$$

$$(11.) \quad ROE_{i,t} = \beta_0 + \beta_1 ESGC_{i,t-1} + \beta_2 ESGC_{i,t-1} * DV_{B2C} + \beta_3 ESGC_{i,t-1} * DV_{BD} + \beta_4 ESGC_{i,t-1} * DV_{ES} + \beta_5 DV_{B2C} + \beta_6 DV_{BD} + \beta_7 DV_{ES} + \boldsymbol{\beta CV}_{i,t-1} + \boldsymbol{\gamma z}_i + \boldsymbol{\varepsilon}_{i,t},$$

where $\boldsymbol{CV}_{i,t-1}$ is a vector of previously defined lagged control variables for the company i at the year t-1, and $\boldsymbol{z}_i$ is a vector of unobserved individual effects for the company i which vary over time. The error term $\boldsymbol{\varepsilon}_{i,t}$ is assumed to be independently and identically distributed over time with mean 0 and variance σ_u^2.

6. EMPIRICAL ANALYSIS

To test the first research hypothesis, models 5 and 6 are run for the whole studied sample. The regression results are below in table 7. In addition to time-period fixed effects and cross-sectional fixed effects, White's cross-sectional clustering for coefficient standard errors is used for robustness and to address heterogeneity, following Aouadi & Marsat's (2018) methodology. White's period clustering is used for regressions where ROE is the dependent variable, due to missing values and hence, fewer cross-sections.

6.1. Analysis for the relationship between CSP, firm value and CFP

Table 7. shows the panel regression results for two different model specifications. Every independent variable is lagged 1 year behind the dependent variable. ***, **, and * after the regression coefficients denote statistical significance at 1%, 5%, and 10% confidence level, respectively.

Standard errors are in the parentheses under the regression coefficients. Contrasting the research hypothesis H1, the main examined independent variable ESGC score does not have a positive and statistically significant effect on either Tobin's Q or ROE. The impact is negligible on both models. From control variables, firm size and capital expenditures have a significant effect on the same direction on both models. Firm size has a negative effect and capital expenditures have a positive effect on both studied dependent variables. Overall, the first two models were moderately good at explaining the relationship for the whole sample with R-squared 0,8829 in the first and 0,5251 in the second.

The initial analysis in table 7. below suggests that ESG performance in the previous period does not affect Tobin's Q or ROE. To find more robust evidence to examine the first hypothesis, the previous analysis will be made with sample splits based on the previously discussed industry groups. The first step of the empirical analysis suggested, that the ESGC score does not have any statistically significant impact on Tobin's Q or ROE in the full sample and now it is reasonable to examine the nature of the relationship in the smaller groups.

Table 7. The relationship between ESGC score, Tobin's Q & ROE

Dependent variables

Variables	ln(Tobin's Q)	ROE
Intercept	1,6870***	87,5545**
	(-0,4773)	(40,5033)
ESGC	0,0000	0,0115
	(0,0004)	(0,0188)
ln(Total Assets)	-0,0920***	-4,9757*
	(0,0303)	(2,5918)
Leverage	0,0018*	-0,0061
	(0,0011)	(0,0587)
ROA	0,0073***	
	(0,0015)	
Beta	-0,0043	-0,7685
	(0,0257)	(0,8338)
CapEx	0,006**	0,4858***
	(0,0025)	(0,1245)
Sales Growth	0,0003	0,0426**
	(0,0003)	(0,0201)
Firm fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Coeff. std. error clustering	Cross-sectional	Period
R-squared	0,8829	0,5251
F-statistics	37,0318	5,3928
Observations	3973	3892

The same regression models, as in Table 7, are run with three different sub-sample specifications, for the Business-to-customers (B2C) and non-B2C industry subsamples, for Brand Driven (BD) and non-BD industry subsamples, and Environmentally Sensitive (ES) and non-ES industry subsamples. Regression results for industry group analysis are presented in Table 8. below for the relationship between ESG performance and Tobin's Q and table 9. for the relationship between ESG performance and ROE. Every specification uses robust clustering for coefficient standard errors if the number of cross-sections enables it and if it would not lead to the reduced rank of the estimated coefficient

covariance matrix. If neither cross-sectional nor period clustering is not possible, no clustering for coefficient standard errors is done.

