ERASMUS UNIVERSITY ROTTERDAM

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Bachelor Thesis Economics & Business Economics

The Impact of Corporate Social Responsibility on the Financial Performance of European Companies

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Abstract

This research explores the relationship between Corporate Social Responsibility (CSR) reporting and Corporate Financial Performance (CFP) among European companies. Using panel data, an OLS regression is performed to analyze whether CSR initiatives, measured by ESG Score, have a positive effect on financial performance indicators, such as Return On Equity (ROE) and Earnings Per Share (EPS). The findings show a positive correlation between CSR reporting and ROE, indicating that higher ESG Scores are associated with improved ROE. Moreover, this study demonstrates that the CSR-CFP relationship differs across the industrial and financial sectors. However, models using EPS as the dependent variable did not show any statistical evidence.

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1. Introduction

1.1. Introduction to CSR

The concept of Corporate Social Responsibility (CSR) has been a hot topic for decades and has become a corporate trend for the last few years (Volkova & Kutznetsova, 2022). Not only for companies, but also for researchers and specialists (Dziri & Jarboui, 2024). Companies are trying to be more ethically responsible and are trying to do business, in the long-term, in a more sustainable way (Chen & Xie, 2022). Businesses are doing this by implementing Environmental, Social, and Governance (ESG) criteria, such as emissions and water use. A big number of large firms around the world are already implementing CSR iniatives and are working to disclose their CSR activities to several stakeholders (Awaysheh, Heron, Perry & Wilson, 2020). Many stakeholders apply pressure on companies with poor ethical responsibility (Ananzeh, Al Shbail, Al Amosh, Khatib & Abualoush, 2023). In this way companies need to fulfil the demands of stakeholders and comply to social responsibility. Nevertheless, a considerable gap remains in corporate awareness regarding the importance of CSR (Al Amosh & Khatib, 2021).

In the past years the CSR approach of companies is based on voluntary initiatives to take responsibility for the impact on society from their main business activities (Volkova & Kuznetsova, 2022). This significant impact on society is not just in terms of the products and services companies offer or about the jobs and opportunities they create (*Corporate sustainability and responsibility* – European Commision, n.d.). Besides that, it is also in terms of working conditions, human rights, health, the environment, innovation, education, and training.

As said by Al Amosh & Khatib (2021), there still remains a significant gap in corporate awareness, but the European Union (EU) supports the increase of this awareness. The EU has an important role in encouraging companies to do long-term business in an ethical and sustainable way (*Corporate sustainability and responsibility* – European Commision, n.d.). The European Commission adopted its renewed strategy for CSR in 2011, which aims to increase the visibility of CSR and good practices. After that, the European Commission implemented the Non-financial Reporting Directive (NFRD) in

2014 (*Non-financial Reporting Directive* – European Parliament, n.d.). This was a major step towards greater business transparency and responsibility on social and environmental issues. Under this legislation, large listed companies, banks and insurance companies with more than 500 employees are obliged to publish reports on the actions they take in relation to CSR. However, the question remains if this legislation is good enough to increase corporate awareness and incentivizing companies regarding CSR activities.

1.2.   Research question

By now it is known that the European Commission is highly involved in CSR. Therefore, the European Commission made new rules on corporate sustainability reporting (*Corporate sustainability reporting* – European Commission, n.d.). The Corporate Sustainability Reporting Directive (CSRD) entered into force on January 5th, 2023. This new mandatory EU law requires large companies and all listed companies, except micro-enterprises, to disclose sustainability information. These organizations are required to publish regular reports on the social and environmental risks they face, along with projections on the effect of their activities that impact the outside world. This new rule helps stakeholders, including investors and consumers, to analyze the sustainability performance of companies.

The EU says CSR is also important for enterprises. CSR may provide important benefits in terms of risk management, cost savings, sustainability of operations and eventually profit (*Corporate sustainability and responsibility* – European Commision, n.d.). The implementation of CSR strategies for large companies is mandatory, but it is also a key task for any modern company that wants to gain or maintain competitive advantages (Volkova & Kuznetsova, 2022). This bachelor thesis will study the impact of Corporate Social Responsibility (CSR) reporting on the Corporate Financial Performance (CFP) of European companies. Given the increasing prominence of CSR with the growing shareholder interest in the past decade (Hong & Shore, 2023), understanding the CSR-CFP relation is crucial for stakeholders. Therefore, the following research question will be answered in this bachelor thesis:

"Does Corporate Social Responsibility reporting increase Corporate Financial Performance of European companies?"

The new EU law will be applied for the first time in the 2024 financial year, for reports published in 2025 (*Corporate sustainability reporting* – European Commission). Given the absence of available data on the CSRD at present, this thesis will focus on companies that already disclose information regarding CSR. As topics such as ethical conduct, climate change, and environmental stewardship are getting more important for stakeholders, sustainability reporting has become very relevant for them. However, a question that may arise is whether sustainability reporting is also beneficial for corporate entities.

1.3.   Relevance

There is a lot of prior research to be found on this topic with diverse conclusions regarding the CSR-CFP relation. Some researchers found significant effects of CSR on CFP, and others did not find any significant effects. Most of the times research was done on this topic for specific countries. So, that could be a reason why their result differs from each other. However, despite numerous empirical studies, no research has been done on the CSR-CFP relationship for European companies using this specific research method and large sample.

Therefore, this research is scientific relevant because it aims to fill the gap in the existing literature by providing new helpful results. This research contributes to the existing knowledge by exploring the impact of CSR on CFP, only for European companies. It will add empirical evidence to this ongoing debate, particularly in the context of recently regulatory changes. This is very relevant because of the new CSRD, making it a timely and significant investigation. This thesis will also investigate CSR-CFP effects across different industries. This will be discussed further in the next chapter.

