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Strategic Finance

**How do responsible companies perform compared to the ones that do not invest in  
responsibility?**

**Kuinka vastuulliset yritykset suoriutuvat verrattuna niihin, jotka eivät panosta  
vastuullisuuteen?**

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## **ABSTRACT**

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As sustainability and responsibility have become a part of our everyday lives, also corporate social responsibility (CSR) has increased its importance significantly during the last years. It is often described as a company's willingness to put resources into achieving common good, rather than only focusing on maximizing the profit of its stakeholders. As the world is facing challenges like climate change, inequality and poverty it is important that the focus is on the societal level. Companies, being an important part of society and having a considerable effect on it, have a significant role in making the world life-sustaining for the next generations.

This study analyzes the possible connection between a company's level of corporate social responsibility and corporate financial performance (CFP) using quantitative methods. The existence of the relationship between the company's Return on Invested Capital (ROIC) and CSR level is analyzed using ROIC as the metric for financial performance and the ratings collected from CSRHub as a metric for a company's level of responsibility. Based on this study, it cannot be concluded that there is a statistically significant connection between CSR and CFP and thus it does not support the claims of a higher CSR level leading to enhanced or decreased financial performance.

## TIIVISTELMÄ

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Vastuullisuuden sekä kestävän kehityksen tullessa yhä tärkeämmäksi osaksi päivittäistä elämäämme, myös yritysten on huomioitava yhteiskuntavastuun merkitys toiminnassaan. Vastuullisesti toimivat yritykset sitoutuvat ohjaamaan resurssejaan yhteisen hyvän saavuttamiseen, eivätkä ainoastaan sidosryhmiensä tuottojen maksimointiin. Kohdatessamme haasteita kuten ilmastonmuutos, eriarvoisuus sekä köyhyys, on tärkeää, ettei keskittyminen kohdistu ainoastaan yritysten suoriutumiseen, vaan koko yhteiskunnan hyvinvointiin. Yritykset ovat tärkeä osa yhteiskuntaa ja niiden vaikutus siihen on suuri, minkä vuoksi myös niiden rooli maapallon kantokyvyn säilyttäjinä seuraavia sukupolvia varten on merkittävä.

Tämä tutkimus analysoi mahdollista yhteyttä yrityksen yhteiskuntavastuun ja sen taloudellisen suoriutumisen välillä käyttäen apuna kvantitatiivisia tutkimusmenetelmiä. Taloudellisen suoriutumisen mittarina käytetään sijoitetun pääoman tuottoa, ja yritysten yhteiskuntavastuun mittarina puolestaan toimi CSRHub-tietokannasta haetut vastuullisuusarvot. Tilastollisesti merkitsevää yhteyttä taloudellisen suoriutumisen ja yhteiskuntavastuullisuuden välille ei kuitenkaan tässä tutkielmassa löydetty, eivätkä tulokset siten osoita, että vastuullisemmat yritykset suoriutuisivat paremmin kuin ne, jotka eivät panosta vastuullisuuteen.

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## 1. INTRODUCTION

This research focuses on corporate social responsibility, analyzing if it makes a difference in the company's performance. The topic is highly discussed as sustainability and responsibility become an increasingly important part of our everyday lives. Companies, being a crucial part of the society and also having a considerable effect on it, have a significant role in making the world life-sustaining for the next generations. The purpose of this study is to find out whether there is a difference in the performance of responsible and non-responsible companies. The ratings for corporate social responsibility are given by the CSRHub data source, that rates the companies based on their level of corporate social responsibility on a scale of 0-100. Company performance is measured with an accounting-based measure, return on invested capital (ROIC). The data for the companies' financial performance is gathered from the Thomson One database.

Corporate social responsibility is often described as the company's willingness to put resources into achieving common good, rather than only focusing on maximizing the profit of its stakeholders. As the world is facing challenges like climate change, inequality and poverty, it is important that focus is on the societal level. None of these challenges are going to be solved by companies only focusing on profits. It is often thought that being responsible means losing profits and therefore leads to weakened competitiveness, but is that really the case? According to previous research on the link between corporate social responsibility and company performance, it does not have to be so. It is argued that corporate social responsibility leads to better results through enhanced reputation, stakeholder reciprocation, risk mitigation and improved innovation capacity, for instance (Vishwanathan et al. 2019). Then again, some studies (Aupperle et al. 1985; McWilliams & Siegel 2000) have had difficulties finding a connection between corporate social responsibility and company performance.

## 1.2 PREVIOUS RESEARCH

Previous research regarding the link between corporate social responsibility and corporate financial performance has not shown consistent outcomes. While many studies have stated that there is not enough evidence to support the claim that a positive relationship between CSR and financial performance exists (Aupperle et al. 1985; Vishwanathan et al. 2019; Mustaruddin et al. 2011), a number of researchers have also, on the contrary, found a positive connection between them (Brammer & Millington 2008; Orlitzky et al. 2003; Stanwick, P. & Stanwick S. 1998; Sun 2012). In addition, some studies found that the relationship between CSR and CFP is neutral, indicating that investing in CSR activities does not make a difference in the company's financial performance (Nigro et al. 2014; McWilliams & Siegel 2001; Schreck 2011). McWilliams & Siegel (2000) stated in their study, that the inconsistent results on the empirical studies may be the result of flaws in the analysis, model misspecification for instance.

Stanwick & Stanwick (1998) found a positive connection between CSR and financial performance. They argued that profitability gives a possibility for the companies to invest in CSR activities, and that larger companies often feel the need to lead the way towards more responsible practices due to better resources and a broader base of stakeholders. Beurden & Gössling (2008) concluded in their literature review that the majority of studies evaluating the link between CSR and financial performance found a positive connection. In addition, they observed and introduced a few variables they found were worth mentioning because of their effect in the relationship between corporate social responsibility and financial performance. Examples on important factors that should be taken into account are the size and industry of the companies involved, as well as their investments in R&D and their riskiness. (Beurden & Gössling 2008)

However, many, if not all of the studies introduced above claim that there is still both need and room for future research regarding the topic. Salehi et al. (2017) stated that there tends to be a trend for supporting the relationship between corporate social responsibility and financial performance, even though several studies have not been able to find evidence on the connection between them. They suggested future research to examine and include more

factors, which are likely to have an effect on a company's performance, such as firm size. It is also important to measure CSR activities in a wider aspect, rather than only focusing on charitable donations for instance. (Brammer & Millington 2008). This paper includes a relatively conclusive CSR metric, thanks to CSRHub incorporating a large amount of divisions into their responsibility measure. In addition, many of the previous studies (Quazi & Richardson 2012; McWilliams & Siegel 2000) encourage on controlling for industry, because there is evidence that industry-level factors influence both profitability and corporate social responsibility (McWilliams & Siegel 2000; Makni et al. 2008).