Table 8. The relationship between ESGC score and Tobin's Q in the industry group sub-samples

Dependent variable

Sub-sample	B2C	Non-B2C	BD	Non-BD	ES	Non-ES
Variables	ln(Tobin's Q)	ln(Tobin's Q)	ln(Tobin's Q)	ln(Tobin's Q)	ln(Tobin's Q)	ln(Tobin's Q)
Intercept	2,7082***	1,2565***	1,7286***	1,9800***	2,217***	1,6556***
	(0,7724)	(0,3300)	(0,3177)	(0,2060)	(0,5495)	(0,2148)
ESGC	-0,00004	0,00000	0,0006	-0,0002	-0,0004	0,0004
	(0,0008)	(0,0003)	(0,0006)	(0,0003)	(0,0005)	(0,0004)
ln(Total Assets)	-0,1555***	-0,0658***	-0,0867***	-0,1113**	-0,1253***	-0,0889***
	(0,5100)	(0,0204)	(0,0212)	(0,0128)	(0,0349)	(0,0137)
Leverage	0,0050*	0,0008	0,0052***	0,0007	-0,0002	0,0026***
	(0,0028)	(0,0006)	(0,0029)	(0,0005)	(0,0015)	(0,0006)
ROA	0,0106***	0,0050***	0,0064***	0,0066***	0,0048**	0,0081***
	(0,0031)	(0,0013)	(0,0014)	(0,0008)	(0,0019)	(0,0009)
Beta	0,0532	-0,022	-0,0809***	0,0111	0,0229	-0,0234*
	(0,0803)	(0,0140)	(0,0289)	(0,0110)	(0,0381)	(0,0142)
CapEx	0,0059	0,0051***	-0,0014	0,0065***	0,0058	0,0047**
	(0,0057)	(0,0019)	(0,0040)	(0,0014)	(0,0035)	(0,0021)
Sales Growth	0,0011*	0,0001	0,0013***	0,0001	0,0007	0,0001
	(0,0006)	(0,0001)	(0,0005)	(0,0002)	(0,0007)	(0,0002)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Coeff. std. error clustering	Cross-sectional	Period	-	-	Cross-sectional	-
R-squared	0,8667	0,8745	0,8800	0,8734	0,8590	0,8913
F-statistics	29,4141	33,9231	35,5584	32,8510	30,6098	37,8768
Observations	1073	2900	890	3083	1573	2400

Table 8. above shows the panel regression results for every industry group and non-industry group subsample. Every independent variable is lagged 1 year behind the dependent variable. ***, **, and * after the regression coefficients denote statistical significance at 1%, 5%, and 10% confidence level, respectively. Independent and dependent variables in the industry sub-group and non-industry sub-group regressions

exhibit similar behavior as in the initial analysis of the full study sample. ESGC score does not have any statistically significant impact on Tobin's Q in any of the analyzed subsamples and the overall impact of the ESGC score was negligible in every regression model. Out of the regression control variables, as in the first part of the empirical analysis, both firm size and ROA have statistically significant effects on Tobin's Q, where firm size is negatively impacting Tobin's Q and ROA has a positive impact on Tobin's Q in every single industry-group and non-industry group sub-sample.

Thus far, ESG performance does not have a positive impact on firm value, and the first research hypothesis is partly rejected, giving partial support to Velte (2017), Auodadi & Marsat (2018) and Servaes & Tamayo, and partly going against earlier findings of Alereeni & Hamdan (2020) and Jo & Harjuto (2011). The last step for analyzing the first research hypothesis is to run the same regressions for every industry group and non-industry group subsample and use ROE as the dependent variable.