This research is socially relevant because it aims to highlight the importance of CSR reporting for various stakeholders, such as investors, consumers, and others. On the other hand, this thesis may also be helpful for companies itself, to see whether of whether not investing in CSR activities is beneficial in the end. Therefore, this study's findings may help by making decisions regarding the CSRD compliance and more sustainable

developments. For companies that are not yet obligated under the CSRD, understanding the impact of CSR activities on CFP may be very important. By investing in sustainable practices now, these companies can proactively align with future compliance requirements.

1.4.   Structure

In this section, the structure of the following chapters in this quantitative research will be outlined. Chapter 2 reviews existing literature on the subject to formulate two hypotheses. After the theoretical framework, the methodology of this research will be described in Chapter 3. Subsequently, in Chapter 4, the results of the empirical analysis will be discussed, and answers are given to the hypotheses. Lastly, in Chapter 5, the main research question will be answered, and shortcomings of this research and further recommendations will be discussed. Thereafter, a reference list and the appendices are found.

2. Theoretical framework

2.1. Introduction

2.1.1. CSR concept

Firstly, it is important to define the concept of Corporate Social Responsibility (CSR). Volkova and Kuznetsova (2022) state that traditionally CSR has been understood as a company's involvement to the well-being of the society in general. CSR encompasses the economic, legal, ethical, and philanthropic responsibilities that communities expect from businesses. Additionally, there is an expectation for organizations to maintain profitability to meet the economic objectives of their owners and investors. Similar to the above definition, the European Commission (n.d.) defines CSR as the responsibility of enterprises for their impact on society. It is stated that companies may become socially responsible by incorporating social, environmental, ethical, consumer, and human rights considerations into their business strategy and practices, while also ensuring compliance with legal regulations. Businesses their CSR activities can be measured using the three pillars of ESG. In that way the corporates social responsibility is measured using ESG criteria, which will output an ESG score (Halbritter & Dorfleitner, 2015).

2.1.2. Evolution and adoption of CSR

The interest in the concept of CSR has been present since 1950's, attracting attention from both the academic and industrial sectors (Fatima & Elbanna, 2023). Academics and investors have published more than 2000 empirical studies since then (Friede, Busch & Bassen, 2015). This shows that there is great interest for this specific topic. However, its implementation has not received as much attention (Klettner, Clarke & Boersma, 2014).

After World War II and the 1950's, was the period that can be considered as a time of adaption and changing attitudes towards the concept of CSR (Agudelo, Jóhannsdóttir & Davídsdóttir, 2019). During the 1960's scholars approached CSR as a response to the problems and demands of the modern society. After these periods, in the 1970's, the concept of CSR was influenced by social movements and new regulations. Furthermore, in the 1980's and 1990's, CSR became operationalized and globalized. Lastly, in the

decade of the 2000's, CSR gained widespread recognition, with its implementation becoming more strategic and integral to business operations. Thus, CSR is a well-established concept with a long history, and interest in it has been increasing over time.

Initially, CSR was seen primarily as a voluntary effort by enterprises to contribute to sustainable activities. However, it has now become a mandatory requirement under the CSRD for certain European companies, as part of the European green deal (*Text of the CSRD* – European Parliament, 2022). It is expected that this new legislation will increase comparability of data and harmonize standards. The COVID-19 pandemic has accelerated the process further regarding the increase in users' information needs. Right now, certain companies, subject to the CSRD, will have to report according to European Sustainability Reporting Standards (ESRS) (*Corporate sustainability reporting* – European Commission, n.d.). These were developed in a draft form by EFRAG, which is an independent entity bringing together several stakeholders. The first set of ESRS, which are tailored to EU policies, was published on December 22nd, 2023.

2.1.3. Stakeholder theory

The term 'stakeholder', as we know it nowadays, appeared first in 1963 (Freeman, Harrison, Wicks, Parmar & De Colle, 2010). This word was intended to challenge the idea that management should only be responsive to shareholders. In Freeman's 1984 work, he proposed that managers should adopt a language centered around the 'stakeholder' concept. Over time, Freeman and other scholars have continued to refine and develop this concept.

Therefore, the concept of 'stakeholder theory', according to Freeman in 1984, posits that businesses should prioritize the interest of all stakeholders, not solely shareholders and maximizing wealth. This includes shareholders, but also customers, suppliers, employees, societies, and others with an interest. This framework was developed to address the complexities of modern business environments, where technological innovations have broadened the range of stakeholders (Freeman et al., 2010). The theory has developed to address three interconnected business problems: understanding value generation and exchange, reconciling ethics within capitalism, and refining managerial perspectives for ethical value creation. Freeman (2010) further

develops this theory by exploring ethical implications of corporate activities and the responsibilities that enterprises have towards stakeholders. Business should operate ethically and responsibly, considering the broader impacts of their decisions on stakeholders. This concept goes against the view of Friedman (1970). He argues that the primary corporate responsibility is to increase profits, aligning with the demands of the shareholders.

Regarding the concept of CSR, the stakeholder theory provides a robust justification for why companies should adopt sustainable and ethical practices (Freeman et al., 2010). By aligning CSR initiatives with stakeholder interest, it may lead to improves CFP as stakeholders perceive the company as trustworthy and socially responsible.

