ERASMUS UNIVERSITY ROTTERDAM

Erasmus School of Economics

Bachelor Thesis

[International Bachelor of Economics and Business Economics]

Empirical Analysis on The Relationship Between Corporate Social Responsibility and Financial Performance of Global Companies.

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ABSTRACT

The objective of this study is to investigate the relationship between Corporate Social Responsibility (CSR) and global company's financial performance. The CSR as the independent variable of this research was measured by utilizing the three pillars of ESG scores which are Environmental score, Social score, and Governance score. The company's financial performance as the dependent variable is measures by utilizing accounting indicators such as ROA, ROE, and NPM. Based on the sample of 960 observations and 192 global companies from 2018-2022, this study utilizes the panel regression analysis model to determine the relationship between CSR and company's financial performance. The results exhibit that in global companies, the implementation of CSR does not have significant influence towards global companies' financial performance. The study conveys the urgency of universally agreed CSR measurement and regulation in order to ensure that companies across the globe are on the same page with regard to the implementation of Corporate Social Responsibility.

Keywords: CSR, ESG, ROA, ROE, NPM, Global, Financial performance.

Contents

Chapter 1: Introduction

1.1 Background Information

In today's business climate, companies are getting higher demand from consumers, investors, and suppliers to comply with current sustainability issues, such as environmental, social, and managerial issues (Cherkasova & Nenuzhenko, 2022). Currently, there is a common understanding that focusing only the financial performance aspect of the company does not provide a long-term sustainability and the continuity of the company. Hence, it is now coming to the business's world attention that to meet the stakeholders demand on sustainability issues and concerns, companies' engagement on Corporate Social Responsibility (CSR) initiatives might be the solution to show the stakeholders and investors on how companies taking the sustainability issues seriously. According to the Osagie et al. (2014) CSR can be defined as business approach to sustainable development in which companies voluntarily include environmental, social, and economic challenges in their business strategies and in their interactions with the stakeholders. The objectives of companies that implement CSR initiatives in their business strategy and use company's resources to implement the CSR initiative is to improve their social and environmental impacts as they improve the society around them (Coelho et al., 2023).

In today's business condition, CSR has become a global business practice, and a lot of companies already spent a generous portion of their budget to CSR initiatives (Yuan et al., 2018). There are some doubts that the huge budget that company spent on their CSR activities might hurt or hinder the financial performance of the company. A study by Chen and Xie (2022) stated that based on shareholder theory, company must only fulfil their shareholder demand which is to maximize profit. On the other hand, based on stakeholder theory, to survive in the long-term, companies must meet the demand of its stakeholders. In which right now, stakeholders biggest demand is that companies to become more aware of the sustainability issues around the place where the company's business operations taken place. In addition, as there is an increase in the global commitment towards more sustainable finance, the government around the world has create regulation that obliged companies to involve in CSR activities and report their non-financial information to the public. For example, The European Union has created several regulations that obliged companies to pay more attention to sustainable issues, such as Non-Financial Reporting Directives (NFRD) in which companies are obliged to report their non-financial information starting from 2018, Corporate Sustainability Reporting Directives (CSRD) which replaced the NFRD with broader scope and

content regarding sustainability report, and Corporate Sustainability Due Diligence Directives (CSDDD) which requires company to be able to identify and prevent risks regarding human rights issues.

Currently, CSR has become a global business practice and there are a lot of companies that spend a generous amount of their budget to produce a proper CSR activity for their community. The generous amount of budget that is spent by companies on CSR activities sparks a debate on whether CSR is beneficial or not for the company's financial performance. Because some say that companies must only focus on maximizing profit, but there are others that say that companies must fulfil the stakeholder's demand on sustainability issues in order to maintain their business existence. Moreover, the fact that governments around the globe has obliged the implementation of CSR makes it more urgent for companies to know whether this obligation is financially beneficial for the company or not. Given by all these factors, research to investigate the correlation between CSR and company's financial performance is important to be conducted to give clarity regarding how CSR may influence company financial performance.

1.2 Research Questions and Motivation

The main motivation for this research came from three problems, the first problem is to find the proper indicator to measure the CSR performance of a company. Because, until now there is no universally accepted indicator to measure the CSR performance of company. Based on the study by Chen and Xie (2022) ESG is an extension of Corporate Social Responsibility (CSR) and Socially Responsible Investment (SRI). Therefore, this research will utilize ESG scores as the indicator of CSR. The second problem is that the previous studies only investigate the relationship between CSR and financial performance regionally. Landi and Sciarelli (2019b) focused on the CSR performance Italian companies, Velte (2017) focused on the implementation of CSR German companies, and Chen and Xie (2022) focused on Chinese market. The most important motivation of this research is that there are still different opinions on whether CSR activities is beneficial for company financially or CSR activities actually hurt the company financially due to the excess budget spend on CSR activities. Therefore, based on those three problems, this bachelor thesis aims to provide the global landscape on the relationship between CSR (utilizing ESG scores as the indicator) and company's financial performance. Therefore, the research question formulated for this bachelor thesis is as follows:

Do the three pillars of ESG scores have substantial influence toward company's financial performance?