In Table 9. below, the regression results for the industry sub-group analysis are presented. The direct relationship between ROE and ESGC score remains statistically insignificant and negligible in every industry-group and non-industry group subsample. Out of the control variables, firm size and capital expenditures have a statistically significant impact on almost every sub-sample, similarly as in the full sample. Firm size impacts ROE negatively, confirming a similar effect as with Tobin's Q and capital expenditures have a positive impact.

The first part of the empirical analysis can now be concluded. Statistical evidence fails to confirm the research hypothesis H1: ESG performance does not have a statistically significant direct impact on either firm value or corporate financial performance among the listed companies in the Eurozone. These findings partly corroborate similar studies done by Alereeni & Hamdan (2020) and Velte (2017) and give partial support to the lack of direct relationship to studies done by Servaes & Tamayo (2013) and Auodadi & Marsat (2018). The evidence from the first part of the analysis failed to show any significance in the full sample or on any industry group subsample.

Table 9. The relationship between ESGC score and ROE in the industry group sub-samples

Dependent variable

Sub-sample	B2C	Non-B2C	BD	Non-BD	ES	Non-ES
Variables	ROE	ROE	ROE	ROE	ROE	ROE
Intercept	97,5955***	84,4913***	35,8554	145,8068***	140,3498**	76,7582*
	(27,6240)	(17,8118)	(40,6780)	(52,5674)	(59,5420)	(44,0972)
ESGC	-0,0306	0,02894	-0,0396	0,0244	0,0055	0,0333
	(0,0420)	(0,0249)	(0,0708)	(0,0175)	(0,0306)	(0,0339)
ln(Total Assets)	-5,6391***	-4,8181***	-1,8853	-8,4991**	-8,1221**	-4,3948
	(1,8064)	(1,1138)	(2,5935)	(0,0128)	(3,7845)	(2,8223)
Leverage	0,1565*	-0,0300	0,3605***	-0,1077**	-0,1098	0,0409
	(0,0813)	(0,0437)	(0,1393)	(0,0454)	(0,1308)	(0,0633)
Beta	-3,3442*	-0,1321	-7,3202**	1,0149	0,6244	-1,8157
	(1,9262)	(1,0390)	(3,1423)	(0,9244)	(2,7299)	(1,3380)
CapEx	0,5445**	0,4525***	0,5315	0,3874***	0,3096	0,5620***
	(0,2497)	(0,1321)	(0,5518)	(0,1097)	(0,2529)	(0,1486)
Sales Growth	0,0211	0,0484***	0,0520	0,0495**	0,0859***	0,0238
	(0,0330)	(0,0149)	(0,0380)	(0,0205)	(0,0285)	(0,0271)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Coeff. std. error clustering	-	-	Cross-sectional	Period	Cross-sectional	Period
R-squared	0,6204	0,4881	0,6252	0,5031	0,5004	0,5522
F-statistics	7,274	4,6366	7,7254	4,8489	5,127	5,5762
Observations	1053	2839	890	3052	1555	2337

6.2. The moderating effect of industries under the high public perception

The second part of the empirical analysis focuses on the moderating effect of industry groups in the hypothesized relationship between ESG performance, firm value, and financial performance. According to the research hypothesis H2, the combined effect of ESG performance and high public perception would have a positive impact on both firm value and financial performance. So far, the direct impact of ESG performance on firm value or corporate financial performance has failed to emerge and now the indirect impact

is examined. The empirical regression models, formulated in chapter 5, will be run with the full studied sample and for Tobin's Q and ROE. Table 10. below will show the regression results for both dependent variables and the results are discussed further below. In these regression models, the use of firm fixed effects would've led to a near singular matrix, so the following models use only year fixed effects.