2.2. CSR and Corporate Financial Performance

2.2.1. Relation between CSR and CFP

Volkova and Kuznetsova (2022) conducted research about the CSR-CFP relationship. They noted that stakeholders believe that CSR activities are part of 'doing good' and will ultimately lead to 'doing well'. They studied the impact of CSR on CFP using a small sample of Russian and Dutch companies. A CSR reputation index was used as a measure for CSR, alongside the return on equity (ROE) ratio as a measure of CFP. They found a significant positive correlation between CSR and ROE in the full sample of Russian and Dutch companies. However, the strength of CSR-CFP relations was quite weak, because of the variable used to measure CSR and the weak CSR impact on ROE. Besides that, they found that a higher CSR score has a higher impact on the CFP of Russian companies. This can be explained as some Dutch companies need to disclose their non-financial information.

Secondly, Beck, Frost and Jones (2018) have also done research on this specific topic, focusing on companies in Australia, Hong Kong, and the United Kingdom. However, they mentioned that a lot of research done has its limitations due to localized samples, poor control variables and self-constructed CSR measures that may not represent a corporate's actual CSR performance. They instead used the Global Reporting Initiative (GRI) framework to rate the CSR engagement of companies. Their key financial performance variable is ROE, as in the previous research. Analyzing a sample of 116 large

public companies, they discovered a significant positive relation between CSR engagement and CFP, indicating that CSR engagement can reflect actual CSR performance.

It is important to note that both studies were conducted with relatively small samples and were limited to specific countries. Despite this, both studies concluded that there is a significant positive correlation between CSR and CFP. Instead of looking at specific countries, Dziri and Jarboui (2024) did research regarding a sample of 473 European companies over the time period ranging from 2015 to 2021. Again, CFP is measured via ROE, but CSR is not measured via a score. Instead, they looked at the characteristics of the CSR committee, particularly its size, independence, duality, and gender diversity. Results show that CSR practices have a sustained positive and significant impact on the financial performance of companies.

Additionally, Chen and Xie (2022) investigated the effect of ESG disclosure on CFP. Similar to the study by Dziri and Jarboui (2024), this research does not utilize ESG or CSR scores commonly found in existing literature. Instead, it relies on ESG rating of companies as disclosed by rating agencies. Unlike the other studies, they use Tobin's Q as a measure for CFP. Their findings were that ESG disclosure has a favorable effect on CFP for Chinese listed non-financial companies, meaning that companies disclosing ESG-related information tend to have enhanced financial performance.

All the previous mentioned studies use relatively the same approach to research the CSR-CFP relation, with small differences regarding the CSR measure and big differences regarding sample selection. Wang and Sarkis (2017) used a different approach to research this topic. They investigated the mediation effect of CSR outcomes, on the relation between CSR governance and financial performance. Extracting data from the Bloomberg Environmental, Social, and Governance (ESG) database and COMPUSTAT database for financial performance, the study focused on a sample from the top 500 Green companies in the United States for the years 2009 through 2013. To measure CFP, they used ROA as an accounting-based measure and Tobin's Q as a market-based measure. Their findings were that CSR outcomes mediate the relations between CSR governance and financial performance. Important to mention is that the successful

implementation of CSR governance to achieve positive CSR outcomes significantly influences CFP.

In contrast to previous mentioned studies, Awaysheh, Heron, Perry, and Wilson (2019) reexamined the relation between CSR and financial performance by benchmarking firms against industry peers in a given year to identify best-in-class and worst-in-class firms. Best-in-class firms outperform their industry peers in terms of operating performance and have a higher relative market valuation, as indicated by Tobin's Q. However, upon controlling for endogeneity, the significant relation between operating performance and CSR categories disappeared. Besides that, Halbritter and Dorfleitner (2015) also studied the CSR-CFP relation by applying two different approaches, similar to the study of Awaysheh et al. (2019). They also conclude that a higher ESG score does not show a significant correlation with CFP. In addition to this, they said that the influence is strongly dependent on the particular ESG rating provider.

In conclusion, the relationship between CSR and CFP has been a central and contentious topic in the literature, often showing inconclusive results (Wang, Dou & Jua, 2016). However, Wang et al. (2016) did a study on the CSR-CFP relation in a meta-analytic framework. Drawing from 119 effect sizes across 42 studies, they concluded that the overall effect size of the CSR-CFP relationship is positive and significant. Thus, this supports the notion that CSR enhances financial performance.

2.2.2. Hypothesis 1

While many of the previously mentioned studies reported a positive relation between CSR and CFP, not all papers came to the same conclusion. Wang and Sarkis (2017) also mention that prior research has shown mixed results regarding the CSR-CFP relationship. Consequently, the existence of a significant positive relation between CSR and financial performance for European companies is still unclear. Therefore, the first hypothesis is:

"CSR reporting has a significant positive effect on CFP."

2.3. CSR within industries

2.3.1. Variations across industries

According to Freeman (2010), stakeholder theory has been applied across various disciplines such as business ethics, corporate strategy, and finance, providing a framework that integrates ethical considerations into core operations of businesses. Therefore, each industry is different. Beck et al. (2018) mention the importance of industry as a control variable, as it is documented in several studies (McWilliams & Siegel, 2001; Margolis et al., 2007, as described in Beck et al, 2018). Numerous studies consider industry as a control variable because CSR disclosures are expected to differ systematically across different industries. For comparison, 'dirty' industries, such as manufacturing and energy companies are expected the differ from 'clean' industries, such as financial and telecommunication companies (Cho et al., 2012; Cormier & Magnan, 1997; Freedman & Jaggi, 1986; Kolk et al., 2010; Steger et al., 2007, as described in Beck et al., 2018). From their research they conclude that 'dirty' industries have a stronger positive parameter compared to 'cleaner' industries. So, there is a significant variation in the CSR-CFP relation across industries. Feng, Wang and Kreuze (2017) also came to the same conclusion. They found that the correlation between CSR activities and CFP is heterogenous across industries. Awaysheh et al. (2020) also focused on examining within-industry variations in their study, as the research design becomes more precise.

