



# “ESG and Financial Performance: Evidence of European Banks”

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Dissertation written under the supervision of Professor

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Dissertation submitted in partial fulfilment of requirements for the MSc in  
Finance with Specialization in Corporate Finance, at the Universidade Católica  
Portuguesa, January 2024



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## **Abstract:**

In the recent years, the company’s interest in adopting a more socially responsible behaviour has increased. For that, enterprises have been investing more in ESG strategies in order to fully promote this behaviour within their stakeholders. These strategies involve three pillars: Environmental, Social, and Governance. Due to that, most scholars have started to study the relationship between ESG and Financial Performance, which results are still not linear and not concise. For researchers, companies should evaluate their Financial Performance according to three different measures: Return on Assets, Return on Equity and Tobin’s Q. Initially, the need to disclose how firms incorporate ESG practices into their business strategy was not mandatory for the banking industry. However, this paradigm has changed. There has been more legislation, developed by important mechanisms around the world, for financial enterprises to disclose how ESG is incorporated into those companies’ activities. Thereby, this dissertation specifically focuses on the European Banks with the purpose of understanding the relationship between these companies’ ESG and each ESG Pillar with Financial Performance (using the three main Financial Performance indicators mentioned above). The results showed a nonsignificant relationship between ESG and Financial Performance. However, when analysing each ESG Pillar, the Environmental Pillar showed a positive relationship with both Return on Assets and Tobin’s Q.

**Keywords:** ESG, ESG Pillars, Financial Performance, European Banks

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## **Resumo:**

Nos anos recentes, o interesse das empresas em adotar um maior comportamento socialmente responsável tem aumentado. Para isso, as empresas têm vindo a investir mais em estratégias de ESG, de modo a promover este comportamento em torno dos seus sócios. Estas estratégias envolvem três pilares: Ambiental, Social e Governação. Desta forma, muitos investigadores começaram a estudar a relação entre ESG e Performance Financeira, cujos resultados não são ainda lineares nem concisos. Para os investigadores, as empresas devem avaliar a sua Performance Financeira de acordo com três medidas diferentes: Retorno sobre Ativos, Retorno sobre Capital Próprio e Tobin's Q. Inicialmente, a necessidade de divulgar como é que as empresas incorporam práticas de ESG nos seus negócios não era obrigatório para a indústria bancária, no entanto este paradigma mudou. Importantes mecanismos em todo o mundo têm vindo a desenvolver mais legislação para as empresas financeiras, para que estas divulguem como é que o ESG é incorporado nas suas atividades. Deste modo, esta dissertação foca-se especificamente nos Bancos Europeus, tendo como objetivo analisar a relação entre ESG, bem como dos seus pilares, com a Performance Financeira (usando os três principais indicadores de Performance Financeira). Os resultados mostraram uma relação de não-significância entre ESG e Performance Financeira. No entanto, ao analisar cada pilar de ESG, verificou-se uma relação positiva entre o Pilar do Ambiente com o Retorno sobre Ativos e Tobin's Q.

***Palavras-Chave:*** ESG, Pilares de ESG, Performance Financeira, Bancos Europeus

## **Acknowledgements:**

An incredible journey has finished, and I would like to demonstrate my gratitude to all the people around me who have supported me during these years, namely during this Dissertation Semester.

First, I would like to thank my supervisor, Diana Bonfim, for all the support and help during this Dissertation process. Her dedication, commitment and insightful opinions were strongly important for me to be always motivated during this period. Moreover, I would like to thank my family, friends, and boyfriend for their encouragement and important opinions. They were the ones with whom I shared moments of anxiety and enthusiasm over this Semester.

Therefore, I would like to recognize those people – my professor, family, friends, and boyfriend – and say a big thank you for listening and helping me when I needed it. Their support was essential for me to develop this Thesis.