### 1.3 THE AIM AND STRUCTURE OF THE STUDY

The previous studies on this field have not been consistent with their findings. As noticed while going through the different findings of previous research in the preceding section, there are a lot of factors that affect both corporate social responsibility and profitability. None of the earlier studies have been able to find exhaustive results on the topic, and that may never be possible. Many suggestions for future research are thus given, and this paper tries to observe and include a few of them. This study evaluates the possible connection between a company's level of corporate social responsibility and financial performance using quantitative methods. By collecting data for CSR ratings of the companies from CSRHub and financial data from the Thomson One database, a panel data for years 2015-2018 is formed. As noted earlier, quantitative methods, more precisely, panel data regression models are used in this study for the analysis. The aim of the study is to find an answer to the following research question:

*How do responsible companies perform compared to the ones that do not invest in responsibility?*

The investment level on corporate social responsibility is interpreted to be indicated by the company's CSR rating, meaning that a high level of CSR activities would lead to a higher rating given by CSRHub. Similarly, financial performance is measured with the return on invested capital ratio (ROIC) and a higher ROIC is expected to indicate for better profitability of the company.

The corporate social responsibility data for this research is collected from the CSRHub database, which rates companies on a scale of 0-100 according to their level of overall responsibility. Corporate social responsibility is divided into different sections, but this research focuses on the overall rating of the companies. Not only focusing on one dimension of corporate social responsibility will hopefully give a wider understanding on the issue, making the study more comprehensive. The data is limited to include 200 public companies from the USA in order to get extensive and homogenous data due to unified reporting methods. The time frame for the data is years 2015-2018, because the financial data in the Thomson One database was available mainly for those years. A random sample of 200 companies was taken from the list of more than 3000 firms returned by CSRHub when searching for ratings on companies located in the USA. The data for company performance and the control variables (ROIC, industry, revenue) is collected from the Thomson One database. The variation between the different ratings on companies was not particularly broad, the lowest rating being 39 and the highest being 70, which will make the study slightly more limited through lower coverage.

The structure of the study is presented in Figure 1. In the following section, the theoretical background of the study is presented, giving the reader an understanding of corporate social responsibility and financial performance. In addition, a review on different methods and requirements of reporting and measuring CSR is brought to the reader. Previous research on the link between corporate social responsibility and profitability and the variables that have been used in previous studies are also presented in the second chapter. The third section is for introducing the research methodology by taking a look at the used variables, the data which forms a panel, and thereby the methods for analyzing the data. The results of the analysis are represented in the fourth section. Lastly, the main findings of the research are rounded up in section five, as well as the limitations of the study and suggestions for future research.

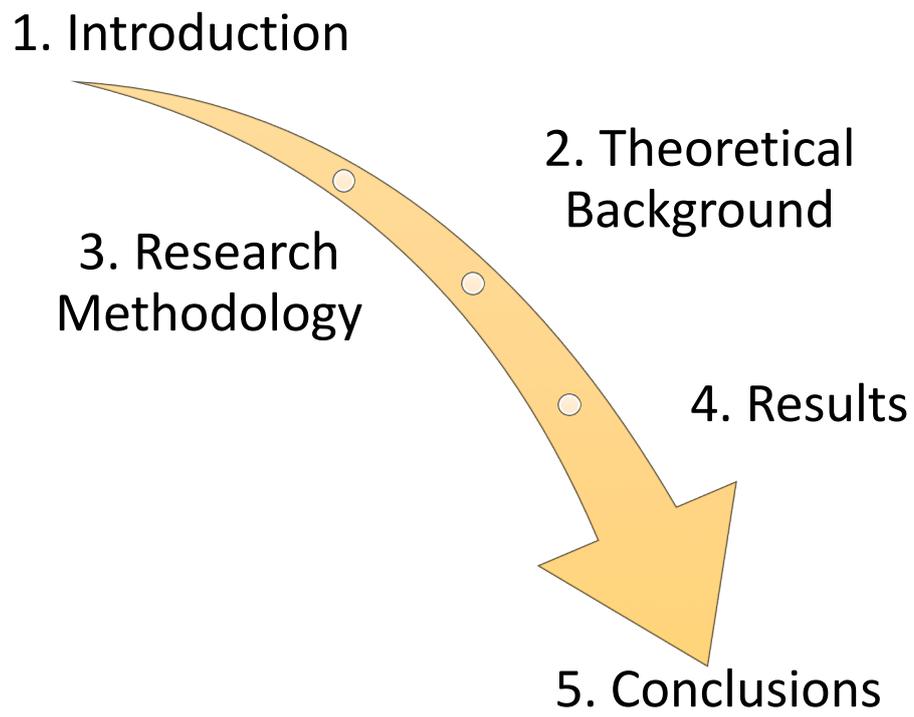


Figure 1. The Structure of the Study.

## 2. THEORETICAL BACKGROUND

In this section, corporate social responsibility and its dimensions are introduced. Corporate social responsibility is a company's aim to deliver better than what is demanded by the law and it is constantly becoming a bigger part of our everyday lives. Corporate social responsibility is often considered to have three dimensions, the economic, the social and the environmental one. Reporting and measuring CSR will also be discussed in this chapter. Reporting CSR actions has increased its significance in company reports and there are several ways of measuring it. Next, return on invested capital (ROIC) as a company performance measuring tool is studied and lastly, previous research on the link between CSR and a company's performance is discussed.

### 2.1 Corporate social responsibility

Corporate social responsibility is described as a company's commitment to continuously enhance the society's quality of life while aiming to economic development and acting ethically. Since its first appearance, CSR has grown its importance significantly. It has established its place in the business world, and it is almost impossible for companies to not include corporate social responsibility in their agendas. Quality within products and services is not enough to keep customers satisfied these days. Customer satisfaction is thus also affected by the company's impact on the whole society and the efforts made for achieving greater good. Having loyal and satisfied customers is important for the long run sustainability of a business. Consumers buy from the ones they rely on, business partnerships are based on trust and employees only want to serve a loyal company. (Uddin et al. 2008; Canuege 2000) If a company wants to fully contribute to a society it should be efficient, profitable and socially responsible at the same time. The idea behind corporate social responsibility is that business and society should be united, rather than separate entities. (Moir 2001) The way corporate social responsibility should be looked at is not as a threat for increased costs but as a way of achieving competitive advantage. The focus should be on the long run sustainability of a business, and according to Uddin et al. (2008) one way to achieve that is through ensuring long run relationships with stakeholders.

Corporate social responsibility is often divided into three dimensional aspects, which are:

1. *Economic*
2. *Social*
3. *Environmental*

In order to ensure that a future for the upcoming generations exists, all of these aspects have to be taken into consideration. They will be introduced more closely in the following paragraphs.