In today's business condition, companies are not only focused to achieve the desirable profit. But they also have the responsibility to contribute towards the environment and social aspect in which they conduct their business. ESG scores ensure that a company will act responsibly towards the environment, social, and governance aspect. Companies with better disclosure of ESG scores attract more investors which results in better financial performance (Chen & Xie, 2022). Companies with low ESG scores might face the possibility of losing investors and losing the stakeholders' trust. Therefore, research on how important ESG scores as the extension of CSR towards company financial performance is important to give clearer ideas for companies about the importance of ESG scores. To be more precise, this bachelor thesis will take a deeper look at the ESG scores by analysing on how the scores of the three pillars of ESG scores which are Environmental, Social, and Governance scores influenced the financial performance of company. By analysing the scores of the three pillars of ESG score it will allow companies to understand which kind of CSR activities that will bring the most contribution to the company's financial performance and which kind of CSR activities need to be improved in terms of the financial benefit it brings to the company.

1.3 Research Outline

The remaining part of this research will proceed as follows. Chapter 2 would be the literature review in which it consists of the summarized overview of the general background of Corporate Social Responsibility (CSR) and the general summary of the relationship between CSR and ESG with company's financial performance. The chapter 3 of this thesis presents the hypothesis of this research which coming from the studies on past literature. The chapter 4 of this thesis consist of the explanation on the methodology, including the research design, variables, and models to test the hypothesis. This research utilizes the linear regression analysis methodology to answer the hypothesis. Chapter 5 of this thesis presents the summary of the linear regression analysis and the discussion of the result. Chapter 6 will be the last part of the research, which is the conclusion of the findings, which includes the research implications, research limitations, and suggestions for future research.

Chapter 2: Literature Review

2.1 Institutional Background

In today's business climate, companies are getting higher demand from consumers, investors, and suppliers to comply with current sustainability issues, such as environmental, social, and managerial issues (Cherkasova & Nenuzhenko, 2022). Hence, to meet the stakeholders demand, companies engage in Corporate Social Responsibility (CSR) initiatives. According to the Osagie et al. (2014) CSR can be defined as business approach to sustainable development in which companies voluntarily include environmental, social, and economic challenges in their business strategies and in their interactions with the stakeholders .Corporate Social Responsibility (CSR) initiatives requires companies not only to pursue their main objectives to maximize profits but also to to contribute to the well-being of the society through voluntary efforts (Barauskaite & Štreimikienė, 2020).

Due to the global commitment to a more sustainable financial system, Corporate Social Responsibility has become an important and relevant component of business in the modern era (Barauskaite & Štreimikienė, 2020). As a way for companies to adapt to globalization and changing values in society, the implementation of CSR is proven to create a competitive advantage of the company, improve reputation, reduce employee turnover, increase customer satisfaction, and increase investor confidence toward the company that will bring economic benefit for the company that might influence the financial performance of the company (Barauskaite & Štreimikienė, 2020).

Since the implementation of Corporate Social Responsibility has become a global business practice, regulations that regulate the implementation of CSR has become a major discussion topic. Alwasmi and Alderbas (2021) stated that in the creation of CSR regulations, policymakers should consider multiple variables such as social and economic characteristics of the country and must not just directly adopt another country's model of CSR. In the case of creating regulations for CSR, the European Union has several regulations towards CSR that are made based on the social and economic characteristics of the European Union countries.

Improving data availability and improving disclosure of non-financial information of companies and financial institutions is the important step to bring financial and capital flows to sustainable investment (Hahnkamper-Vandenbulcke, 2021). Improving data availability and improving disclosure of non-financial information will ease the process to measure, monitor, and manage companies' performance and their impact on society (Hahnkamper-Vandenbulcke, 2021). The adoption of Directive 2014/95/EU on the disclosure of non-financial and diversity

information (known as Non-Financial Reporting Directive-NFRD) provides the European Union with clearer guidelines towards a more transparent and accountable society on social and environmental issues (Hahnkamper-Vandenbulcke, 2021). The Non-Financial Reporting Directive is an important instrument for the European Union to advance the EU's agenda for Corporate Social Responsibility (Hahnkamper-Vandenbulcke, 2021).

The Non-financial Reporting Directives (NFRD) was created in order to increase the transparency of the social and environmental information in all companies' sectors (Hahnkamper-Vandenbulcke, 2021). In 2017, according to the article 2 of the NFRD, European Commission published a non-binding guideline for companies on how to report non-financial information and the companies had to report the non-financial information for the first time in 2018 (for the 2017 financial year) (Hahnkamper-Vandenbulcke, 2021). Under the NFRD regulations, large-listed companies, banks, and insurance companies that employed more than 500 employees are obliged to publish reports on the company's policies regarding social responsibility and treatment of employees (Hahnkamper-Vandenbulcke, 2021). On December 11, 2019, The European Commission (EC) announced a plan that there will be a review on the NFRD to strengthen the foundations for sustainable investment both in terms of content and scope (Hahnkamper-Vandenbulcke, 2021). Later, the NFRD was replaced by the Corporate Sustainability Reporting Directives (CSRD).

The Corporate Sustainability Reporting Directives (CSRD) was adopted on January 5, 2023, to replace the NFRD (Baks, 2024). The CSRD given a larger and more comprehensive content on the sustainability reporting obligations and larger scope of companies that are obliged to prepare a sustainability report compared to the NFRD which was introduced in 2014 (Baks, 2024). The CSRD regulations obliged all companies that have securities listed on a regulated market and large companies whether listed or not to publish a sustainability report (Baks, 2024). One of the main objectives of the CSRD is to ensure that ESG reporting and financial reporting become equally important (KPMG International, 2023). Based on CSRD requirement, the sustainability report that is produced and published by the companies must include a clear and proper identified section of the management report and contain the important information necessary to understand how the companies working on sustainability matters and the information necessary to understand how the sustainability matters affecting the company's development, performance, and position (Baks, 2024). Lastly, CSRD also required a disclosure of information that is related to how the company identifies adverse impact according to the due diligence set in the CSRD (European Commission, 2022).