In conclusion, multiple studies have emphasized the importance of including industry as a control variable. Various researchers also identified differences in the CSR-CFP relation across industry, supported by empirical evidence.

2.3.2. Hypothesis 2

The findings of Volkova and Kuznetsova (2022) were that there is a difference regarding the impact of CSR reporting on CFP between Russian and Dutch companies. It may be more interesting to find evidence if there is a significant difference of the effect of CSR on financial performance for different industries. Previous research shows that it could differ. So, the second hypothesis is:

"The effect of CSR reporting on CFP varies across industry."

3. Methodology

3.1. Introduction

In this chapter the methodology of this research will be discussed. Firstly, the research design will be explained that is used to address the research question and to test the hypothesis. Secondly, the process of data collection and sample selection will be explained. Subsequently, the research variables will be explained in the variable selection section. Next, the regression model that will be used to analyze the data will be specified. Finally, the validity and reliability of this research will be discussed.

3.2. Research design

The research will utilize a quantitative approach to determine the impact of CSR reporting on the CFP of European companies. The empirical analysis is based on an Ordinary Least Squares (OLS) regression analysis to determine the quantitative effect of CSR on CFP for European companies, using secondary data. The Stata statistical software was utilized for the data analysis.

3.3. Data & sample

To give an answer to the research question, the LSEG Workspace (formerly known as Eikon & Datastream) database was utilized to extract information regarding CSR, financial, and other data. LSEG Workspace provides comprehensive financial data and more than 720 different ESG metrics for European companies (*ESG* – LSEG, n.d.).

Initially, the data sample involved 10868 companies around the world, containing countries from Europe, North America, and Asia. This sample was further narrowed down by only including European companies with ESG data available. After that, the sample turned out to enclose 657 European companies to be observed. The European countries included in the sample are: Belgium, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

As said earlier, there is already a lot of research done on this topic. Given previous extensive research, this thesis aims to contribute to the research of the CSR-CFP relation for European firms for the years 2012 to 2022. Prior research has showed mixed results

regarding this relationship, often focusing on specific countries or industries employing relatively shorter time spans. To differentiate itself from previous research, this thesis includes more countries into the sample over an extended time span.

3.4. Variable selection

3.4.1. Dependent variable

The dependent variable (DV) in this research will be CFP, measured as Earnings Per Share (EPS) and Return On Equity (ROE).

Dziri & Jarboui (2024) mention that CFP is often measured through various accounting and financial ratios, like Return On Assets (ROA), ROE, Tobin's Q and market value. In this research, ROE will be utilized because it is a widely recognized measure of corporate financial profitability, frequently used by most investors to evaluate business efficiency and performance of company management (Volkova & Kuznetsova, 2022). The ROE is calculated by dividing net income by average shareholder's equity, as stated in the LSEG Workspace database. ROE is an accounting-based measure, which reveals how much profit a company generates with the money shareholders have invested. Instead of using an accounting-based measure, market-based ratios can also be used to measure CFP (Volkova & Kuznetsova, 2022). Wang and Sarkis (2017) are stating that prior studies report mixed relationships between CSR and market-based and accounting-based financial performance. Therefore, this research will also employ a market-based measure, Earnings Per Share (EPS), to investigate the effect of the controversy on various financial performance metrics (Chen & Xie, 2022) and to provide a comprehensive analysis using two models. Market-based measures have been commonly used in previous research, making them a reliable metric for assessing performance (Wang & Sarkis, 2017; Awaysheh et al., 2019). EPS is calculated by dividing net income minus dividends on preferred stock by weighted average number of common shares outstanding, as stated in the LSEG Workspace database.

3.4.2. Independent variable

The main independent variable (IV) in this research will be CSR. CSR reporting of European companies will be measured using a ESG Combined Score, retrieved from the

LSEG Workspace database. This score is a comprehensive measure based on the reported data in the environmental, social and corporate governance pillars (ESG Score), incorporating an overlay of ESG Controversies. The ESG Controversies Score evaluates a company's exposure to ESG controversies and adverse events as reported in global media. The ESG Combined Score is measured on a scale ranging from 0 to 100. A higher ESG score indicates that a company is dedicated to enhancing societal and environmental well-being in collaboration with relevant stakeholders (Dziri & Jarboui, 2024).

3.4.3. Control variables

In the empirical analysis several control variables are used associated with company characteristics, all retrieved from the LSEG Workspace database. So, to mitigate the risk of omitted variable bias, several different company characteristics will be controlled for.

3.4.3.1. Size

Firm size is a critical variable because larger companies typically possess more financial resources and potentially surplus funds available to invest in CSR initiatives (Baumann-Pauly et al., 2013; Davison & Skerratt, 2007, as described in Beck et al., 2018). Chen and Xie (2022) argue that firm size influences a company's market value, hence this study includes control for a company's total assets. Total assets in Euros are retrieved from the database and then converted to the natural logarithm of total assets to scale the variable.

3.4.3.2. Leverage

Leverage, measured as total debt to total capital, is also controlled for in the model. Companies that utilize greater leverage often have higher ROE's due to increased reliance on debt financing, and conversely (Beck et al., 2018). Thus, leverage is anticipated to exhibit a robust correlation with ROE.

3.4.3.3. Operating profit margin

Operating profit margin, calculated by dividing operating profit by revenue, reflects the efficiency of a company's core business in generating profit. Therefore, it is important to incorporate this control in the regression model.