Table 10. The relationship between ESG performance, industry groups, firm value, and financial performance

	Dependent variables			
Variables	Tobin's Q		ROE	
Intercept	0,9592***	(0,1396)	11,0139*	(6,1803)
ESGC	0,0025**	(0,0011)	0,0854*	(0,0484)
ESGC * B2C	-0,0008	(0,0020)	-0,0644	(0,0709)
ESGC * BD	-0,0019	(0,0022)	-0,0455	(0,0792)
ESGC * ES	-0,0023*	(0,0014)	-0,0906	(0,0587)
B2C	0,2044*	(0,1083)	5,4968	(4,0204)
BD	0,2123*	(0,1165)	0,9243	(4,5347)
ES	0,1415*	(0,0811)	5,0914	(3,5272)
ln(Total Assets)	-0,0574***	(0,0071)	0,0746	(0,3312)
Leverage	-0,0012	(0,0008)	-0,1127***	(0,0379)
ROA	0,0292***	(0,0029)		
Beta	-0,0372*	(0,0205)	-6,6112***	(1,2611)
CapEx	0,0022	(0,0031)	0,4207***	(0,1327)
Sales Growth	-0,0005	(0,0004)	0,0325*	(0,0173)
Firm fixed effects	No		No	
Year fixed effects	Yes		Yes	
Coeff. std. error clustering	Cross-sectional		Cross-sectional	
R-squared	0,4407		0,0792	
F-statistics	141,4710		15,8567	
Observations	3973		3892	

Focusing on the moderating effect of industry groups in the hypothesized relationship between ESG performance and firm value, the ESGC score has a statistically significant and positive impact on Tobin's Q in the first regression model. The regression coefficient

of the ESGC score (0,0025) was significant on a 5% confidence level. It also has economic meaning. The positive effect of one standard deviation (16,558) addition of ESGC score increases Tobin's Q by 4,14%. However, given that the mean of Tobin's Q in the full sample was 1,538, the positive effect is quite moderate.

When the moderating effects of industry groups are examined, the interaction between environmentally sensitive industry group and ESGC score has a negative and statistically significant impact on Tobin's Q. In economic terms, this means that for companies operating in environmentally sensitive industries, one standard deviation increase in the ESGC score (16,558) leads to a decrease of 3,81% in Tobin's Q. Again, the effect is moderate on the absolute levels considering the mean of Tobin's Q in the full sample, but still substantial. None of the remaining interaction terms between industry groups and ESGC score are statistically significant or positive. Regarding the control variables, regression coefficients for firm size and capital expenditures remained statistically significant and they exhibited similar behavior as in the previous models. Firm size has a negative impact on Tobin's Q and Return on Assets have a positive impact on Tobin's Q.

Given the different signs in the regression coefficients of ESGC and ESGC * ES, the research hypothesis H2 cannot be confirmed due to the spurious relationship between ESG performance, industry groups, and firm value. Even though the ESGC score has a positive impact on Tobin's Q, the nature of this relationship cannot be determined and H2 is partially rejected. The interaction between ESGC score and industries under high public awareness is not positively linked to firm value. Regression coefficients for Firm size and ROA are statistically significant also in this regression specification, where firm size impacts firm value negatively and ROA impacts firm value positively, confirming their importance in the control variables.

Turning focus in the second regression model in table 10, ESGC score has a direct positive and significant impact on ROE at a 10% confidence level. The regression coefficient for the ESGC score is 0,0854, meaning that one standard deviation addition to the ESGC score increases ROE by 1,414%. However, every interaction term between the ESGC score and industry groups is statistically insignificant and negative, giving no

additional support to the moderating effect of industries under high public awareness. The research hypothesis H2 can now be rejected: The interaction between ESGC score and industries under high public perception is not positively linked to firm value or financial performance.

Based on the empirical evidence, a few possible explanations can be formulated for this spurious relationship. One possible explanation is that the Thomson Reuters ESGC score is not widely followed ESG or CSR performance measure and financial market participants, analysts, or investors in the Eurozone do not give it weight regarding their investment analysis. ESG performance does impact firm value directly and indirectly in the empirical analysis, but due to different signs between direct and indirect effect, the results do not support the formulated research hypothesis H2. It does not diminish firm value, but the direction and the magnitude of the effect are unclear.