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## **List of Abbreviations:**

**CSR** – Corporate Social Responsibility

**ESG** – Environmental, Social and Governance

**ENV** – Environmental

**SOC** – Social

**GOV** - Governance

**EBA** – European Bank Authority

**ROA** – Return on Assets

**ROE** – Return on Equity

**TQ** – Tobin’s Q

**P&L** – Profit and Loss

**NPL** – Non-Performing Loans

## **I. Introduction:**

In recent years, companies have been focusing more on implementing sustainable practices for both shareholders and stakeholders, including investors, customers, suppliers, and employees. These practices are promoted according to two different concepts: Corporate Social Responsibility (CSR), which considers the efforts of businesses to provide a sustainable economic development among their employees and the overall society to help everyone to grow and have better lives (World Business Council for Sustainable Development, 2002), and Environmental, Social, and Governance (ESG), a concept that has been increasing throughout the years as a metric for corporations' long-term strategy. Therefore, ESG ratings have become essential to evaluate companies' sustainability (Berg et al., 2022).

ESG Ratings include three different pillars: Environmental (ENV), which measures how efficiently a company uses its resources in order to reduce the environmental footprint; Social (SOC), which evaluates how companies can create trust and loyalty within their employees by promoting job satisfaction, diversity, and human rights; and Governance (GOV) that comprises the company's procedures to guarantee that their board members and executives act on behalf of all stakeholders interests (*Refinitiv Eikon*).

Due to the growing attention to sustainable investing, several studies have arisen to analyse the relationship between a firm's Financial Performance and its ESG Rating, mainly for non-financial companies. However, the results are not conclusive and sometimes are contradictory, which means that some studies concluded that there is a negative and a non-linear relationship between ESG and Financial Performance (Duque-Grisales & Aguilera-Caracuel, 2021), and other authors concluded the opposite, a positive relation between both indicators (Friede et al., 2015; Alareeni & Hamdan, 2020).

In order to evaluate Financial Performance, scholars have been using Return on Assets (ROA), Return on Equity (ROE), and Tobin's Q (TQ) as Financial Performance indicators (Alareeni & Hamdan, 2020; Gutiérrez-Ponce & Wibowo, 2023). However, the results vary according to each indicator, and therefore each study.

Considering banks, those institutions have started to invest in sustainability practices, to increase their reputation (Forcadell & Aracil, 2017), and promote transparency toward their investors and legitimacy concerning their stakeholders (Carnevale & Mazzuca, 2014). In addition to that, European banks have been leading in promoting sustainable actions compared to other places globally, such as the United States (Ho, Wang & Vitell, 2012).

The transition to a more sustainable economy has become more and more prominent in today's world. Considering Europe, regulations about climate change have been increasing throughout the years. For that, there are some authors who argued that capital requirements should be imposed for banks to be able to manage climate risks (Oehmke & Opp, 2022). In addition to that, there is more legislation that was imposed in Europe in order to promote sustainability: the European Green Deal (Europe needs to be the first climate-neutral continent until 2050), the Non-Financial Reporting Directive (established in 2014, where large firms were obliged to disclose information regarding how they assess sustainable practices), and the Corporate Sustainability Reporting Directive (an improvement of the Non-Financial Reporting Directive, that was developed in 2022, saying that small and medium firms must also disclose how they contribute to sustainability).

Additionally, the European Bank Authority (EBA), which is a European entity that provides legislation more specifically to banks, has developed in 2022 a regulatory requirement arguing that ESG factors must be included in investments made by financial institutions.

As previously mentioned, most of the studies that relate ESG and Financial Performance focused on the non-financial corporations, however in the most recent years, some scholars started to analyse this relationship for the banking industry. However, as happens with non-financial enterprises, the debate between ESG and Financial Performance in the banking sector is not linear. There are some studies that found a positive relationship between these two variables (Buallay, 2018) and others which state the opposite, a negative relationship (Bătae et al., 2021). Despite this, there are other authors who have found no significance or a non-linear relationship between these two variables (Duque-Grisales & Aguilera-Caracuel, 2021, Xie et al., 2018).