The European Commission published a proposal for the Corporate Sustainability Due Diligence Directive (CSDDD) on 23 February 2022 (Baks, 2024). According to OECD Guidelines for Multinational Enterprises (2023), due diligence is the process in which companies can identify and prevent risks related to human rights, labor rights, and the environment as a part of business decision-making and risk management systems. The objective of the CSDDD regulation is to ensure sustainable and responsible company's behavior in the company's business operations and across the company's global value chain (European Commission, 2022). The CSDDD regulations require companies to align their certain processes throughout the value chain with the ESG criteria (Baks, 2024). The CSDDD also requires qualified companies to produce and execute a climate action plan and are required to include the sustainability matters in the company's strategy (Baks, 2024). Lastly, the CSDDD will ensure that companies within the scope of the regulation will actively participate to identify and address adverse human rights and environmental impacts of their business operations inside and outside of Europe (European Commission, 2022).

2.2 CSR & ESG relationship with Company's financial performance

The research on Corporate Social Responsibility influence on a company's financial performance has been actively researched lately (Cherkasova & Nenuzhenko, 2022). In today's business climate, CSR has become a common business practice, and a lot of companies already spend a generous portion of their budget on CSR initiatives (Yuan et al., 2018). Because of additional costs required to implement CSR, some economists argue that CSR initiatives might positively or negatively influence the company's financial performance (Barauskaite & Štreimikienė, 2020). Finding the relationship between CSR and financial performance is important, however there are no universally accepted indicators on how to properly measure the CSR performance of a company (Barauskaite & Štreimikienė, 2020).

In the case of finding the indicators to measure a company's CSR performance, according to Chen and Xie (2022) Environmental, Social, and Governance (ESG) is an extension of Corporate Social Responsibility (CSR) and Socially Responsible Investment (SRI). In current business conditions, investors pay significant attention to the Environmental, Social, and Governance (ESG) aspect before conducting an investment (Baks, 2024). Approximately three quarters of CEOs surveyed by KPMG in 2022 agreed that proper ESG disclosure improves company's financial performance by 38% compared to 2021 financial performance (KPMG International, 2023). According to Poole and Sullivan (2021) investors now understand that companies with proper and transparent ESG programs are more likely to deliver better returns

for their investment. Thus, ESG is now considered to be important within investment analysis, decisions, and engagement activity (Poole & Sullivan, 2021). In this case, utilizing ESG scores as the indicator of Company's CSR performance is sufficient because the three pillars of ESG (Environmental, Social, & Governance) perfectly capture the CSR performance of a company and that it is proven that ESG disclosure also have influence on the company's financial performance.

In regard to the importance of ESG disclosure towards a company's financial performance. Companies must understand how each 3 pillars of ESG (Environmental, Social, and Governance) influence the financial performance of a company. Xie et al. (2018) stated that the governance pillar has the most significant influence on the company's financial performance, followed by social and environmental information disclosure. Governance activities that are reducing agency cost and maximizing shareholder value are positively correlated with company's financial performance. Environmental activities that are cost-cutting are positively related with a company's financial performance. Lastly, in terms of social activities, companies that are actively trying to reduce discrimination and implement equal training programs tend to perform better financially compared to their competitors (Xie et al., 2018). Overall, the implementation of the three pillars of ESG must be executed effectively in order to receive the benefit for both CSR performance and financial performance of the company (Xie et al., 2018).

According to a study by Cherkasova and Nenuzhenko (2022), the implementation of ESG is more beneficial for international companies rather than domestic companies. In terms of profitability, domestic companies produce lower profitability based on the Return on Asset (ROA) and Return on Equity (ROE) compared to the international companies (Cherkasova & Nenuzhenko, 2022). Cherkasova and Nenuzhenko (2022) stated that investing in ESG projects can boost both domestic and international companies' financial performance. But international companies have a better chance to receive better benefits of investing in ESG projects. Cherkasova and Nenuzhenko (2022) recommend that investors who have an interest to invest in a company that actively implements the ESG to invest their money in international companies because international companies have a higher possibility of gaining the positive influence of implementing ESG on their financial performance.

Corporate Social Responsibility as measured with ESG performance indicators has a direct positive impact on a company's financial performance due to the company paying better attention to its primary stakeholders such as employees, customers, and the community (Coelho et al., 2023). Integrating Corporate Social Responsibility (CSR) and ESG metrics into corporate

strategy has proven to be beneficial for a company's financial performance because of the positive contribution the companies have given to a more sustainable world and well-being of the people and the planet (Coelho et al., 2023). Coelho et al. (2023) stated that CSR has a direct impact on the company's financial performance and this impact becomes more significant as the company's environmental, social, and governance (ESG) scores improve. Lastly, CSR may lead to a better financial performance if the information regarding the implementation of CSR is shared transparently and in accordance with the existing regulations (Coelho et al., 2023).

On the other hand, a finding by Barauskaite and Štreimikienė (2020) stated that some economist perceived CSR initiatives to be a burden on the company's competitive aspect. The additional cost that is required to implement CSR initiatives can negatively affect the company's product prices, employee wages, and corporate profits & dividends. Barauskaite and Štreimikienė (2020) stated that it might be better for companies to reduce the cost on CSR and focus more on short-term profit. Barauskaite and Štreimikienė (2020) also found that there is a neutral relationship between CSR and financial performance because of complex relationships between financial institutions to society.