Another possible explanation for the lack of statistical significance is based on the UNGC (2004) report. As the report stated, it is likely that in the future, ESG issues have a greater effect on long-term financial performance and competitiveness. Based on this argument, year-on-year changes in the ESG performance are possibly not sufficient to impact this hypothesized long-term financial performance and value creation, and more longer lags in the ESG scores are needed to show evidence. However, previous studies have been able to show positive relationships even with 1-year lags, so it does not fully explain the lack of confirming evidence.

Even though Eccles et al. (2014) showed empirical evidence of a positive relationship between CSR performance, stock market performance, and the moderating effect of industry groups, and Servaes & Tamayo (2013) found that high public awareness combined with CSR engagement leads to higher firm value, these findings could not be replicated to cover the relationship between ESG performance, firm value, and financial performance in the Eurozone. Both research hypotheses H1 and H2 are now rejected and the last part of the empirical analysis will examine, whether these findings hold with different firm value and financial performance measures.

6.3. Sensitivity analysis

In the last part of the empirical analysis, four separate sensitive analyses will be performed with two additional dependent variables. This part is done to add additional robustness to the previous empirical findings, which led to the rejection of both research hypotheses. Additional sensitivity analysis regression models are formulated as:

$$(12.)\ M/B_{i,t} = \beta_0 + \beta_1 ESGC_{i,t-1} + \boldsymbol{\beta CV}_{i,t-1} + \boldsymbol{\gamma z_i} + \boldsymbol{\varepsilon}_{i,t},$$

$$(13.)\ ROA_{i,t} = \beta_0 + \beta_1 ESGC_{i,t-1} + \boldsymbol{\beta CV}_{i,t-1} + \boldsymbol{\gamma z_i} + \boldsymbol{\varepsilon}_{i,t},$$

$$(14.)\ M/B_{i,t} = \beta_0 + \beta_1 ESGC_{i,t-1} + \beta_2 ESGC_{i,t-1} * DV_{B2C} + \beta_3 ESGC_{i,t-1} * DV_{BD} + \beta_4 ESGC_{i,t-1} * DV_{ES} + \beta_5 DV_{B2C} + \beta_6 DV_{BD} + \beta_7 DV_{ES} + \boldsymbol{\beta CV}_{i,t-1} + \boldsymbol{\gamma z_i} + \boldsymbol{\varepsilon}_{i,t},$$

$$(15.)ROA_{i,t} = \beta_0 + \beta_1 ESGC_{i,t-1} + \beta_2 ESGC_{i,t-1} * DV_{B2C} + \beta_3 ESGC_{i,t-1} * DV_{BD} + \beta_4 ESGC_{i,t-1} * DV_{ES} + \beta_5 DV_{B2C} + \beta_6 DV_{BD} + \beta_7 DV_{ES} + \boldsymbol{\beta CV}_{i,t-1} + \boldsymbol{\gamma z_i} + \boldsymbol{\varepsilon}_{i,t},$$

where $M/B_{i,t}$ denotes the market-to-book ratio for the company i at the time t, $ROA_{i,t}$ is the Return of Assets for the company i at the time t, $\boldsymbol{CV}_{i,t-1}$ is a vector of previously defined lagged control variables for the company i at the year $t-1$, and $\boldsymbol{z_i}$ is a vector of unobserved individual effects for the company i which vary over time. The error term $\boldsymbol{\varepsilon}_{i,t}$ is assumed to be independently and identically distributed over time with mean 0 and variance σ_u^2.