#### 2.1.1 The economic aspect of CSR

The economic aspect is not only about the company's financial stability and responsibility reports but should focus on the impacts that it has on the society and the company's stakeholders, both directly and indirectly. Stakeholders are affected by the company's economic performance through what Uddin et al. (2008) refer to as "the multiplier effect". This means that an economically well performing company has possibilities for continuous development, investing in important factors for the long-term sustainability, such as the well-being of their employees. What makes it the multiplier effect, is that due to good salaries, hence growing consuming and tax payments, the employees support the whole community. Companies also contribute to taxes directly through their own tax payments in the form of corporate taxes, for example. Taxes have an important role in the functioning of the society and wealth-distribution, which gives companies a reason to look at taxes as a way of contributing to the overall well-being rather than a cost to avoid. In order for a company to be economically responsible, it needs to be trustworthy for the society. Actions such as bribery, corruption or tax fraud will likely lead to permanent loss of trust. (Uddin et al. 2008)

#### 2.1.2 The social aspect of CSR

The Social aspect of CSR has increased its importance among the other two. Uddin et al. (2008) define the social aspect as responsibility towards customers, employees and the whole

community. Showing responsibility towards customers is argued to have a direct effect on the company's profits. There are multiple different ways for addressing responsibility towards customers, all of them equally important. A company that does not provide its customers with secure and durable products has a high chance of losing its customers. Paying attention to fair advertising standards and treating customers with respect are examples of the key elements making a company responsible. Employees, playing a significant role in the operations of the company, should be treated as respectfully as the customers, to say the least. This includes actions that are required to take care of the employees' well-being by ensuring good occupational health service, safe working conditions and finding ways to keep employees motivated. A deeper understanding of employee welfare includes concepts like gender, age and race equality. There are also multiple ways in which companies can show responsibility towards their communities. Examples on these actions are sponsorship programs for sports clubs, donations and preventing people from becoming socially excluded. Acting responsibly towards the communities in which the companies operate is considered to have an impact on its competitiveness through enhanced reputation for instance. (Uddin et al. 2008)

### 2.1.3 The environmental aspect of CSR

With regards to the environmental aspect of CSR, concepts such as sustainable development and ecology play a great role. The environmental aspect is the most discussed of the three dimensional aspects of corporate social responsibility. The environmental impacts that companies cause are often considered negative. The first issues that come to mind are pollution, deforestation, biodiversity degradation and over-exploitation of non-renewable resources. Despite environmental impacts usually being referred to as negative, companies and their production can also have positive impacts on the environment, although they are not always planned. (Uddin et al. 2008) Companies can generate valuable by-products as a part of their production process or unintentionally help in inventing new and more sustainable ways of operating. Measuring the environmental impacts is of course a key factor in determining the real influence that a company has on the environment and multiple different ways for measurement have been developed. They will be discussed later on in the next paragraph (2.2 Reporting and measuring CSR). To commit being environmentally responsible and to behave accordingly, environmental management is needed in order to get everyone

engaged within the company. There is also a win-win situation with environmental responsibility. According to Uddin et al. (2008), the commitment to acting in environmentally responsible ways might actually lower the costs for a company, through decreased material costs for example. Acting responsibly is always good for reputation and can lead to growth in a company's customer base.

## 2.2 Reporting and measuring CSR

As an increasing number of companies have taken up the challenge of both reporting and measuring their corporate social responsibility activities, there is also a constantly growing demand for tools that companies and stakeholders need to increase their awareness on CSR. Some of the most common aspects of CSR that stakeholders demand reporting on, are sustainability, human rights, worker empowerment and the environment. Measuring the mentioned aspects is not easy and therefore universally accepted methods on both reporting and measuring corporate social responsibility activities should be developed. (Hess 2014)

### 2.2.1 Reporting CSR

As the meaning of corporate social responsibility is rising, companies have a growing requirement to report their CSR activities, especially when stakeholders tend to value companies investing in responsible ways of operating (Uddin et al. 2008). According to a study made by Nielsen & Thomsen (2007), the rising demand on companies for being transparent and accountable has forced them to include corporate social responsibility issues on their agendas. The lack of coherent structure for reporting CSR activities has, however, caused the communication on them being quite inconsistent both within and between organizations. The fact that corporate social responsibility is such a multi-dimensional concept and there are no limits to it makes it challenging for companies. Although a wide range of different auditing methods have been developed during the recent years, companies are using a lot of their time in going through different methods, picking the most suitable ones for their needs and, ultimately, for producing their CSR reports. (Nielsen & Thomsen 2007) In their study, Nielsen & Thomsen (2007) also found that companies have varying viewpoints regarding to the CSR activities they report on, some focus on people, whereas some focus on profitability. Some

might value the “global good” and have high ambitions regarding CSR, while others keep their focus on the local level and have low interest towards CSR.

Additional motives for reporting corporate social responsibility activities along with the more common ones (moral and economic, for instance), are increasing consumer affluence, changing social expectations, globalization and free flow of information, as well as ecological sustainability. The increasing affluence among customers indicates that consumers are continuously increasing their level of consciousness about the products and services they spend on and will thus make sure that their consumption corresponds to their own values. The changing social expectations reveal that due to corporate scandals being uncovered, consumers demand more from the companies in order to trust them. Cases such as Apple slowing their devices with software updates and Equifax’s security breach (both in 2017) have had their parts in making consumers’ trust harder to earn. When it comes to globalization and free flow of information, it has become certainly easy for global stakeholders and consumers to find sources of information at any hour, and everywhere in the world. It means that companies are unable to hide information from their stakeholders, and any attempt to do so will lead to loss of reputation. This leads us to the fourth motive introduced here, ecological sustainability, indicating that businesses that do not succeed in meeting the requirements set by stakeholders, will be targeted by criticism and negative publicity. (Rolland & Bazzoni O’Keefe 2009; Werther & Chandler 2010)

A numerous amount of different principles and guidelines for reporting corporate social responsibility have been introduced by several sources but even today, there are no universally admitted principles and companies are not sure what to report about and when (Hess 2014; Nielsen & Thomsen 2007). Companies do not want to make CSR reports for nothing, they want them to pay themselves back in the form of reduced costs or better access to capital for instance (Hess 2014). To mention some examples of guidelines that have been developed, the Global Reporting Initiative and the AA1000 Assurance Standard are introduced. The Global Reporting Initiative (GRI) was established already in 1997. Its target was to develop guidelines for reporting of the three CSR aspects introduced previously in this study; economic, social and environmental. It aims to make corporate social responsibility reporting as explicit and certified as financial reporting. According to GRI (n.d.) they are the

pioneers of sustainability reporting and their guidelines are the most widely followed standards. The AA1000 reporting standards were established in 1999 with the intention to complement the GRI guidelines. In addition, there are guidelines developed by the International Organization for Standards and Social Accountability International that require companies to achieve certain levels of responsibility by monitoring child labor, environmental respect and working conditions for instance. Companies will then receive certifications for reaching the required levels. (Hess 2014)