Chapter 3: Theory and Hypothesis

Corporate Social Responsibility (CSR) emphasizes that companies should not only strive to achieve maximization of profit, but also contribute to the welfare of its surroundings. One of the indicators to measure the CSR performance of a company is the ESG score. Implementing ESG score might require additional cost for the company to hire and train employees to implement this indicator. However, at the same time ESG score might contribute to the good reputation of the company which may attract more investors and customers to the company. In which, it may improve the company's financial performance in the long-term.

As Corporate Social Responsibility has become a common practice by a lot of companies and that there are regulations that obligate companies to engage in social responsibility activities, the first assumption would be that Corporate Social Responsibility (CSR) initiatives will provide a financial benefit for companies. As mentioned by Barauskaite & Štreimikienė (2020) that CSR might attract new investors and other stakeholders which can positively influence the profitability of the company. Moreover, Coelho et al. (2023) stated that the integration of CSR and ESG metrics has proven to bring a financial benefit for the company and the financial benefit becomes more apparent if the information regarding the CSR implementation is shared transparently and in accordance with the existing regulations on CSR.

However, there is a different view that the additional cost of the implementation of CSR that must be incurred by the companies might hurt the financial performance of the company which may impact the company's product prices, employee's salary, and overall profitability (Barauskaite & Štreimikienė, 2020). There is also a view that the company must work only to the best interest of its shareholders, which is to produce as many profits as possible. Thus, in this case the assumption would be that a CSR initiative might not have a positive relationship with the company's financial performance due to additional cost required to implement CSR. Utilizing the ESG scores as the indicator of the company's CSR performance as stated by Chen and Xie (2022), the hypothesis of this bachelor thesis research is as follows:

H1: The Environmental, Social, & Governance pillars of ESG scores have the same equal correlation to company's financial performance.

Chapter 4: Methodology

4.1 Research Design

In order to perform the empirical analysis for this research, this thesis utilizes the accounting-based measurement to analyse the company's financial performance, which are the Return on Asset (ROA), Return on Equity (ROE), and Net Profit Margin (NPM). Meanwhile, in order to measure the CSR performance of company, this thesis will utilize the ESG scores. Specifically, this thesis will utilize the three pillars of ESG scores which are Environmental scores, Social scores, and Governance scores to measure the relationship between each ESG score pillars to company's financial performance.

The data analysis process of this bachelor thesis will utilize the firm-year fixed effect and industry-year fixed effect data panel regression analysis method using STATAMP 17 to analyse how each three pillars of ESG scores may influence the company's financial performance. First step is to identify the sample of this research. In this thesis the dependent variable would be the ROA, ROE, and NPM and three pillars of ESG scores as the independent variable. This research will utilize a properly balanced panel data from 2018-2022, there are total of 960 observations accounting for 192 global companies' data for over 5 years. 2018 was chosen as the starting period for this research because of the NFRD regulations that obliged companies to publish their non-financial information to the public starting from 2018 as

mentioned in the literature review part above. The main goal of this research is to find the relationship between CSR and company's financial performance.

Table 1. Sample construction table.

Data	Number of Obs	Number of Groups
Raw financial data	222,096	4,309
Clean financial data	2,082	421
Raw ESG data	102,615	6,839
Clean ESG data	1,165	233
Merged Financial and ESG data	960	192
Final Data	960	192

4.2 Variable Measurement

4.2.1 Corporate Social Responsibility Variable

The Corporate Social Responsibility (CSR) will be utilized as the independent variable of this research. As of now, there is no one universally accepted indicator to measure the Corporate Social Responsibility performance of a company. Therefore, there is no consistent indicator to measure the CSR performance of a company because companies utilize different indicators such as CSR disclosure index or by utilizing the sustainability index such ad Dow Jones Sustainability World Index. The different indicators utilized by companies to measure their CSR performance create difficulties to compare the CSR performance between companies.

In this bachelor thesis, the CSR performance of companies would be measured by utilizing the ESG scores of the company. Chen and Xie (2022) stated that Environmental, Social, and Governance (ESG) is an extension of Corporate Social Responsibility (CSR) and Socially Responsible Investment (SRI). The ESG scores perfectly captured the current demand by stakeholders and investors for company to be more transparent about their impact on social and environmental issues. Moreover, the three pillars of ESG score which are Environmental score, Social score, and Governance score s creates more consistency in the measurement process of the company's CSR performance over the year. Due to the consistency and the data availability of the three pillars ESG scores, it is suitable to be utilized as CSR indicator for this bachelor thesis. The ESG scores data was collected from Erasmus Data Service Centre (EDCS) which was published by ESG rating agency, Refinitiv.

4.2.2 Financial Performance Variables

The company's financial performance variable will be utilized as the dependent variable of this research. This thesis utilized three accounting-based measures to measure the company's financial performance. Return on Asset (ROA), Return on Equity (ROE), and Net Profit Margin are utilized to measure the company's financial performance. Cherkasova and Nenuzhenko (2022) stated that the integration of ESG in international companies resulting in better result in both ROA and ROE. Return on Asset (ROA) refers to how much profit can a company earn from its assets or ROA measures how efficient companies in generating profit from the company's asset (Boyte-White, 2024). According to Fernando (2024) Return on Equity (ROE) is the measurement of a company's financial performance by dividing net income by shareholder's equity. ROE measure how effective company at gaining income and growth from the company's equity financing (Fernando, 2024). To give different perspectives, this bachelor thesis also utilized Net Profit Margin to measure the company's financial performance. Net profit Margin usually utilizes by investors to identify whether a company generating enough profit from their sales activities (Murphy, 2024). The data for the financial performance indicators are collected through WRDS database.