Considering what was mentioned before, this thesis aims to analyse the relationship between ESG and Financial Performance of European banks from 2014 to 2022 and do the same analysis

using each pillar of ESG. For that, all the required data was extracted from *Refinitiv Eikon*. The interest in this topic started with the enthusiasm of understanding how this concept of sustainability has grown and how it has been included in a company's business. Moreover, the curiosity of particularly considering banks is explained by the fact that this is a sector that is essential for the financial health and stability of a country, therefore having the opportunity to understand how they are managing sustainable practices fostered the motivation to address this research.

In that way, this dissertation is structured according to the following elements: to the first section will describe some literature around the topic, namely the differences between CSR and ESG; which are the main indicators of Financial Performance; and how does the relationship between ESG and Financial Performance has involved in the past years. After that, another section will provide a description of the Data used, and the respective Hypotheses and Methodology that were developed. Following that part, there is going to be an analysis of the data sample used, followed by the empirical results and their interpretations of the presented work. Later, there will be an overview of the research's limitations and respective suggestions for future research, ending up with an overall conclusion of the study.

## **II. Literature Review:**

In recent years, enterprises' commitment to take more sustainable initiatives has become a predominant factor for investors and corporate managers (Gillan et al., 2021). Companies have been investing more in CSR since it raises profitability and firm value (Liang & Renneboog, 2017).

Parallel with this, academic research analysing sustainability activities (both CSR and ESG) has been growing (Gillan et al., 2021). ESG refers to how organizations incorporate environmental, social, and governance interests into their businesses (Gillan et al., 2021), and CSR refers to how enterprises practice more socially responsible actions with their employees and society in order to contribute to a more social and economic development (World Business Council for Sustainable Development, 2002). As a result, the main difference between both sustainability measures is that ESG incorporates governance as an indicator of evaluation, and CSR does not.

The fast and growing demand by investors for companies to disclose information about their ESG led to the creation of different ESG metrics and data (Kotsantonis & Serafeim, 2019). Because of that, there has been a significant increase in studies about the relationship between firms' financial indicators and their sustainability reports, which has become an essential factor to consider in creating companies' value (Gutiérrez-Ponce et al., 2022). These analyses depend on the country and region that researcher's study. Sometimes, the impact of ESG on companies' financial performance is not linear due to the difference between shareholder and stakeholder theory, which proposes opposite directions for this relationship (Chen & Xie, 2022).

Shareholder theory considers that the goal of a company is to maximize shareholders' value by following their interests (Friedman, 1962). In his book *Capitalism and Freedom* (1962), Friedman considered that maximizing companies' profits is above any CSR initiative – “there is one and only one social responsibility of business: to use its resources and engage in activities designed to increase its profits.” In addition, researchers argued that if a firm has limited resources, it should not invest in CSR since it will increase its costs. Contrarily, the firm should use these resources to improve its efficiency or use them as a return to shareholders. Therefore, according to the shareholder theory, an enterprise should not participate in social practices since it is not perfectly related to shareholders' interests (Barnett, 2007).

On the other hand, considering the stakeholder theory, companies should engage in CSR activities in order to promote social welfare. A stakeholder is someone, a group or individual, who can influence or is influenced by a firm (Freeman, 1984). Thereby, maximizing stakeholders' interests, aligned with sustainability practices (both CSR and ESG), is essential to obtain the highest social value of a company, which, therefore, will increase the firm's financial performance.

A wide variety of studies to see the relationship between social wealth and financial performance has emerged in recent years. Most of this research used ROA, ROE, and TQ as financial indicators (Alareeni & Hamdan, 2020; Gutiérrez-Ponce & Wibowo, 2023). Despite the broad empirical evidence on this subject, there has been a lack of consensus on the relationship between ESG and Financial Performance. Some studies have previously concluded a positive relationship between these two indicators (Friede et al., 2015; Alareeni & Hamdan, 2020). However, other authors have found no significant or non-linear relationship between

ESG and Financial Performance (Duque-Grisales & Aguilera-Caracuel, 2021, Xie et al., 2018 and Nollet et al., 2016).