According to Hess (2014), it is not easy to define whether the benefits of CSR activities exceed the costs of them. Similarly to what Uddin et al. (2008) stated in their study, he argues that the benefits of reporting CSR activities include factors such as decrease in operation costs, increased customer loyalty, and increased public image. Likewise, Wang et al. (2016) claimed in their study that CSR reporting may decrease costs by reducing information asymmetry. However, Friedman (1970, as cited in Makower 2006) argued that corporate social responsibility only distracts businesses from their sole purpose to generate profit for their shareholders. According to him, CSR activities will likely lead to firms losing profits and competitiveness. Hess (2014) agrees on the fact that CSR is not free of charge and might be hard to fund, especially for smaller companies. Additionally, the lack of globally accepted reporting standards makes it even more costly, due to the companies' need to put their own resources in defining and choosing the right metrics for measuring their CSR performance. Poor CSR reporting may also end up being expensive for the whole society, because poor performers can get the incentive to report using unreliable and non-comparable metrics. This can lead to distorted images and false conclusions and may decrease the overall welfare. Unified and globally accepted CSR reporting standards are thus truly needed. (Hess 2014)

### 2.2.2 Measuring CSR

One of the reasons behind the difficulty of finding a clear link between corporate social responsibility and a company's financial performance can be the challenge of measuring CSR. Knowing what to measure is not easy and the answer often depends on the company's own approach to CSR. Some consider the measuring process as an obligation, whereas some see it as an opportunity, and this of course affects the companies' motivation towards measuring

their activities. According to Hess (2014), companies should concentrate on measuring activities that are considered important among CSR advocates. Examples on these aspects of corporate social responsibility are equal treatment of employees, ethical operation, human rights and environmental responsibility. A decision regarding whether the company wants to report on its behavior or accomplishments, or possibly both of the mentioned, is also needed. When it comes to stakeholders, they are likely interested in knowing both what is done, and how the actions have turned out. (Hess 2014)

Measuring the economic, social and environmental impacts of corporate social responsibility can be done by dividing them to sub-categories and measuring concepts like human rights and emission levels, for instance. Measuring the economic impacts of CSR means taking a closer look at actions that include tax payments and actions against bribery and corruption, among others. For instance, by measuring the salaries and taxes that companies pay, their economic impacts can be analyzed. (PwC n.d.) For measuring the social aspects, concepts such as employee welfare, equality, child labor, customer satisfaction and the influence that the company has on the whole society it operates in are observed. Customer and employee satisfaction can be measured using various surveys for instance. Finally, the measurement of environmental aspects involves measuring the emissions that companies cause and their usage of non-renewable energy-sources. Examples on metrics that indicate the environmental impacts of a company's operations are different footprints such as the carbon footprint and the biodiversity footprint (Klemes 2015).

### 2.3 Corporate financial performance

A company's financial performance represents the outcomes that follow from decisions and their execution, made by both managers and employees. Performance can be explained through value creation. As long as a company succeeds in providing to those giving assets what they expect in exchange, the assets will continue to be provided. This leads to value creation being one of the most important performance criterions within organizations. The challenge with value creation, however, is that it is hard to measure, because value is experienced differently among individuals. In addition, performance is multi-dimensional and enhanced performance on one dimension can mean reduced performance on the other. Most

organizations seek to obtain a good level of performance, but who or what determines when that level is reached when there are no clear visions of such a non-unambiguous concept. (Carton & Hofer 2006)

Measuring a company's financial performance is not very straightforward because there are no universally accepted methods or metrics for that either. However, a metric indicating corporate financial performance would be highly appreciated among stakeholders and researchers. Having an unambiguous measure could help solving various studies done in the past, using a proxy-variable to reflect the companies' financial performance. Probably the most well-known metrics for measuring financial performance are return on assets (ROA), return on equity (ROE), return on invested capital (ROIC) and return on sales (ROS). (Carton & Hofer 2006) Watson et al. (2002, in Dainelli & Bini 2011) found in their study that investment ratios are the most used in reporting financial performance, gearing and profitability ratios being second and third. They also found that there is a great deal of variation between companies in choosing the metrics. That variation is caused by factors such as company performance, industry and size for instance. According to their study, large companies often feel the need to report more ratios in order to inform their various stakeholders and indicate their performance also towards the markets.

In the previous studies introduced earlier, the most used financial performance metrics are return on assets (ROA), return on equity (ROE) and return on invested capital (ROIC). These metrics are especially useful while companies with similar sizes, growth rates and margins are compared with each other. Each metric provides the reader with slightly different information. The return on invested capital ratio reflects all the investors in the company, unlike ROE and ROA, which could make it a bit more useful when one "all-around" metric is needed. Of the above mentioned, ROIC is also the most informative and allows to compare companies with varying capital structures. (Breaking into Wall Street n.d. & CFI n.d.) Because this study only uses one proxy-variable indicating for corporate financial performance, ROIC was chosen for this analysis.

## 2.4 Previous research on the link between CSR and performance

According to existing research about corporate social responsibility and a company's financial performance, there both is and is not a connection between these two. Some studies have been able to find a connection between them, proving that being responsible leads to better financial performance. On the other hand, there are studies that have not been able to find any connection with CSR and better financial performance. Aupperle et al. (1985) concluded that, although they attempted to avoid facing the same problems that some of the previous studies, they were not able to support the idea of a positive link between corporate social responsibility and better financial performance. They found no statistically significant relationships between corporate social responsibility and profitability. The companies that did, for example, social forecasting or had corporate social responsibility committees did not significantly differ from the ones that did not. They even stated that this issue between corporate social responsibility and profitability might never be resolved thoroughly.

McWilliams & Siegel (2000) argued that the empirical studies trying to find a connection between CSR and profitability may have been inconsistent due to flaws in the analysis. One example of such flaws would be model misspecification. According to their study, models that do not measure a firm's investment in R&D can lead to biased estimates. They stated that because corporate social performance, which is one way of measuring CSR, is correlated with R&D, models that try to explain the link between CSR and profitability but do not control for R&D should be interpreted with caution. A study made by Cegarra-Navarro et al. (2016) also found that the capability of being innovative plays a big role in the implementation of CSR policies in order for a company to succeed in being more profitable. They argued that innovative outputs, such as new communication channels, will allow better interaction between stakeholders and thus lead to improved ways of implicating CSR activities and hence likely enhanced profitability. They stated that an important finding of their study was the fact that most of the companies analyzed do use innovations' outcomes to support CSR policies but efficiently only take advantage of the economic dimension of CSR.

By using a distinctive empirical approach to analyze the CSR-CFP relationship, a study made by Brammer & Millington (2008) found that there were significant differences in the stock

market performance between companies who had either high or low rates of investing in charity (indicating for CSR in the societal level). The surprising part of their study was that the companies with either comparatively high or low rates in charity investments showed better financial performance. However, they found that companies that perform good level of CSR tend to be better in the long run. Similarly, Salehi et al. (2017) stated that companies should be encouraged to adopt CSR activities because they will likely lead to improved profitability even though the enhanced financial performances are still somewhat non-experienced.