The regression results for models 9. – 12. are shown in table 11. below. Every independent variable is lagged 1 year behind the dependent variable. ***, **, and * after the regression coefficients denote statistical significance at 1%, 5%, and 10% confidence level, respectively. In addition to time-period fixed effects and cross-sectional fixed effects, White's cross-sectional clustering for coefficient standard errors is used for robustness and to address heterogeneity, following Aouadi & Marsat's (2018) methodology. White's period clustering is used for regressions where the number of available cross-sections would lead to a reduced rank of the estimated coefficient covariance matrix if cross-

sectional clustering is used instead. If neither cross-sectional nor period clustering is not possible, no clustering for coefficient standard errors is utilized.

Table 11. Sensitivity analysis

Independent variables	Dependent variables							
	(12.) M/B		(13.) ROA		(14.) M/B		(14.) ROA	
Intercept	8,2592***	(2,2775)	29,1433*	(16,1683)	5,1655***	(0,7239)	13,0219***	(2,2698)
ESGC	0,0007	(0,0018)	-0,0002	(0,0067)	0,0116**	(0,0055)	0,0060	(0,0126)
ESGC * B2C					-0,0063	(0,0106)	-0,0126	(0,0268)
ESGC * BD					-0,0128	(0,0119)	0,0094	(0,0302)
ESGC * ES					-0,0084	(0,0067)	-0,0055	(0,0167)
B2C					1,0416*	(0,5982)	1,8167	(1,4801)
BD					1,0213	(0,6598)	-1,3094	(1,6944)
ES					0,5916	(0,3976)	-0,0170	(0,9820)
ln(Total Assets)	-0,4080***	(0,1444)	1,5751	(1,0038)	-0,2330***	(0,0444)	-0,4223***	(0,1257)
Leverage	0,0073	(0,0048)	0,0141	(0,0229)	-0,0103*	(0,0054)	-0,0382***	(0,0136)
ROA	0,0335***	(0,0092)			0,0936***	(0,0187)		
Beta	-0,0100	(0,1202)	-0,2578	(0,5437)	-0,2429*	(0,1461)	-2,0779***	(0,3611)
CapEx	0,0362***	(0,0091)	0,1061	(0,0687)	-0,0007	(0,0185)	0,2290***	(0,0500)
Sales Growth	0,0020	(0,0015)	0,0145*	(0,0088)	0,0037	(0,0023)	0,0093	(0,0070)
Firm fixed effects	Yes		Yes		No		No	
Year fixed effects	Yes		Yes		Yes		Yes	
Coeff. std. error clustering	Period		Cross-sectional		Cross-sectional		Cross-sectional	
R-squared	0,7962		0,6103		0,2534		0,1208	
F-statistics	17,4430		7,7251		59,3784		25,6911	
Observations	3871		3947		3871		3947	

First, focusing on the first model (12.), the direct relationship between the ESGC score and M/B ratio is insignificant and negligible. M/B ratio mirrors Tobin's Q well as an alternative measure for firm value, as the direct effect of ESG performance is non-existent to firm value. Out of the control variables, firm size has a statistically significant and negative impact on firm value. ROA has a statistically significant and positive impact, which confirms the previous findings in the earlier stages of the empirical analysis and adds robustness to them. Capital expenditures have a positive and statistically significant

impact on firm value, giving proof to the results in table 7, where the direct impact of ESG performance on Tobin's Q was examined.

Model (13.) shows regression results to the analysis of the direct effect of ESG performance into ROA. ESGC score has a statistically insignificant and negligible impact on ROA and this confirms the previous findings of a non-existent relationship. However, control variables used in the regression explain ROA poorly, as none of the control variables except Sales Growth have any statistical significance. Overall, ROA does not mirror ROE in this relationship as well as M/B ratio mirrors Tobin's Q. The empirical evidence from models (12.) and (13.) give more proof to reject research hypothesis H1 and to conclude the analysis regarding the direct effect, ESGC score of the company is not positively and significantly linked to the firm value and financial performance in the Eurozone.