4.2.3 Control Variables

The thesis follows previous thesis in the same topic in controlling certain variables. Control variable is a variable that is held constant in research, and it is not the variable that become the focus of the research. Control variable may not be the main focus of the research but held the control variable constant may help the research to establish a proper relationship between dependent and independent variables. Firm's size, risk, liquidity, and leverage are the common control variables. Firm size are measured by the natural log of total assets. Firm risk are measured by dividing total debt by total assets. The liquidity of the company is measured by using total assets subtracted by inventories then divided by total liabilities. The leverage is calculated by using the Debt-to-Equity ratio which is total debt divided by total equity. Lastly, this research utilized one more control variable which is the capitalization ratio measured by using the debt-to-capital ratio formula which is total debt/ (total debt + total equity). According to Xie et al. (2018) firm's size and leverage might have some influences on the company's Return on Asset (ROA). According to Pangestuti et al. (2022) Firm risk may affect the company's value and overall profitability. Ehiedu (2014) stated that company with higher

liquidity will have better ability to meet its short-term maturing obligations, which may indicate that the company has good financial performance.

4.3 Data Analysis Method

The data analysis process of this bachelor thesis will utilize the data panel regression analysis method to analyse how each three pillars ESG scores may influence the company's financial performance. There are several advantages of utilizing the panel data regression analysis, as stated by Hsiao (2007) the first advantage would be that panel data provide more accurate inference of model parameters due to the better freedom and more sample variability. Second advantage is that panel data analysis has better capacity to capture the complexity of human behaviour. Lastly, the panel data analysis is simplifying computation and statistical inference. The panel data regression methodology is selected to scrutinize the interrelation among dependent and independent variables. To be more specific, this thesis will utilize the firm-year fixed effect and industry-year fixed effect data panel regression analysis model to test the correlation between each three pillars of ESG scores with company's financial performance. Fixed effects were used whenever there is a clear idea that individual characteristics of each entity affect the regressors (Torres-Reyna, 2007). The following model is the basic model to analyse the relationship of the Environmental Scores, Social Scores, and Governance Scores with company's financial performance:

$$FP_{i,t} = \beta ENScore_{i,t} + \beta SOScore_{i,t} + \beta CGScore_{i,t} + \beta_1 Size_{,t} + \beta_2 Risk_{,t} + \beta_3 Liquidty_{,t} + \beta_4 Leverage_{,t} + \beta_{6i} CR_{,t} + \alpha_{i,t} + \varepsilon_{i,t} + \prod_{i,t}$$

The financial performance of company is represented by FP. The financial performance which will served as the dependent variable is measured by Return on Asset (ROA), Return on Equity (ROE), and Net Profit Margin (NPM). Three pillars of ESG score will served as the independent variable of this research. Size, Risk, Liquidity, Leverage, and Capitalization ratio will be the control variable. in order to control the unobserved time-invariant characteristics between industries. The industry and year fixed effect are included in the regression equation. The extended version of the basic equation will be as follows:

$$ROA_{i,t} = \beta ENScore_{i,t} + \beta SOScore_{i,t} + \beta CGScore_{i,t} + \beta_1 Size_{,t} + \beta_2 Risk_{,t} + \beta_3 Liquidty_{,t} + \beta_4 Leverage_{,t} + \beta_{6i} CR_{,t} + \alpha_{i,t} + \varepsilon_{i,t} + \prod_{i,t}$$

$$ROE_{i,t} = \beta\,ENScore_{i,t} + \beta\,SOScore_{i,t} + \beta\,CGScore_{i,t} + \beta_1 Size_{,t} + \beta_2 Risk_{,t} + \beta_3 Liquidty_{,t} + \beta_4 Leverage_{,t}$$
$$+ \beta_{6i}CR_{,t} + \alpha_{i,t} + \varepsilon_{i,t} + \prod_{i,t}$$

$$NPM_{i,t} = \beta\,ENScore_{i,t} + \beta\,SOScore_{i,t} + \beta\,CGScore_{i,t} + \beta_1 Size_{,t} + \beta_2 Risk_{,t} + \beta_3 Liquidty_{,t} + \beta_4 Leverage_{,t}$$
$$+ \beta_{6i}CR_{,t} + \alpha_{i,t} + \varepsilon_{i,t} + \prod_{i,t}$$

In the three models, constant is represented as $\alpha_{i,t,}$, error term is represented with $\varepsilon_{i,t}$, $\prod_{i,t}$ represent the fixed-effect model to control and measure, and the coefficient is represent with β_1 to β_5. The definition of the variables utilized the regression models are exhibit in Table 1:

Table 1B: Variables Definition Table

Variable	Definition	Source
Performance Variable		
ROA	Net Income/Total Asset	WRDS
ROE	Net Income/Total Shareholder's Equity	WRDS
NPM	Net Income/Revenue	WRDS
Independent Variable		
	Environmental score of each company (ENScore)	Erasmus Data Service Centre (Refinitiv)
CSR	Social score of each company (SOScore)	Erasmus Data Service Centre (Refinitiv)
	Governance score of each company (CGScore)	Erasmus Data Service Centre (Refinitiv)
Control Variable		
Size	Log (Total Asset)	WRDS
Risk	Total Debt/Total Asset	WRDS
Liquidity	(Total Asset - Inventories)/Total Liablilities	WRDS
Leverage	Total Debt/Total Equity	WRDS
Capitalization Ratio	Total Debt/ (Total Debt + Total Equity)	WRDS

Chapter 5: Results & Discussion

5.1 Descriptive Statistics

In total there are 960 observations accounting for 192 global companies for over 5 years from 2018-2022. The value on these descriptive statistics below are already winsorized, meaning that the extreme value of the data is already replaced in order to limit the outlier effects. The

average of the global companies ROA is 0.04, ROE is 0.11, and 0.12 for NPM. The minimum and maximum scores for all the three pillars of ESG scores are ranging from 0 to 96.48. ENScore has the average of 44.64, SOScore for 52.75, and 53.15 of average score for CGScore. The standard deviation for the ROA, ROE, and NPM are higher than the means. While for the standard deviation of the ENScore, SOScore, and CGScore is lower than the means. It can also be seen that there is discrepancy between the maximum and minimum value of the control variables such as liquidity, leverage, and capital ratio. With 960 observations accounting for 192 companies, it can be concluded that the sample size of this research is properly large.