Vishwanathan et al. (2019) defined Strategic CSR as a new concept, a form of corporate social responsibility which only includes CSR activities that are profitable for the firm. By excluding those actions that do not enhance firm profitability, they aimed to get rid of some impediments preventing the development of the research field. In their meta-analysis, Vishwanathan et al. (2019) hypothesized that CSR is positively related to firm reputation, and vice versa. Secondly, they claimed that CSR would be positively related to stakeholder reciprocation and negatively related to firm risk. They also hypothesized for a positive relationship between corporate social responsibility and innovation capacity. In their study, Vishwanathan et al. (2019) found support to all of their hypotheses but also noted that CSR activities do not completely conciliate the link between corporate social responsibility and financial performance. They concluded that there is room left for future research and for finding a causal connection between the two concepts. Considering the findings of the previous research, a positive connection between CSR and financial performance can be expected to exist, and thus the following research hypothesis is developed:

*H<sub>1</sub>: There is a positive connection between CSR and financial performance.*

### 3. RESEARCH METHODOLOGY

This section focuses on the research methodology used in this study, presenting the variables, data and used methods. The main variables are the rating for corporate social responsibility, company performance measured as return on invested capital, revenue indicating the size of the company and the industry in which the company operates. The data of the study forms a balanced panel which is analyzed using quantitative research methods, and more precisely, panel data regression models. First, the variables are introduced and after that, the data is formed. Lastly, the panel data regression models are studied.

#### 3.1 The variables used in the study

This chapter presents the variables used in the study, including the dependent variable, ROIC, and the explanatory variables including the corporate social responsibility rating along with the control variables. The variable for measuring CSR is presented first, followed by the introduction of the financial performance variable and lastly, the control variables used in the study.

##### 3.1.1 The variable for corporate social responsibility

The variable used to measure the level of corporate social responsibility in companies, Rating, is formed by CSRHub. The rating for each company is measured as follows: The data for corporate social responsibility is gathered from over 500 sources, converted into a numeric scale and normalized. Corporate social responsibility is divided into twelve subcategories which then form four categories. The four categories and what their subcategories include can be seen in the table below (Figure 1.). By analyzing the used sources, and after normalizing the data by comparing results from those various sources, the data is weighed by the estimate of its credibility and the numerical values between 0 and 100 are formed for each subcategory, and further on for each category. CSRHub then rates the companies for their overall score which is calculated as the average mean of the four categories. (CSRHub n.d.b) For this study, the overall company rating is used focusing on corporate social responsibility as a whole.

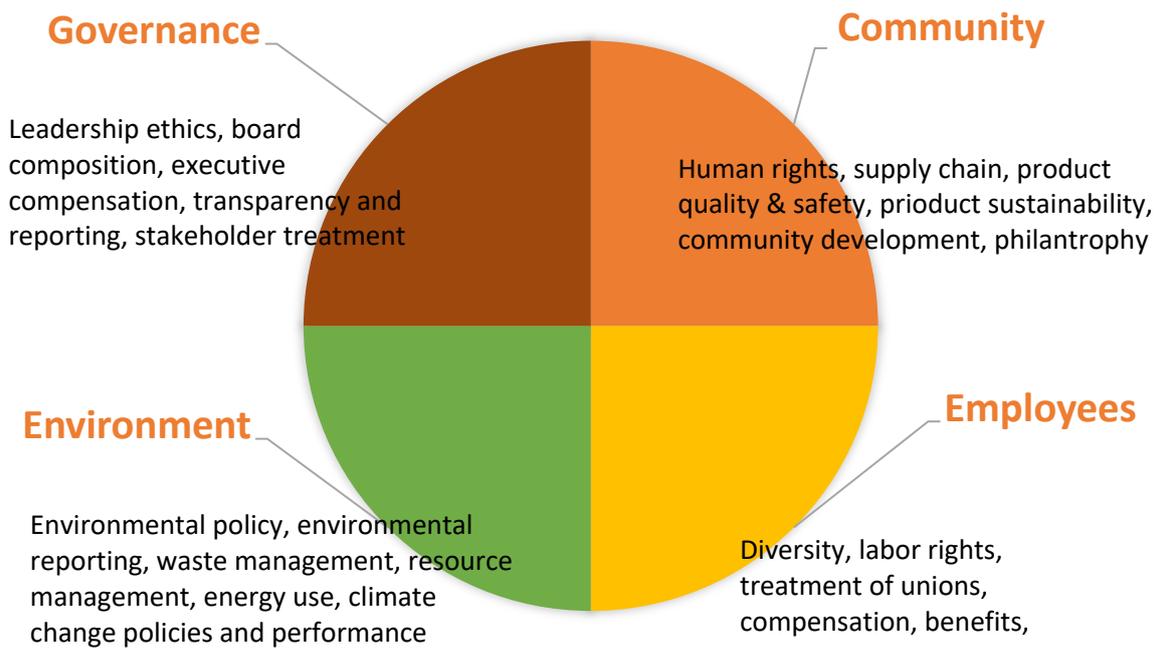


Figure 2. The Categories of CSR according to CSRHub (CSRHub n.d.a)

### 3.1.2 The variable for corporate financial performance

For corporate financial performance, the accounting-based profitability measure, return on invested capital (ROIC) is used to indicate the profit earning capacity of the companies. The ratio assesses the efficiency of a company at allocating its capital to investments that are profitable. In principle, the ROIC ratio observes how well the company does in using its assets to generate returns. A ROIC value that exceeds 2% means that the company is creating value and vice versa. One way of presenting the formula for counting return on invested capital is:

$$ROIC = \text{Net operating profit after tax} / \text{Invested Capital}$$

ROIC can be used to measure the returns of one or multiple investments but it is the most useful when returns that the whole business operation generates are calculated, rather than a one-time event. Among other cash flow measures, ROIC is often used as an indicator of a company's financial performance. The profitability metrics introduced also earlier, ROA, ROE and ROIC, are the most common when trying to determine the companies' ability to generate returns on its capital but ROIC is usually the most informative. Both ROA and ROE can be

misleading, because it is possible to substantially skew ROA either higher or lower, whereas actions that actually lower shareholder equity may have a positive impact on the future ROE. When calculating ROIC, both of the issues mentioned are addressed, and comparison between companies with unequal capital structures is also allowed. ROIC is a relatively simple metric which is why it is a universal and standardized measure of profitability. It is used and interpreted the same worldwide, thus not leaving space for misinterpretations. (Beattie 2019 & Kenton 2020; CFI n.d.) Return on invested capital is a useful ratio for comparing company performance between companies, or a company over time, but what should be noted, however, is that different industries often have varying ROIC ratios. (Follett, R. 2012, 27) In this study, the data for the companies' return on invested capital ratios is collected from the Thomson One database which provides data on companies' key ratios among other accounting data. ROIC has been used as a company performance metric in previous research by Quazi & Richardson (2012) and Orlitzky et al. (2003), for instance.