3.4.3.4.   Industry

As discussed in the theoretical framework, industry is an important control variable due to its significant influence on outcomes. Testing the second hypothesis is pivotal in this research. The sample comprises companies categorized into 10 industry groups based on the ICB industry name classification. These groups are: Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Real Estate, Technology, Telecommunications, and Utilities. Dummy variables are generated in the empirical analysis to investigate the second hypothesis focusing on specific industries.

3.4.3.5.   Country

As seen in the research of Volkova and Kuznetsova (2022), there were variations in findings between Russian and Dutch companies, underscoring its importance as a control variable. This variable also captures variations in institutional, legal, and regulatory frameworks that could impact both the extent of CSR reporting and CFP various reporting jurisdictions (Beck et al., 2018).

3.4.3.6.   Auditor

Beck et al. (2018) emphasize the growing significance of assurance. Companies are increasingly involving third parties to provide assurance for their sustainability reports. External assurance is typically performed by an accounting firm, although this is not always the case. In this study, a dummy variable distinguishes between Big 4 audit firms (Deloitte, KPMG, EY & PwC) and other types of assurance providers or cases where no assurance is conducted or known.

3.5.   Regression model

3.5.1. Hypothesis 1

To test the first hypothesis, two regression models are constructed using the aforementioned DV's, IV, and control variables. Two regression models are developed. Model 1 using the accounting-based measure ROE and model 2 using the market-based measure EPS to assess CFP.

The full multiple regression models:

Model 1

$$ROE_{c,t} = \beta_0 + \beta_1 ESG_{c,t} + \beta_2 Size_{c,t} + \beta_3 Leverage_{c,t} + \beta_4 Profit\ Margin_{c,t}$$
$$+ \beta_5 Industry_{c,t} + \beta_6 Country_{c,t} + \beta_7 Auditor_{c,t} + \beta_8 Year_{c,t} + \varepsilon_{c,t}$$

Model 2

$$EPS_{c,t} = \beta_0 + \beta_1 ESG_{c,t} + \beta_2 Size_{c,t} + \beta_3 Leverage_{c,t} + \beta_4 Profit\ Margin_{c,t}$$
$$+ \beta_5 Industry_{c,t} + \beta_6 Country_{c,t} + \beta_7 Auditor_{c,t} + \beta_8 Year_{c,t} + \varepsilon_{c,t}$$

3.5.2. Hypothesis 2

To test the second hypothesis, two slightly different regression models (Model 3 & 4) are constructed employing identical variables as in Model 1 and 2. This study, regarding the second hypothesis, aims to explore whether the relationship between CSR and CFP varies across different industries. Specifically, the focus is on the industrials and financial sectors, with industrials often characterized as a more 'dirty' industry. Dummy variables are used to distinguish between these two sectors. Therefore, a comparative analysis can be done of their respective effects. Additionally, an interaction term between ESG Score and the industry of interest is included to assess potential moderating effects.

The full multiple regression models:

Model 3

$$ROE_{c,t} = \beta_0 + \beta_1 ESG_{c,t} + \beta_2 Size_{c,t} + \beta_3 Leverage_{c,t} + \beta_4 Profit\ Margin_{c,t}$$
$$+ \beta_5 Industry_{c,t} + \beta_6 ESG_{c,t} * Industry_{c,t} + \beta_7 Country_{c,t} + \beta_8 Auditor_{c,t}$$
$$+ \beta_9 Year_{c,t} + \varepsilon_{c,t}$$

Model 4

$$EPS_{c,t} = \beta_0 + \beta_1 ESG_{c,t} + \beta_2 Size_{c,t} + \beta_3 Leverage_{c,t} + \beta_4 Profit\ Margin_{c,t}$$
$$+ \beta_5 Industry_{c,t} + \beta_6 ESG_{c,t} * Industry_{c,t} + \beta_7 Country_{c,t} + \beta_8 Auditor_{c,t}$$
$$+ \beta_9 Year_{c,t} + \varepsilon_{c,t}$$

Table 1. Summary of regression model

Variables	Description
ROE	Return On Equity
EPS	Earnings Per Share in €
β_0	Intercept
ESG	ESG Combined Score
Size	Ln of total assets in €
Leverage	Debt to capital ratio
Profit Margin (OPM)	Operating profit margin
Industry	ICB Industry Name
Country	Country in Europe
Auditor	Assurance company
Year	Year (2012 – 2022)
ε	Error term (residual)
c	Company index
t	Year index (2012 – 2022)

3.6. Validity

External validity refers to how well the results can be applied to other settings, populations, and times. This research is external valid due to its large and diverse sample, using data over an 11-year period, which helps to capture temporal variations and enhances the robustness of the results. However, since this study focuses only on European companies, the generalizability of findings to companies in other regions is limited.

Internal validity refers to how accurately the results of a study reflect the true relationship between the variables being examined, without being influenced by external factors or biases. In general, this research is internal valid due to inclusion of several control variables commonly used in prior research, the application of fixed effects, and the use of robust standard errors. However, potential threats to internal validity could include omitted variable bias and reverse causality, which could lead to a misrepresentation of the real-world dynamics.

4. Results

4.1. Introduction

This chapter presents the results of the empirical analysis. Firstly, the descriptive statistics will be addressed, followed by an examination of the Pearson correlation matrix. Finally, the regression results for both hypotheses are detailed, accompanied by a discussion answering the hypotheses.

4.2. Descriptive statistics

Table 2 presents the descriptive statistics for the variable utilized in this study. Initially, sample consisted of 657 companies with 7,227 observations. Due to missing values in the dataset, a final sample was made that included complete data for all variables. This resulted in 7,017 observations across approximately 638 European companies, which is shown in column 1.