Table 2: Winsorized Summary Descriptive Table

Variables	Obs.	Mean	Std. Deviation	Min	Median	Max
ENScore	960	44.64	26.29	0.00	44.32	97.26
CGScore	960	53.15	22.56	4.09	53.84	96.27
SOScore	960	52.75	21.26	2.90	53.95	96.48
ROA	960	0.04	0.08	-0.33	0.03	0.45
ROE	960	0.11	0.49	-3.13	0.09	8.71
NPM	960	0.12	0.35	-1.79	0.07	2.75
Size	960	4.56	1.40	2.24	4.26	7.77
Risk	960	0.22	0.17	0.00	0.18	0.85
Liquidity	960	1742905.00	6075679	174.70	18047.35	59500000
Leverage	960	1.00	3.56	-10.94	0.46	69.90
Capital Ratio	960	274682	853519.20	-190240	6986.01	8889841

5.2 Testing for Multicollinearity

The main objective of performing regression analysis is to use one or more of independent variables or control variables to explain the variability in the dependent variables. In the case of performing regression analysis, it might be difficult to produce a proper estimation of the coefficient and the actual effect, if there is a correlation between the independent variables. Hence, the problem of multicollinearity is resolved in the sample used as indication in the Variance Inflating Factors (VIF) test. VIF test exhibit the inflating factors of the variable. Any VIF value between 1-10 are acceptable and does not exhibit any multicollinearity. In this research, the independent variable of ENScore, SOScore, and CGscore all have the VIF value of < 2, which indicates that the independent variables of this research do not exhibit any multicollinearity. Lastly, the mean for this VIF test is 1.76, which means that a regression analysis is possible to be performed.

Another method to test for the multicollinearity is the Pearson correlation matrix. Pearson correlation matrix is utilized as a method to test the relationship between two variables in a

data set. In correlation matrix, the value of 1 meaning that the relationship is negative, 0 means that there is a neutral relationship, and -1 means that the relationship is negative. As seen in Appendix 2, in the table the (*) symbol means that the correlation between the two variables is significant in the level of 5%.

Table 2b. VIF table

Variable	VIF	1/VIF
ENScore	1.78	0.561725
SOScore	1.86	0.537297
CGScore	1.26	0.79567
Size	1.40	0.716807
Risk	1.03	0.972533
Liquidity	2.62	0.381937
Leverage	1.01	0.985424
Capital Ratio	3.15	0.317802
Mean VIF	1.76	

5.3 Results

5.3.1 Firm & Year Fixed-Effect

Based on the firm-year fixedeffect analysis, based on the coefficients of the independent variables of ENScore, CGScore, and SOScore does not have any influential relationships with the company's financial performance which measured by ROA, ROE, and NPM. For example, based on the ROE which has the coefficient of ENScore of 0.000684 and Standard Error of 0.0191, which means that whenever the ENScore changes by 1 unit, the value of ROE will increase by 0.000684. This change has deviation of 0.0191. At 5% significance level, a t-test is carried which results in P-value of 0.971, which means that ROE does not have significant effect towards ENScore. However, based on the control variables of risk and leverage, these two control variables do have positive relationship with the Return on Equity (ROE) The level of significant for these two control variables are at the level of below 0.01 and 0.001. The R-squared value indicated that the variation in ROA, ROE, and NPM are explained respectively at 0.0004, 0.1629, and 0.0019, meaning that some of the observations are suitable for the model. The overall firm & year fixed-effect analysis exhibits that there is no direct relationship between three pillars of ESG score with company's financial performance. Therefore, hypothesis 1 is not supported.

Table 5. Firm & Year Fixed-Effect Analysis Table

VARIABLES	ROA	ROE	NPM
ENScore	-0.000278	0.000684	-0.00127
	(0.000314)	(0.0191)	(0.00401)
CGScore	0.0000127	-0.00833	-0.00370
	(0.000239)	(0.0145)	(0.00305)
SOScore	0.000246	-0.0315	-0.00126
	(0.000376)	(0.0229)	(0.00481)
Size	0.0223	1.064	0.00667
	(0.0268)	(1.631)	(0.343)
Risk	-0.0508	5.671**	0.270
	(0.0347)	(2.106)	(0.442)
Liquidity	4.81E-10	-2.11E-08	-3.51E-09
	(1.44E-09)	(8.73E-08)	(1.83E-08)
Leverage	0.0000808	0.275***	0.000672
	(0.000272)	(0.0166)	(0.00348)
Capital Ratio	3.60E-09	8.16E-08	-1.10E-08
	(1.28E-08)	(0.000000779)	(0.000000164)
Constant	-0.0458	-4.085	0.329
	(0.121)	(7.328)	(1.540)
Observations	960	960	960
Number of Groups	192	192	192
R-Squared	0.0004	0.1629	0.0019
Prob > F	0.0000	0.4968	0.0000
Year Fixed-Effect	YES	YES	YES

Note. This table exhibit the result of the regression analysis using the firm & yearfixed-effect method. ROA, ROE, and NPM are the dependent variables. ENScore, CGScore, and SOScore are the independent variables. While Size, Risk, Liquidity, Leverage, and Capital ratio are the control variables. The standard errors are in the parentheses and the significance level of the estimates are as follows $*P<0.05$, $**P<0.01$, $***P<0.001$.