### 3.1.3 The control variables

As there are no industry limitations in the study, the industry of the company is being used as one of the control variables along with revenue indicating the size of the company. It is likely that industry affects on how much the companies are able to have an impact on their level of corporate social responsibility and how their responsibility is emphasized. Industry has been used earlier as a control variable in several studies, by Makni et al. (2009) and Waddock & Graves (1997), for example. Additionally, the size of a company has an impact on its possibilities and desires to invest in sustainable and responsible actions and therefore the companies' net revenues, representing the size of the company, is controlled in this study. There is also evidence that larger companies might benefit from responsible actions more than smaller firms, potentially due to their attraction for attention. (Waddock & Graves 1997) The values for both variables, industry and revenue, are also collected from the Thomson One database.

### 3.2 The data

The data used in the study is panel data. Panel data, also referred to as longitudinal data is a combination of time-series data and cross-section data, including data from the same units from multiple time periods and thus allowing to control for unobserved individual specific characteristics. They are characteristics that are not on the primary interests of the study but affect on the case studied and require special methods for analysis. For example, the location of an apartment has an impact on the price of the apartment but it is not the primary interest when the relationship between price and size is studied. The unobserved individual specific characters will be included in the error term of the regression. Having the same number of time period observations for each unit included in the study, forms a balanced panel. (Hill et al. 2012, 8-9; Woolridge 2012, 448-449) There are several types of panel data, depending on the number of time periods (T) and the number of observations (N). A long and narrow panel indicates for a long time dimension and a small number of individuals included. A short and wide panel indicates for a short time dimension and many observed cross-sectional units whereas a long and wide panel indicates that both the observed time period and the number of individuals is rather large. (Hill et al. 2012, 538)

The panel data for this study is formed from the CSR values for 200 companies, collected from the CSRHub database, and from other values collected from the Thomson One database, such as ROIC ratios, revenues and industries of all the 200 companies. The time period for the panel data is years 2015-2018, making the panel short and wide according to Hill et al. (2012) due to a short time period and a large number of observations. All the companies involved in this study are from the USA, ensuring that the data is extensive and homogenous due to unified methods in reporting. CSRHub returned the values of over 3000 companies and a random sample of 200 public companies was taken from that population. The data was limited to include only public companies for the same reasons that the regional delimitation was made, i.e. in order to get unified and thus reliable data.

### 3.3 Research methodology

There are several different regression models for panel data, one of them being called the “pooled model”. In the pooled model, the data on the individuals is combined without controlling for individual-specific differences. The coefficients of every individual are expected to be constant over time periods, not allowing for heterogeneity. The equation for the pooled model would be:

$$y_{it} = \beta_1 + \beta_2 x_{2it} + \beta_3 x_{3it} + e_{it} \quad (1)$$

where:

$y_{it}$  represents the dependent variable

$\beta_1$  is the intercept

$\beta_2$  &  $\beta_3$  are the slope coefficients

$x_{2it}$  &  $x_{3it}$  represent the independent variables

$e_{it}$  is the error component

with  $i$  being the cross-section unit and  $t$  representing the time unit. (Hill et al. 2012, 540)

Another model for panel data regression is called the “fixed effects model”. In the fixed effects model, the coefficients are allowed to vary between individuals but not over time. This model is not appropriate for studying a short and wide panel. The intercept is expected to include all the individual heterogeneity, meaning the behavioral differences between the individuals. The individual intercepts in the model, referred to as the “fixed effects”, control for the time-invariant, individual specific characteristics. The equation for the fixed effects model is:

$$y_{it} = \beta_{1i} + \beta_{2i} x_{2it} + \beta_{3i} x_{3it} + e_{it} \quad (2)$$

where:

$i$  included to the subscripts of  $\beta_1$ ,  $\beta_2$  &  $\beta_3$  indicates that the coefficients can vary between individuals. (Hill et al. 2012, 543-544)

The third regression model introduced here is the "random effects model". Whereas the fixed effects model expects the individual differences to be fixed, in the random effects model they are treated as random. The intercept is still considered to capture all the individual-specific differences but knowing the observed individuals are randomly picked to the sample. By specifying the parameters of the intercept to contain the fixed part, representing the population average, and random individual differences from the population average, random individual-specific differences can be included to the model. These random effects correspond to random error terms. The regression error in the random effects model includes two components, for both the individual and the regression. Thus, the random effects model is also referred to as the error components model. The equation for the random effects model would be:

$$y_{it} = \bar{\beta}_1 + \beta_2 x_{2it} + \beta_3 x_{3it} + v_{it} \quad (3)$$

where:

$\bar{\beta}_1$  represents the fixed population parameter, the population average, because:

$$\beta_{1i} = \bar{\beta}_1 + u_i \quad (4)$$

and

$$v_{it} = u_i + e_{it} \quad (5)$$

where:

$u_i$  represents the random individual differences. (Hill et al. 2012, 551-552)

The random effects model allows to take into account several issues and should be thus preferred if the set of assumptions behind it hold. The model observes that the data sample

was chosen randomly and allows to estimate the effects of time-invariant variables, such as the location of an apartment or the industry of a company. Furthermore, being a generalized least squares estimation procedure, the random effects estimator has a smaller variance in large samples compared to the fixed effects which is a least squares estimator. While the fixed effects estimator only uses information from the variation within individuals over time, the random effects model uses information for both within and between individuals, hence utilizing more information. However, the random effects model has its own limitations, one of them being endogeneity. Endogeneity violates one of the assumptions behind the random effects estimation, which is, that the random error does not correlate with the independent variables. Correlation between the error term and the explanatory variables leads to biased, inconsistent estimators for the parameters. (Hill et al. 2012, 540-558 & Woolridge 2012, 501)

A Hausman test can be used to compare the coefficient estimates obtained from the random effects model to the ones given by the fixed effects model. Accordingly, it allows to check for correlation between the error component and the explanatory variables. The Hausman test expects there to be no difference between the coefficient estimates, leading to both estimators being consistent. If so, the estimators should correspond to their true values being similar with one another in large samples. If the Hausman test returns estimators not converging to their true values for the fixed effects estimator, there is correlation between the error component and some of the explanatory values, and this endogeneity breaks one of the assumptions of the random effects model. Inconsistent estimators should not be used; thus, the usage of fixed effects estimates is required. (Hill et al. 2012, 558-559)

## 4. RESULTS

The results of the study are presented in this section. The purpose of the study was to evaluate if the level of a company's corporate social responsibility makes a difference in its financial performance. Previous research on the link between CSR and financial performance have not been able to show consistent results. The analysis was done using linear regression models. In the estimated equation, the company's return on invested capital (ROIC) is the dependent variable. The independent variables including the control variables are the lagged corporate social responsibility rating, the company's revenue, industry, year and the lagged value of the company's ROIC. The regression was run using the Stata/SE statistical software.