In the model (14.), the relationship between ESG performance, industry groups under high public perception, and M/B ratio is examined. The direct effect of the ESGC score on the M/B ratio is positive and statistically significant on a 5% confidence level, similarly as with Tobin's Q. However, the effect of every specification of the interaction between ESGC score and industry group under the high public perception to M/B ratio is statistically insignificant and negative. In this model, the M/B ratio mirrors Tobin's Q quite well, as firm size impacts it negatively and ROA positively. In this sensitivity analysis, the M/B ratio was a good proxy for Tobin's Q and it gave additional robustness to the previous findings. The interaction between ESGC score and industries under high public perception is not positively linked to firm value, giving additional support to the rejection of H2.

In model (15.), the direct effect of the ESGC score and the effect of every specification of the interaction between ESGC score and industry group under the high public perception to ROA ratio is statistically insignificant. ROA did not mirror the behavior of ROE, as the direct effect of the ESGC score on ROA was statistically insignificant. Considering the control variables in the regression model, firm size and capital expenditures were again statistically significant and exhibiting a similar effect as in previous models with ROE as a dependent variable. Overall, ROA was not a good fit to

replace ROE, even though the statistically significant relationship between firm size, capital expenditures, and financial performance survived. However, all of the above findings gave more evidence to reject both research hypotheses H1 and H2.

To conclude this chapter, the empirical analysis failed to confirm a positive direct-, or indirect relationship between ESG performance, firm value, and financial performance. Out of the 20 run regression specifications, only two showed a positive relationship between ESGC score and firm value, and one regression specification showed a positive relationship between ESGC score and financial performance. When the moderating effect of industry groups was taken into account, the indirect effect is unclear and the regressions lead mostly to statistically insignificant regression coefficients for interaction terms. Overall, the economic significance of ESGC scores in the Eurozone seems to be unclear, when measuring the impact on firm value and financial performance.

Even though this thesis used 793 listed companies from 11 Eurozone markets, the absence of evidence is quite polarizing to the earlier studies. There are a few possible explanations for the lack of empirical evidence. The first one is, that in the acquired panel data, ESGC scores had the smallest amount of available observations. Out of the 8723 possible firm-year observations (793 companies x 11 years), there were only 4616 values for the ESGC score, which is lower than other independent variables. This leads to a smaller amount of possible cross-sections and diminishes the power and quality of panel regression.

Another possible explanation for the lack of evidence is, that the financial market participants in the Eurozone have not adopted the ESGC score yet in their decision-making. The previous literature has shown a positive relationship between ESG score and financial performance and a positive relationship between other CSP measures and financial performance. There is a possibility that financial market participants in the Eurozone do not give much weight to ESGC scores when assessing their investments yet, but they use other non-financial CSR measures. However, this seems highly unlikely as previous studies have used Thomson Reuters ESG scores and they were also able to prove statistical significance between the studied measures.

The third possible explanation is that the chosen methodology combined with the unbalanced panel data and a small number of observations for ESGC score is the reason behind the lack of positive evidence for confirming the research hypotheses. There is a possibility, that an omitted variable/variables impact the regression results and hence, the model might be miss-specified to draw any statistical inference. The majority of CSP-CFP studies show positive evidence for a statistically significant relationship and it is a true possibility that there are omitted variables impacting this relationship, which were not accounted for.

7. CONCLUSIONS

The purpose of this thesis was to contribute to the prevalent CSP-CFP debate and to find, whether previous research findings also explain the relationship between ESG performance, firm value, and financial performance among the listed companies in the 11 Eurozone markets. ESG performance was proxied with Thomson Reuters ESGC score, which assesses the corporate's non-financial performance among environmental, social, and governance issues and takes ESG controversies into account. The studied relationship was also analyzed within industries under high public awareness and the studied industry groups consisted of companies operating in B2C, brand-driven industries, and environmentally sensitive industries.