5.3.2 Industry and Year Fixed-Effect

Utilizing the industry & year fixed-effect analysis, based on the coefficient of the independent variables of ENScore, CGScore, and SOScore does not have any influential relationships towards the ROA, ROE, and NPM. For example, based on the ROA which has the coefficient of CGScore of 0.0000252 and Standard Error of 0.0000162, which means that whenever the CGScore changes by 1 unit, the value of ROA will increase by 0.0000252. This change has deviation of 0.0000162. At 5% significance level, a t-test is carried which results in P-value of 0.877, which means that ROA does not have significant effect towards CGScore. However, the control variables of Risk have significant influence on the ROA at the level of <0.001 and the leverage has significant influence on the ROE with the same level of significance as the Risk. The R-squared indicated that the ROA, ROE, and NPM variations are explained respectively at 0.0870, 0.2769, and 0.0082 meaning that the model are fit for some of the observations. The result of the industry & year fixed-effect analysis indicated that the three pillars of ESG scores does not have an influential relationship towards the company's financial performance. Therefore, the hypothesis 1 is not supported by this analysis.

Table 5b. Industry-Year Fixed Effect Table

VARIABLES	ROA	ROE	NPM
ENScore	0.00000247	-0.000941	-0.00218
	(0.000205)	(0.0108)	(0.00246)
CGScore	0.0000252	-0.000283	-0.00330
	(0.000162)	(0.00858)	(0.00195)
SOScore	0.000158	-0.00343	0.000481
	(0.000223)	(0.0118)	(0.00268)
Size	-0.00024	-0.155	-0.0202
	(0.00451)	(0.238)	(0.0541)
Risk	-0.116***	1.339	-0.272
	(0.0239)	(1.261)	(0.286)
Liquidity	-3.47E-10	-1.08E-08	7.73E-11
	(4.29E-10)	(2.27E-08)	(5.15E-09)
Leverage	0.000113	0.280***	0.00115
	(0.000280)	(0.0148)	(0.00337)
Capital Ratio	8.59E-09	0.000000236	2.52E-08
	(1.04E-08)	(0.000000548)	(0.000000124)
Constant	0.0625**	0.481	0.470
	(0.0225)	(1.190)	(0.270)
Observations	955	955	955
Number of Groups	110	110	110
R-Squared	0.0870	0.2769	0.0082
Prob > F	0.000000	0.000000	0.000000
Year Fixed-Effect	YES	YES	YES

Note. This table exhibit the result of the regression analysis using the industry & year fixed-effect method. ROA, ROE, and NPM are the dependent variables. ENScore, CGScore, and SOScore are the independent variables. While Size, Risk, Liquidity, Leverage, and Capital ratio are the control variables. The standard errors are in the parentheses and the significance level of the estimates are as follows $*P<0.05$, $**P<0.01$, $***P<0.001$.

Chapter 6: Conclusions

6.1 Overview

Overall, the objective of this paper is to investigate the relationship between CSR as measured by the three pillars of ESG scores with the company's financial performance using accounting measures of Return on Asset, Return on Equity, and Net Profit Margin. The paper utilizing the fixed-effect panel regression of global companies from 2018-2022, resulting in 960 observations and 192 companies. The main findings of this study are that the CSR initiatives of companies as measured by the three pillars of ESG scores does not have a direct relationship with the ROA, ROE, and NPM of companies. The coefficients of the three pillars of ESG scores is very high in which it is not fall within the 0.05, 0.01, and 0.001 criteria.

The result of this study is different compared to the study by Coelho et al. (2023) and Cherkasova and Nenuzhenko (2022) in which these studies argued that the implementation of ESG scores has positive influence towards company's financial performance. On the other hand, the result of this study is aligned with the studies from Xie et al. (2018) that the huge budget spent by companies on the CSR activities might negatively affect their profitability and that not all environmental, social, and governance activities will produce positive impacts towards company's financial performance. Another study provided by Deloitte, 2023 stated that the impact of ESG on value creation is unclear, especially for ESG related investment that do not have direct impact on companies profit & loss. Moreover, regular changes in regulations and requirements of the disclosure of CSR activities might incur additional cost for companies to comply with the new regulations (Deloitte, 2023).

To answer the research question, "Do the three pillars of ESG scores have substantial influence toward global company's financial performance?" this paper provide evidence that the three pillars of ESG scores which Environmental score, Social score, and Governance score does not have a substantial influence on the financial performance of global companies. The result of this study is not aligned with the study findings by Coelho et al. (2023) and Cherkasova and Nenuzhenko (2022) that there is significant relationship of CSR as measured with ESG scores and financial performance. This thesis supports the findings by Barauskaite & Štreimikienė, 2020 that there are negative and neutral relationship between CSR and financial performance. The negative relation was due to the additional cost of implementing CSR and the neutral relationship was caused by the complexity relationship between companies and society.

6.2 Research Contribution

There are several contributions that this research might give to the companies and to the public. This research contributes to give the information on the relationship between CSR activities and company's financial performance of global companies across the globe. This paper also has proper methodology by utilizing proper indicator of CSR and financial performance to deliver a proper analysis of the relationship between CSR and global company's financial performance.