A study that concluded a positive relationship between ESG and Financial Performance combined more than 2,000 empirical analyses on this relationship that other authors studied in the past. This comprehensive number of previous academic research enabled the authors to conclude that 90% of those empirical investigations found positive evidence between ESG and Financial Performance and that this positive impact between these indicators was stable over time (Friede et al, 2015).

Moreover, there is a different research that found that a firm's ESG report positively affects the operational (ROA), financial (ROE), and market performance (TQ) of American companies. In addition, the authors analysed each component of ESG to see if it impacts Financial Performance, and they concluded that the Environmental and Social Pillar of ESG positively affects Financial Performance. In contrast, the Governance Pillar negatively affects the Financial Performance of American enterprises (Alareeni & Hamdan, 2020).

On the other hand, an analysis to examine the relationship between ESG and the Financial Performance of companies in Latin America deduced a negative relationship between these two factors, considering each pillar of ESG and ESG as a total variable. Bearing this in mind, the main conclusion of this study was that firms that present a high ESG Score are less profitable (Duque-Grisales & Aguilera-Caracuel, 2021). Moreover, a distinct investigation used different industries presented in an economy to examine this relationship and found a non-significant relationship between ESG and Financial Performance (Xie et al., 2018).

The evidence of ESG and Financial Performance in the banking industry has increased over the decades. Initially, researchers only considered non-financial institutions to link ESG and their performance; however, this paradigm has changed, and scholars have become more interested in studying how that relationship could affect financial corporations (Galletta et al., 2022).

Some scholars concluded that bank managers pursue sustainable practices as a long-term strategy (Shen et al., 2016). Moreover, in the same study, the authors inferred that "CSR banks overwhelming outperform non-CSR banks in terms of return on assets and return on equity". Furthermore, a research to understand analysed the relationship between CSR and the Financial

Performance of American commercial banks during the 2008-2009 Financial Crisis concluded that US banks' financial performance is positive and significantly related to CSR Scores. Additionally, the same analysis found out that larger banks pursue more socially responsible practices, such as lower deposit fees, than smaller banks in the United States (Cornett et al., 2016).

The idea of climate change towards financial institutions has gained importance at central banks and financial regulators (Oehmke & Opp, 2022). In the same research, the authors argued that capital requirements should be imposed for the banking sector to effectively deal with climate change risks.

Different legislation has been implemented in the past years to promote European sustainability. The priority to “transform the European Union into a modern resource-efficiency and competitive economy” (European Commission) has increased. For that, the European Commission developed the European Green Deal, which sets out a long-term strategy that aims for Europe to become the first climate-neutral continent by 2050, promoting sustainable practices related to Energy, Environment & Oceans, Agriculture, Transport, Industry, Research, Innovation, & Finance and Regional Development. Despite the European Green Deal, the Paris Agreement and the United Nations Agenda 2030 were important international agreements established to promote climate neutrality.

Moreover, in 2014, the European Parliament published the Non-Financial Reporting Directive, establishing that large firms, including large banks, must disclose information regarding how they control and act on social and environmental questions (Directive 2014/95/EU). More recently, in 2022, the European Union improved the Directive 2014/95/EU Regulation by creating the Corporate Sustainability Reporting Directive, which argues that listed Small and Medium Enterprises also have to share how they manage their environmental problems (Directive 2022/2462/EU). Furthermore, the European Bank Authority (EBA) aims to support the banking industry to address climate change challenges. For that, in October 2022, EBA published a report which considered that ESG factors and risks must be included in the supervision of investment firms.

Due to the recent European regulation regarding the ESG report of financial institutions, the interest in studying the relationship between ESG and Financial Performance has risen.