One of the earliest theories regarding corporate social responsibility was Milton Friedman's (1962) Shareholder theory, which argued that corporates' sole social responsibility was to maximize its shareholder's profits, within the legal framework and without fraudulent activity. Freeman (1984) introduced an opposing point of view with his Stakeholder theory, which argued that business managers should broaden the managerial perspective beyond their shareholders to cover a wide array of their stakeholders. Freeman argued that taking the joint interest of stakeholders into account should benefit the company in the long horizon. Various models for corporate social performance have been exhibited in the academic literature and the common denominator among them is the ability to go beyond economic responsibilities and adapt and react to various social issues.

Many analyzed academic studies were able to show evidence that CSR engagement and CSR performance can enhance firm value and financial performance of the company. Velte (2017) reported a significant relationship between ESG performance and profitability in Germany, Alereeni & Hamdan (2020) found that ESG performance has a positive impact on profitability and firm value in the U.S, and Jo & Harjuto (2011) reported that CSR engagement leads to higher firm value among the U.S. listed companies. Servaes & Tamayo (2013) did not find any direct link between CSR performance and firm value (Velte found a similar non-existent direct relationship), but the combined effect of firm visibility (measured with advertising intensity) and CSR

performance has a significant positive effect on firm value. Eccles et al. (2014) reported that the high sustainability of companies operating in industries under high public awareness explains the relative stock market outperformance of sustainable companies. Aoudadi & Marsat (2018) found that CSR performance was positively linked to firm value among high-visibility firms.

Combining the findings from the previous literature, two different research hypotheses were formulated. H1 was *ESGC score of the company is positively and significantly linked to the firm value and financial performance.* The research hypothesis H2 was formed to take high visibility and the particular impact of industries into account: *The interaction between ESGC score and industries under high public perception is positively linked to firm value and financial performance.* These hypotheses were tested with panel regression analysis and the dataset consisted of 793 listed companies between the years 2009 and 2019.

ESGC score had no significant direct impact on the examined firm value or financial performance measures over the studied period in the Eurozone. The direct relationship between ESG performance, firm value, and financial performance was analyzed on the full sample and within industry group subsamples, with two different variables on financial performance and firm value, but none of the regression specifications were able to exhibit any statistical significance. The results partly corroborated previous research on the CSP-CFP relationship and gave additional evidence on the lack of a direct link between CSR performance, financial performance, and firm value.

The interaction between ESG performance and industry groups with high public awareness was a non-significant explanatory variable for firm value. In the regression specification, where Tobin's Q was the dependent variable, the direct effect of ESG performance was positive and statistically significant. However, the interaction term of ESGC score and environmentally sensitive industries was also significant, but negative. The unclear nature between industries under high public awareness, ESG performance, and firm value lead to the rejection of H2 as well.

Empirical evidence failed to show meaningful support for research hypotheses regarding the direct or indirect relationship between ESG performance, firm value, and financial performance among publicly listed companies in the Eurozone. A few possible explanations for the lack of evidence can be presented. In the analyzed panel data, the ESGC score had only 4616 firm-year observations. Compared to other independent variables with the number of firm-year observations ranging from 7313 to 7929, the number was moderately low. The low number of possible cross-sections in the unbalanced panel data can affect regression results negatively and makes it more difficult to draw a statistical inference. Another possibility is the unacknowledged presence of an omitted variable, which has a significant moderating impact on the studied relationship between variables of interest. The third possible explanation is that the ESGC score does not measure ESG performance well in the Eurozone, due to lack of coverage in the present listed companies or the ESGC score does not reflect the real ESG performance of the companies.

However, the ESG performance of the listed companies in the Eurozone is not value-destroying, giving additional evidence why Friedman's (1962) Shareholder theory is outdated. Non-financial engagement of the public companies does not diminish profitability, financial performance, or negatively impact firm value, so we can not consider CSR engagement solely as a cost anymore. However, under the empirical evidence of this experimental setting, the debate on the relationship between ESG performance, firm value, and financial performance remains open.

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