Because of the extensive coverage of the research sample, this study is more inclusive and representative of the global companies across the world regardless of the country and in which industries the companies operate. Also, since the implementation of CSR has become a global business trend, an analysis on the influence of CSR on global company's financial performance is important. Based on the results of this study, in a global landscape, the implementation of CSR does not provide a substantial influence towards the company's financial performance. This could happen potentially because there are a lot of countries that have different regulations regarding CSR and the level of supervision of the CSR implementation across countries might vary. Moreover, the CSR activities mostly does not have direct correlation with the company's profit & loss. Other than that, most companies implement the CSR initiative to comply with the regulatory requirements set by the government rather than to improve their financial performance.

This study concludes that CSR as measured with three pillars of ESG scores does not have significant influence towards the company's financial performance. However, it does not mean that the company should stop doing the CSR activities, because the benefit on implementation of CSR might not be gain in short-term but rather in long-term. Moreover, CSR implementation might increase the company brand image, which in one way or another might benefit the company financially.

6.3 Limitations and Suggestions for Future Research

The limitation of this research might be around the lack of information on the implementation of CSR in every country on the sample and how each of the companies does their CSR activities. Another limitation is that since this study using global companies regardless of countries and industries as the sample, the lack of universally agreed definitions and regulations of CSR causes the difficulties to find the most appropriate indicators to measure the implementation of CSR. Moreover, a lot of companies does not implement CSR activities to

increase their profitability but rather as a platform to increase their image in public which may attract investors and potential new customers. Other than that, companies nowadays are doing the CSR initiatives mostly because it became an obligation set by the government and company must comply with the CSR obligation to continue their business activities. Another limitation is the time period of the sample, a longer time period might potentially produce a different result because there is argument that the benefit of CSR might be gain in the long-term and the time period utilized in this research which is 2018-2022 might be not sufficient to produce a positive relationship between CSR and financial performance in long-term. Moreover, during 2018-2022 there are a lot of regulatory changes on CSR during that time period which may affect the company's financial performance, due to the fact that adopting and implementing new regulations requires quite amount of budget. The last limitation is that there is one company that industry in which they operate is not categorized, resulting in reduced sample from 960 to 955 observations for the industry-year fixed effect analysis.

There are some recommendations for future research. First, a longer time-period of the study might produce a different result because of the possibility that the benefit of CSR might be achieve in a long-term. Second, the research could utilize the sample of global companies in the same industry in which the companies might have similarity in conducting CSR activities due to the same industry the company operates. Third, it might be a good idea to take a deeper analysis on the relationship between CSR and financial performance based on continents, such as Europe, Asia, America, Africa, etc and then compare the result from each continent. Research on this topic based on continent might be a good idea because each continent might have different set of rules regarding CSR, different supervision on the CSR implementation, and different objective of implementing CSR initiatives. Fourth, it might be possible to compare the implementation of CSR between developed and developing countries. Mostly, developed countries have stricter regulations regarding CSR, in which it might be interesting to explore on how the stricter regulations regarding CSR affecting the company's financial performance.

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APPENDIX

Appendix 1: VIF table

Variable	VIF	1/VIF
CapitalRatio	3.15	0.317802
Liquidity	2.62	0.381937
SOSCORE	1.86	0.537297
ENSCORE	1.78	0.561725
Size	1.40	0.716807
CGSCORE	1.26	0.795670
Risk	1.03	0.972533
Leverage	1.01	0.985424
Mean VIF	1.76	

Appendix 2: Correlation Matrix Table

	ENScore	CGScore	SOScore	ROA	ROE	NPM	Size	Risk	Liquidity	Leverage	Capital Ratio
ENScore	1.0000										
CGScore	0.3562*	1.0000									
	0.0000										
SOScore	0.6424*	0.4273*	1.0000								
	0.000000	0.000000									
ROA	0.0899*	0.0760*	0.1459*	1.0000							
	0.0053	0.0185	0.0000								
ROE	0.0260	0.0342	0.012700	0.2345*	1.0000						
	0.4210	0.2903	0.6933	0.0000							
NPM	0.0143	-0.0579	0.0190	0.1041*	0.0706*	1.0000					
	0.6580	0.0730	0.7353	0.0012	0.0287						
Size	0.1960*	0.0399	0.1382*	-0.0611	-0.0230	-0.0773*	1.0000				
	0.0000	0.2173	0.0000	0.0586	0.4762	0.0167					
Risk	-0.0542	0.0486	-0.0260	-0.2683*	0.0359	-0.0294	0.0292	1.0000			
	0.0933	0.1322	0.4215	0.0000	0.2670	0.3627	0.3656				
Liquidity	0.1130*	0.0701*	0.0350	-0.0578	-0.0003	-0.0045	0.3387*	-0.0378	1.0000		
	0.0005	0.0298	0.2793	0.0735	0.9925	0.8898	0.0000	0.2415			
Leverage	-0.0160	0.0248	-0.0016	-0.0073	0.5285*	-0.0085	0.0060	0.1116*	0.0310	1.0000	
	0.6201	0.4434	0.9603	0.8209	0.0000	0.7931	0.8533	0.0005	0.3374		
Capital Ratio	0.1876*	0.1018	0.1255*	-0.0356	0.0009	-0.0112	0.5081*	-0.0493	0.7807*	0.0151	1.0000
	0.0000	0.0016	0.0001	0.2705	0.9789	0.7281	0.0000	0.1269	0.0000	0.6401	