However, this relationship within European banks still needs to be more conclusive and linear (Bătae et al., 2021; Buallay, 2018).

Considering this, there is an analysis that noticed a negative relationship between social responsibility and Financial Performance, which rejects the premise of the stakeholder theory. Despite this, the same article argued that better corporate governance quality harms profitability (Bătae et al., 2021).

Contrarily, a different study deduced a significant positive impact of ESG on a bank's Financial Performance, following the evidence of the stakeholder theory (Bually, 2018). In order to measure performance, the same authors used the main financial performance criteria: ROA; ROE, and TQ. As a result, if ESG was measured individually, the Environmental Pillar positively affects ROA and TQ, the Social Pillar negatively influences all three performance indicators, and the Governance Pillar negatively affects ROA and ROE but positively affects TQ.

In terms of considering each component of ESG, some researchers observed that environmental innovation technology is a crucial component of the Environmental Pillar of banks since it enables banks to reduce their environmental costs. Also, the same study concluded that if banks promote social welfare initiatives, it makes them more attractive, especially for young people, thereby increasing their reputation (Jo et al., 2015). Moreover, regarding corporate governance, there are authors who realized that banks must guarantee “accountability, compliance, and transparency” for all the stakeholders (Miralles-Quirós et al, 2019).

### **III. Data and Methodology:**

#### **a. Sample Data:**

Over the past years, ESG has become strongly important to guarantee the competitiveness and innovation of an economy and institution. In Europe, stakeholders, governments, and society became more aware of how it is fundamental to increase the efficiency of European resources to promote social welfare. Primary research on this topic (ESG and Financial Performance)

studied this relationship with non-financial companies. However, scholars started to evaluate this relationship with financial corporations.

Therefore, this study aims to evaluate the relationship between ESG and the Financial Performance of European banks. The European market in *Thomson Reuters DataStream* encompasses values of companies from 49 territories: Albania, Andorra, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, Germany, Gibraltar, Greece, Guernsey, Hungary, Iceland, Ireland, Isle of Man, Italy, Jersey, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, North Macedonia, Netherlands, Norway, Poland, Portugal, Romania, Russia, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, and the United Kingdom. However, some of those regions - Albania, Andorra, Belarus, Gibraltar, Liechtenstein, Moldova, Monaco, and San Marino - were not considered in this analysis due to the non-disclosure of information on the *WorldScope* codes list of *DataStream*.

All the data was obtained from the *Thomson Reuters DataStream* database, which displays all the financial and economic data for different public companies of all the main markets in the world: Europe, Asia, America, and Africa. *Refinitiv* ESG Scores comprise publicly reported information regarding Environmental, Social and Governance, becoming a weighted sum of these three pillars. This score is evaluated across ten measures, considering each ESG Pillar – **Environmental**: resource use, emissions, and environmental innovation; **Social**: workforce, human rights, community, and product responsibility; and **Governance**: management, shareholders, and CSR strategy. In addition, ESG Scores are scaled from 0 to 100, where the higher the score, the better the firm practices ESG initiatives. In *Refinitiv*, ESG is ranked from D- to A+, each with a specific range, that is described in the following table:

**Table 1:** ESG-Score - *Refinitiv Eikon*

A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-
91.67	83.33	75.00	66.67	58.33	50.00	41.67	33.33	25.00	16.67	8.33	0
< A+	< A ≤	< A- ≤	< B+ ≤	< B ≤	< B- ≤	< C+ ≤	< C ≤	C- ≤	D+ ≤	D ≤	D- ≤
≤ 100	91.67	83.33	75.00	66.67	58.33	50.00	41.67	33.33	25.00	16.67	8.33

The most used financial indicators in the literature are ROA, ROE and TQ to evaluate Financial Performance. **ROA** stands for Return on Assets and measures how efficiently a company uses its assets to create profit (Minutolo et al., 2019). **ROE** (Return on Equity) is another indicator of financial performance since it reflects the amount of equity used in a company’s investment (Damodaran, 2017). This ratio is significantly used for shareholders and investors (Kanas et al., 2012). In terms of **TQ** (Tobin’s Q), it is a measure of performance used as a proxy for the value of a firm (Wolfe et al., 2003). Tobin’s Q is calculated as the ratio of the market value of equity and the total book value of liabilities divided by the total book value of assets (Gutiérrez-Ponce & Wibowo, 2023).