### 4.1 The possible link between CSR and financial performance

The estimated model for testing the research hypothesis developed in chapter 2.4 is presented next, followed by the derivation of the used estimation method. The company's return on invested capital ratio is intended to be explained with the CSR rating lagged with one year to emphasize its impact because it takes time for the CSR activities to be realized (Hart & Ahuja 1996). The size of the company measured with the natural logarithm of its revenue and the industry it operates in are controlled by adding them into the model. The natural logarithm of the revenue was taken in order to regularize the skewed distribution of the observations (Hill et al. 2012, 71). In addition, the lagged value of the company's return on invested capital and the time-variable year are added to the equation to control for autocorrelation between the values of ROIC and to control for variation between years (Woolridge 2012, 353 & 447). The econometric model will thus be:

$$ROIC_{it} = \beta_1 + \beta_2 Rating_{it-1} + \beta_3 Industry_{it} + \beta_4 Size_{it} + \beta_4 ROIC_{it-1} + \beta_5 year + e_{it} \quad (6)$$

In the table below (Table 1.), some key figures for the variables of the study are presented. The average return on invested capital ratio of the companies was 0.147, which would be

14.7%. In the sample, the minimum rate of corporate social responsibility was 39 and the maximum was 70. That does not leave the gap between the minimum and maximum as high as would be ideal for the study, i.e. where the ratings would vary between the whole range of 0-100.

Table 1. Descriptive Statistics

Variable	Measured as	Mean	Std. Dev.	Min	Max
CFP	ROIC	0.1471	0.2333	0	3.8151
CSR	Rating_(t-1)	51.4917	4.8956	39	70
Size	ln(Revenue)	7.2797	1.8137	0.8961	12.1767
LROIC	ROIC_(t-1)	0.1450	0.2357	0	3.8151
Time	year			2015	2018
Industry					

High correlation between the independent variables will cause multicollinearity in the estimated model, meaning that the estimated results can be misleading. In principle, multicollinearity should not be a problem if the correlation between the individuals does not exceed 0.9. (KvantiMOTV 2003) The correlations between the used variables do not exceed the level of 0.9 as can be observed from the correlation matrix below (Table 3). It also seems that the lagged value of the CSR rating and the ROIC value of the company are negatively correlated, and the correlation is not significant (-0.0297), which does not per se support the claim that a better CSR rating would lead to higher financial performance (Table 2.).

Table 2. Correlation Matrix

	ROIC	Lrating	Size	LROIC
ROIC	1.0000			
Lrating	-0.0297	1.000		
Size	-0.2780	0.2756	1.000	
LROIC	0.5861	-0.0411	-0.2662	1.000

After observing the correlation between the essential variables, the correct panel data regression model for this study is evaluated. First, when comparing if the pooled model or the random effects model should be used, the Breusch-Pagan test is needed. The Breusch-Pagan

test is used for testing if there is heteroscedasticity in the model that is estimated. If the null hypothesis is rejected, there are random effects between units and the random effects model is a better choice than the pooled model. (Hill et al. 2012, 553-554)

The Breusch-Pagan test returned a result which led to not rejecting the null hypothesis that random effects exist in the model, which refers to the fact that the pooled model should be used to estimate the above introduced model. Cluster robust standard errors are used when running the regression, in order to control for heteroscedasticity in the standard errors and possible systematic differences in the ROIC ratios between companies. (Hill et al. 2012, 299 & 542; Woolridge 2012, 501) A five percent significance level was used when interpreting the results. The results of the regression can be observed in the table below (Table 3.).

Table 3. Results of the Pooled model regression

N = 588 T=3 R-squared = 0.4415	Coef.	Robust Std. Err.	t	p-value
ROIC				
cons	0.1844181	0.1259321	1.46	0.145
lrating	0.0008232	0.0016694	0.49	0.622
Size	-0.0285831	0.0121854	-2.35	0.020
LROIC	0.4854929	0.0660396	7.35	0.000
year				
2017	0.0239891	0.0189943	1.26	0.208
2018	0.023095	0.0147523	1.57	0.119
Industry				
Alternative Energy	0.0967172	0.028802	3.36	0.001
Automobiles and Parts	0.0560848	0.0419723	1.34	0.183
Banks	-0.0424749	0.025333	-1.68	0.095
Chemicals	-0.0017994	0.0220409	-0.08	0.935
Construction and Materials	0.0598126	0.0216123	2.77	0.006
Consumer Services	-0.0215707	0.0350128	-0.62	0.539
Electricity	0.0116208	0.0207964	0.56	0.577
Electronic and Electrical Equipment	0.0516765	0.0434135	1.19	0.235
Finance and Credic Services	0.0229932	0.0266407	0.86	0.389
Food Producers	0.0174169	0.0343883	0.51	0.613
Gas, Water and Multi-utilities	0.035612	0.0224205	1.59	0.114
General Industrials	0.0635418	0.0310874	2.04	0.042
Household Goods and Home Construction	0.1316053	0.0974815	1.35	0.179
Industrial Engineering	0.1403461	0.0927043	1.51	0.132
Industrial Materials	0.0437093	0.0143488	3.05	0.003
Industrial Metals and Mining	0.034926	0.0401331	0.87	0.385
Industrial Support Services	0.0588603	0.0300681	1.96	0.052
Industrial Transportation	0.0261008	0.0206969	1.26	0.209
Investment Banking and Brokerage Services	0.0370539	0.0286281	1.29	0.179
Leisure Goods	0.0155171	0.0432576	0.36	0.720
Life Insurance	0.0352396	0.0182721	1.93	0.055
Media	0.2723559	0.2122372	1.28	0.201
Medical Equipment and Services	-0.0311997	0.0274688	-1.14	0.257
Mortgage Real Estate Investment Trusts	-0.0625578	0.0334001	-1.87	0.063
Non-life Insurance	0.0246148	0.0336222	0.73	0.465
Oil, Gas and Coal	-0.0089046	0.02613	-0.34	0.734
Personal Care, Drug and Grocery Stores	0.1284222	0.0554832	2.31	0.022
Personal Goods	0.0142008	0.027824	0.51	0.610
Pharmaceuticals, Biotechnology and Marijuana Producers	0.2110397	0.0793321	2.66	0.008
Precious Metals and Mining	-0.0847527	0.0233024	-3.64	0.000
Real Estate Investment Trusts	-0.0287084	0.0192155	-1.49	0.137
Real Estate Investment and Services	0.0396575	0.0159684	2.48	0.014
Retailers	0.0398223	0.0380687	1.05	0.297
Software and Computer Services	0.0325567	0.0221246	1.47	0.143
Technology Hardware and Equipment	0.0485738	0.0313439	1.55	0.123
Telecommunications Equipment	0.0418252	0.0365913	1.14	0.254
Telecommunications Service Providers	0.0403511	0.0693773	0.58	0.561
Travel and Leisure	0.0424032	0.0192557	2.20	0.029
Waste and Disposal Services	0.0058326	0.0148515	0.39	0.695