In column 2, the means of the variables are presented. The mean of the two dependent variables ROE and EPS are 12.87% and €13.82 per share, respectively. Both variables exhibit a wide range, as seen by their minimum and maximum values in column 4 and 5. This probably indicates the presence of outliers within the sample. ROE's median is close to its mean value, whereas EPS exhibits a larger disparity between its mean and median values. The main independent variable, ESG Score, has a mean of 57.36 and median of 58.69 on a scale from 0 to 100, with values ranging from 1.53 and 95.16.

The control variable Size represents the natural logarithm of total assets in Euros, with a mean value of 15.94 and median of 15.74, ranging from 7.32 to 21.78. Scaling the total assets using the natural logarithm ensures a meaningful range for Size. Leverage, measured as the total debt to total capital percentage, has a mean and median of 39.61% and 38.86%, respectively, with values ranging from 0 to 128.92. Operating profit margin shows a mean value -7.80%, influenced by a wide range and significant outlier at the minimum value. In contrast, the median OPM is 10.66%, substantially different from its mean.

Industry plays an important role in the second hypothesis. There are 11 distinct industries involved in the sample, with notable concentrations in consumer discretionary

(15.9%), financials (18.2%), and industrials (21.3%) sectors (see Appendix A). The industries of primary interest are financials and industrials. There are also 21 European companies included in the sample, with highest concentration in France (11.4%), Germany (10.1%), and the United Kingdom (29.8%) (see Appendix B).

Finally, the last control variable, excluding year, is Auditor. This variable shows the highest concentrations among the Big 4 assurance companies (see Appendix C). With 12 variable levels, a dummy variable is created to distinct between companies audited by a Big 4 firm and those that are not. The statistics indicates that 66.6% of the companies are audited by a Big 4 firm.

Table 2. Descriptive statistics

Variables	N	Mean	Median	SD	Min	Max
ROE	7,017	12.87	11.45	65.58	-1,444.47	2,409.86
EPS	7,017	13.82	0.78	998.78	-16,829.83	43,954.81
ESG	7,017	57.36	58.69	17.74	1.53	95.16
Size	7,017	15.94	15.74	1.85	7.32	21.78
Leverage	7,017	39.61	38.86	23.20	0	128.92
OPM	7,017	-7.80	10.66	558.29	-22,306.25	2,896.60
Industry	7,017	5.28	5	2.80	1	11
Country	7,017	14.12	16	6.59	1	21
Auditor	7,017	5.71	5	3.77	1	12
Big 4	7,017	0.67	1	0.47	0	1
Year	7,017	2,017	2,017	3.16	2,012	2,022

Note: This table reports the summary statistics for the variables used in the regression analysis. Column 1 presents the number of observations (N) for each variable. Column 3 shows the mean values, providing an average measure for each variable. Colum 4 and 5 presents the minimum and maximum observed values, indicating the range of data for each variable. The variables are defined in Table 1.

4.3. Correlations

To assess if the sample encounters any multi-collinearity issues, the Pearson correlation coefficients for the dependent and independent variables were computed, as presented in Table 3. According to Dziri and Jarboui (2014), a general guideline is that a correlation of 0.70 or higher indicates multi-collinearity among variables.

The correlation matrix shows that there are generally weak correlations among the variables, with none exceeding the rule of thumb of 0.70, indicating no multi-collinearity problems. The relationships between the two dependent (ROE and EPS) and main

independent variable (ESG) are weak, with no significant correlations between ESG and ROE or between ESG and EPS. This implies that their practical impact on each other might be limited. Regarding the other control variables, there are numerous statistically significant correlations. Although these correlations are weak on average, they can still indicate meaningful relationships in the regression analysis. However, other factors are likely to contribute more significantly to variations in ROE and EPS.

Table 3. Pearson correlation matrix

Variables	ROE	EPS	ESG	Size	Leverage
ROE	1.00				
EPS	0.0241**	1.00			
ESG	0.0092	-0.0038	1.00		
Size	-0.0522***	-0.0196	0.2909***	1.00	
Leverage	-0.0847***	-0.0038	0.1333***	0.4431***	1.00
Profit Marg.	0.0429***	0.0023	0.1012***	0.0951***	0.0540***
Industry	0.0304**	-0.0070	0.0075	0.0184	0.1209***
Country	0.0555***	0.0016	-0.0701***	-0.1879***	-0.0701***
Auditor	-0.0195	-0.0074	-0.0342***	-0.0394***	-0.0467***
Year	-0.0163	-0.0172	0.2690***	0.0781***	0.0720***
Variables	**Profit Marg.**	**Industry**	**Country**	**Auditor**	**Year**
Profit Marg.	1.00				
Industry	0.0341***	1.00			
Country	-0.0125	-0.0034	1.00		
Auditor	0.0079	0.0301**	0.0082	1.00	
Year	0.0110	0.0042	-0.0007	0.0022	1.00

Note: This table provides the Pearson correlation matrix for the variables of interest analyzed in the empirical study. Significance levels are indicated by asterisks (* p<0.1 ** p<0.05 *** p<0.01). The variables are defined in Table 1.

4.4. CSR-CFP relationship

The results from Table 4 present the findings of the first and second regression models for hypothesis 1, which examines that CSR reporting has a significant positive effect on CFP. The table provides the estimated coefficients of the main IV and the four main control variables with fixed effects for industry, country, and year included.

For ROE (column 1), ESG Score has a statistically significant coefficient (0.117, p<0.01), while Leverage (-0.222, p<0.01) and Operating Profit Margin (0.005, p<0.01) also show significant coefficients. The presence of a Big 4 auditor has a substantial positive

correlation with ROE (3.692, p<0.01). Industry fixed effects are significant, which indicates that there are systematic differences across industries that affect the DV. Conversely, country and year fixed effects are not significant, which implies that variations between countries and years do not have a substantially impact on the DV. Since the constant is not statistically significant, it indicates that other variables in the model are more influential in determining ROE. Furthermore, the F-statistic (6.83), significant at a 1% level, confirms that the overall model fit is significant. However, the R-squared value of 0.030 suggests that the model explains only 3.0% of the variation in ROE. This indicates the presence of omitted variable bias and weak correlations, as seen in the correlation matrix. Another factor contributing to the low R-squared could be the extreme outliers, as observed in Table 2. Additionally, it was noted before conducting the regression analysis that not all variables exhibited a normal distribution. Nevertheless, this does not imply that the model is inadequate for use.

The results from the second model with EPS as the DV indicate that only the variable Big 4 auditor is statistically significant (28.790, p<0.1). This implies that none of the other IV's included in the model have a significant effect on EPS. Additionally, the F-statistic (0.63), which is not significant, indicates that the overall model fit is not statistically significant. Moreover, the low R-squared value of 0.013 suggests that model 2 explains only 1.3% of the variation in EPS. Hence, this model is inadequate for explaining variations in EPS.

Table 4. Regression results

Variables	(1) ROE	(2) EPS
ESG	0.117***	0.511
	(0.037)	(0.494)
Size	-0.424	-13.402
	(1.115)	(12.203)
Leverage	-0.222***	0.222
	(0.070)	(0.003)
Profit Margin	0.005***	0.004
	(0.001)	(0.003)
Big 4 auditor	3.692***	28.790*
	(1.390)	(17.318)
Industry Fixed Effect	Yes	Yes
Country Fixed Effect	Yes	Yes
Year Fixed Effect	Yes	Yes
Constant	8.084	145.239
	(15.312)	(159.389)
Observations	7,017	7,017
F	6.83***	0.63
R-squared	0.030	0.013

Note: The results in Table 4 were obtained using a linear OLS regression. This table presents the findings for hypothesis 1, using ROE and EPS as dependent variables. Fixed effects for Industry, Country, and Year are included. Column 1 and 2 display the estimated coefficients of the independent variables. Their robust standard errors are presented in parentheses below. Significance levels are indicated by asterisks (* $p<0.1$ ** $p<0.05$ *** $p<0.01$). The variables are defined in Table 1.

In conclusion, based on model 1, CSR reporting shows a significant positive correlation with ROE. However, we cannot ensure it has a significant positive effect due to the identified biases. Conversely, based on model 2, we do not reach the same conclusion primarily because the model is not considered significant and robust overall.

4.5. CSR and CFP across industries

To test the second hypothesis regarding the variation in CSR-CFP effects across industries, models 3 and 4 are used, which are slightly different from models 1 and 2, as explained in the methodology section. Table 5 presents the results for each model for the two industries of interest. The main objective was to assess whether the effect of CSR reporting on CFP differs between the industrials and financials sectors. The table provides the estimated coefficients of the main IV and the four key control variables with

fixed effects for industry, country, and year included. Additionally, the models incorporate an industry dummy variable, which also interacted with the ESG Score to examine these sector-specific effects.

As with model 2 in Table 4, the results for model 4 (column 2 and 4) in this table are considered as a non-significant and non-robust. The interpretation and arguments mirror those for model 2, as discussed in Chapter 4.4. Therefore, model 4 will not be used to compare the relationship between CSR and CFP across the industrials and financials sector.

Nevertheless, model 3 may be deemed suitable for comparing these industries. The F-statistics (5.79 & 6.75), for industrials and financials respectively, confirm that the overall model fit is adequate. The R-squared value of 0.022 in model 3 for both industries indicates that the model explains only 2.2% of the variation in ROE. The same arguments hold as in Chapter 4.4. to clarify this low R-squared value.

In column 1 and 3, the estimated coefficients for ESG Score are statistically significant for both the industrials (0.084, $p<0.05$) and financials (0.163, $p<0.01$) sectors. Notably, the estimated coefficient for the financials sector is nearly double that of the industrials sector, meaning that a higher ESG Score is associated with higher ROE in financials compared to industrials sectors. Consistent with Chapter 4.4., all other variables in both industries coefficients are significant, except for Size and the fixed effects of country and year.

The industry dummy variable is included to account for systematic variances between the industrials and financials sectors that potentially influence ROE. The coefficient for the industrials sector (-12.341) and for the financials sector (11.545) are both statistically significant on a 5% level. This suggests, without considering other coefficients, that ROE tends to be lower for the industrials sector compared to the financials sector.

The interaction term between industry and ESG Score allows us to examine whether the relationship between ESG Score and ROE differs between the industrials and financials sectors. The positive significant coefficient for the industrials sector (0.188, $p<0.05$) indicates that for every unit increase in ESG Score, ROE is expected to increase

by 0.188. Conversely, the negative significant coefficient for the financials sector (-0.202, p<0.01) suggests that for every unit increase in ESG Score, ROE is expected to decrease by 0.202.