The lagged value of the corporate social responsibility rating has, according to the p-value (0.622) a non-significant influence on the company's return on invested capital. The coefficient for the rating is positive but relatively close to zero (0.00099). The estimated coefficient for the CSR rating is likely to be misleading because the lack of statistical

significance. The logged revenue of the company seems to be relevant in the model with a p-value of 0.021, as well as the lagged value of the company's return on invested capital (p-value 0.000). The coefficient for the revenue is negative and thus indicates that a rise in the revenue of the company, indicating for a bigger company in this case, would lead to a smaller ROIC ratio. The lagged value of ROIC is very significant (p-value 0.000) and has a relatively big coefficient (0.485) which means that the ROIC value of the previous year has a significant effect on the next year's value. When it comes to the industries, only a few of them seem to have a statistically significant effect on the company's ROIC ratio. Most of the industries do not differ significantly from zero but the ones that do are highlighted with green in the above table (Table 3.). The coefficient of determination ( $R^2$ ) for the model is 0.44, which indicates that about 44% of the variation in ROIC is explained by the explanatory variables included in the model. (Hill et al. 2012, 198) Most of the variation of the dependent variable ROIC is explained by its lagged value.

In conclusion, the results of this study show that there is no statistically significant relationship between a company's level of corporate social responsibility and its financial performance. Thus, the research hypothesis of the positive connection between CSR and financial performance is not supported. The study is not able to support the claim that CSR activities would lead to either enhanced or reduced financial performance. According to the results of this study, responsible companies do not perform better nor worse than the ones who do not invest in responsibility. The estimated model is not able to explain the variation in the company's ROIC with the variation of the CSR rating but only with the control variables which are not the main interests of the study.

## 5. CONCLUSIONS

In this last section, the main findings of the study are rounded up, reminding the reader about what was researched, what findings were done and how. The findings of this study are compared with the findings of the previous research. The limitations of the study are also discussed and suggestions for future research are presented.

### 5.1 The main findings of the study

This chapter provides the main findings of the study. The aim of the study was to evaluate whether the corporate social responsibility level of a company makes a difference in the company's financial performance. Previous studies have not shown consistent results in the link between CSR and financial performance. Some studies have been able to find a positive connection and have found that CSR activities have a positive effect on the financial performance of the company (Brammer & Millington 2008; Orlitzky et al. 2003; Stanwick, P. & Stanwick S. 1998), whereas other have concluded that there is not enough evidence to support the claim that a higher level of corporate social responsibility would lead to enhanced financial performance (Aupperle et al. 1985; Vishwanathan et al. 2019).

This study evaluated the relationship between the companies' ROIC and CSR level, using ROIC as the metric for the financial performance and the CSR ratings collected from CSRHub. The size and industry of the companies were controlled for because previous studies (Beurden & Gössling 2008; McWilliams & Siegel 2000; Makni et al. 2008) have shown that they have an influence on how much they can contribute to their level of CSR activities and ROIC. Year effects and autocorrelation were also controlled for by adding the variables year and lagged ROIC to the equation. This study was also unable to find results that support the claim of a higher CSR level leading to enhanced financial performance which is supported with the findings of Aupperle et al. (1985) and Vishwanathan et al. (2019).

There are multiple possible reasons behind not finding a connection between ROIC and the CSR rating. Several previous studies have concluded that the level of a company's investment

to research & development should be included in the model, because R&D is highly correlated with CSR (McWilliams & Siegel 2000). The variable used to measure financial performance (ROIC) may not be the right choice to measure profitability in companies which is also the case for the metric indicating for company size (revenue). There is a possibility that reverse causality between corporate social performance and financial performance exists, meaning that a company's profitability affects its level of CSR (Allouche & Laroche 2005; Hart & Ahuja 1996). In their study, Preston & O'Bannon (1997) stated that profitability may precede the responsibility of a company through available funding.

## 5.2 Theoretical and managerial implications

Although it may seem that CSR activities do not enhance corporate financial performance, they neither seem to worsen it. The results of this study indicate that the connection between CSR and financial performance is not distinct. Therefore, companies should not allocate all their resources for the implementation of CSR activities without further consideration. As long as there is no regulation for the companies' actions regarding responsibility, applying CSR activities can turn out to be costly and thus reduce the competitiveness of the company. However, as argued before, the implementation of CSR activities can enhance firm reputation which will likely lead to better performance in the long term but this will not happen without awareness among the consumers. Furthermore, it is not only the companies that need to do well in this world but the whole society.

Perhaps for now when there is no obvious link between CSR and CFP, increased regulation is the only solution in retaining the world life-sustaining for the next generations. Hopefully CSR activities can be proven to enhance profitability in the future, thus making responsibility the number one way of acting for companies. If not, it should be made market-driven through regulation or incentives, for instance. That would lead to a situation where the negative external outcomes from the companies' operations, such as pollution would be priced, thus making the companies willing to get rid of such costly operations. What should be noted, however, is that the results of this study may not be completely unbiased due to its limitations presented in the next chapter.

### 5.3 Limitations and future research

Some clear limitations that this study has are not including other metrics to indicate for profitability in companies, such as return on assets (ROA) and return on equity (ROE). Using only ROIC as a profitability metric may weaken the validity of the study. According to Aupperle et al. (1985) and McWilliams & Siegel (2000), not including variables indicating for the riskiness of the company and a company's level of R&D investments may cause the model to be misspecified and thus lead to unreliable results. Using the revenue of the company as a company size metric has not been as popular as using total assets, and hence may not be the best choice. Similarly to what including ROA or ROE indicating for profitability would have brought to the study, the study could have provided more reliable results by including other metrics indicating for the size of the company.

Regarding the corporate social responsibility ratings, it was unfortunate that the chosen sample did not include companies with ratings under 39 or over 70 which would have brought more coverage into the study. Likely, the existence of possible reverse causality between CSR and CFP may cause problems in finding a clear connection. Lagging the variables also made the originally relatively short time period of the study even shorter, which again, limits the coverage of the research. Additionally, the geographical delimitation done for ensuring extensive and homogenous data has a similar effect than the previously mentioned.

Future research should, accordingly, find ways to include more explanatory factors in their models, such as the level of R&D investments and riskiness of the company. It is also recommended that several metrics to indicate size, profitability and riskiness are included as long as there are no universally accepted metrics that succeed to represent them completely. Time period and geographical limitations should be minimized. Additionally, this study only focused on the overall CSR rating of the companies and thus could not evaluate differences among the sub-categories of corporate social responsibility which would maybe lead to more accurate results.

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