Table 5. Regression results for companies within the industrials and financials sectors

Variables	(3) Industrials ROE	(4) Industrials EPS	(3) Financials ROE	(4) Financials EPS
ESG	0.084**	0.244	0.163***	0.141
	(0.040)	(0.341)	(0.038)	(0.304)
Size	-0.619	-11.958	-0.593	-10.120
	(0.991)	(10.666)	(1.155)	(10.066)
Leverage	-0.199***	0.237	-0.120***	0.237
	(0.069)	(0.732)	(0.068)	(0.728)
Profit Margin	0.005***	0.006	0.005***	0.005
	(0.002)	(0.004)	(0.001)	(0.003)
Big 4 auditor	3.563**	34.341*	3.481**	35.127*
	(1.470)	(20.433)	(1.580)	(20.450)
Industry	-12.341**	-71.709	11.545***	-57.077*
	(5.484)	(54.251)	(3.387)	(32.512)
Industry*ESG	0.188**	0.999	-0.202***	0.859
	(0.078)	(0.715)	(0.074)	(0.830)
Country Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Constant	20.449	185.028	14.925	157.458
	(15.525)	(178.615)	(17.204)	(157.003)
Observations	7,017	7,017	7,017	7,017
F	5.79***	0.78	6.75***	0.78
R-squared	0.022	0.011	0.022	0.011

Note: The results in Table 5 were obtained using a linear OLS regression. This table presents the findings for hypothesis 2, using ROE and EPS as dependent variables. Fixed effects for Country and Year are included. Column 1 and 2 display the results for the industrials sector, while column 3 and 4 show the results for the financials sector. Each industry is represented by a dummy variable. Additionally, an interaction term between ESG and the industry dummy variable is included. Columns 1, 2, 3, and 4 present the estimated coefficients of the independent variables. Their robust standard errors are presented in parentheses below. Significance levels are indicated by asterisks (* p<0.1 ** p<0.05 *** p<0.01). The variables are defined in Table 1.

In conclusion, model 3 reveals statistically significant variation in the effect of CSR reporting on CFP, measured via ROE, between the industrials and financials sectors. This highlights the importance of considering industry-specific context when studying the CSR-CFP relationship. However, based on model 4, no definitive conclusions can be drawn.

5. Conclusion & Discussion

5.1. Conclusion

In summary, this research provided helpful insights into the relationship between CSR reporting and CFP of European companies using an OLS regression analysis.

First of all, the first hypothesis aimed to test whether CSR reporting has a significant positive effect on CFP. The results from model 2, which used EPS as the DV, were not reliable for even identifying a correlation. However, the results from model 1 revealed a statistically significant positive correlation between CSR reporting, as measured by ESG Score, and CFP, as measured by ROE. While this does not establish causation, it does suggest a small positive correlation.

Secondly, the second hypothesis was stated to test whether the effect of CSR reporting on CFP varies across industries. Similar to model 2, the results from model 4, using EPS as the DV, were unreliable to answer the second hypothesis. Nevertheless, it becomes evident through model 3, that the effect of CSR reporting on CFP, measured by ROE, differs statistically significant between the industrials and financials sectors. This emphasizes the importance of industry-specific research on this topic.

Finally, the answer to the main research question,

"Does Corporate Social Responsibility reporting increase Corporate Financial Performance of European Companies?"

is yes, CSR reporting does appear to increase CFP for European companies. However, the results do not establish a causal relationship, but there is definitely a positive correlation between CSR reporting and CFP for European companies.

5.2. Discussion

This research has its shortcomings. Firstly, not all the data were normally distributed, and some variables had extreme outliers. This may have affected the robustness of the regression models. Secondly, the low R-squared values indicate that a substantial portion of the variance in CFP remains unexplained due to omitted variable bias. While a positive correlation is evident, causality cannot be inferred. Furthermore,

models 2 and 4 were useless models because they could not be interpreted as they were not significant. Finally, it was not clear if there is any reversed causality between CSR and CFP. CFP could also affect CSR in theory.

To build on the current research, future studies could explore the causal CSR-CFP relationship using more comprehensive control variables and advanced econometric methods. By solving the limitations of this study, future research may provide a more robust understanding of the relationship between CSR reporting and CFP for European companies.

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Appendices

Appendix A.

Table 6. Distribution of different industries included in the sample

Industry	Frequency	Percent
Basic Materials	602	8.58
Consumer Discretionary	1,116	15.90
Consumer Staples	504	7.18
Energy	345	4.92
Financials	1,280	18.24
Health Care	409	5.83
Industrials	1,495	21.31
Real Estate	372	5.30
Technology	253	3.61
Telecommunications	312	4.45
Utilities	329	4.69
Total	7,017	100.00

Table 7. Distribution of different countries included in the sample

Country	Frequency	Percent
Austria	143	2.04
Belgium	219	3.12
Cyprus	11	0.16
Czech Republic	22	0.31
Denmark	263	3.75
Finland	252	3.59
France	801	11.42
Germany	708	10.09
Greece	108	1.54
Hungary	33	0.47
Ireland	121	1.72
Italy	340	4.85
Luxembourg	54	0.77
Netherlands	237	3.38
Norway	185	2.64
Poland	153	2.18
Portugal	57	0.81
Spain	267	3.81
Sweden	423	6.03
Switzerland	530	7.55
United Kingdom	2,090	29.78
Total	7,017	100.00

Appendix C.

Table 8. Distribution of different auditors included in the sample

Auditor	Frequency	Percent
BDO International	107	1.52
Deloitte Touche Tohmatsu	1,401	19.97
Ernst & Young	1,590	22.66
Grant Thornton	73	1.04
KPMG	1,681	23.96
Mazars	128	1.82
Moore Stephens International	9	0.13
NA	99	1.41
Not affiliated	32	0.46
Not disclosed	495	7.05
Polaris International	8	0.11
PriceWaterhouseCoopers	1,394	19.87
Total	7,017	100.00