In addition, to evaluate the relationship between ESG and Financial Performance, two control variables were added: **Size**, which is calculated as the natural logarithm of total assets and it was included in this research since this variable enables a person to understand a company’s ability to deal with economies of scale, economies of scope or specific effects in an economy (Roberts & Dowling, 2002). Larger enterprises benefit more from economies of scale since it might increase their revenues (Xie et al., 2018)

Moreover, another control variable, **Capitalization**, that is the ratio of total equity with total assets was used since it addresses how financial institutions are safer and less risky or not, which indicates that the higher the ratio, the better the capitalization, leading to a more safety bank (Nizam et al., 2019).

*Table 2: Description of Independent, Dependent and Control Variables*

Variables	Formula and Source of Data
<b>Independent Variables:</b>	
Environmental, Social and Governance (ESG)	<i>Refinitiv Eikon DataStream</i> : information of environmental, social and governance pillars
Environmental (ENV)	<i>Refinitiv Eikon DataStream</i> : company’s impact on natural ecosystems
Social (SOC)	<i>Refinitiv Eikon DataStream</i> : company’s ability to create trust and loyalty within its stakeholders
Governance (GOV)	<i>Refinitiv Eikon DataStream</i> : company’s potential to use its best management practices

<b>Dependent Variables:</b>	
Return on Assets (ROA)	Net income after tax divided by average total assets ( <i>Refinitiv Eikon DataStream</i> )
Return on Equity (ROE)	Net income after tax divided by average total equity ( <i>Refinitiv Eikon DataStream</i> )
Tobin's Q (TQ)	Market value of equity and total value of liabilities, divided by total value of assets ( <i>Refinitiv Eikon DataStream</i> )
<b>Control Variables:</b>	
Size	Natural logarithm of total assets ( <i>Refinitiv Eikon DataStream</i> )
Capitalization	Total equity divided by total assets ( <i>Refinitiv Eikon DataStream</i> )

Due to the missing information on ESG, and mainly due to the non-obligation to disclose ESG data for all European companies in the latest years, the data used is from 2014 to 2022, which comprises a total of 222 diversified European banks. The final sample mostly incorporates companies from the United Kingdom. This dataset is organized in Panel Data since it has observations of different firms over time. However, this sample is not completely balanced due to some missing values (including ESG data that is not disclosed for some companies over some years).

## **b. Hypothesis and Methodology:**

This research is based on several hypotheses in order to better understand the relationship between ESG and the Financial Performance of European banks. As mentioned, recent studies typically used ROA, ROE and TQ as measures of Financial Performance. Considering this, different hypotheses were formulated:

**Model I:** A first Hypothesis to see the relationship between ESG and Financial Performance:

***H1:** There is a positive relationship between ESG and the Financial Performance of European banks, measured by ROA.*

This Model will also be tested considering ROE and Tobin's Q as dependent variables, defining in total three regressions for it.

**Model II:** A second Hypothesis to see the relationship between each ESG Pillars and Financial Performance:

**H2:** *There is a positive relationship between each Pillar of ESG – ENV, SOC, and GOV, – and the Financial Performance of European banks, measured by ROA.*

As Model I, this Model will also consider ROE and Tobin's Q as dependent variables, leading to as well three regressions to interpret and analyse it.

In order to further perform the desired hypothesis and further regressions, the Hausman Test was made to examine the usage of fixed or random-effects model. It is used to test if there is a correlation between the error term and an explanatory variable (Hill et al., 2011). In the same book, *Principles of Econometrics*, the authors argued that the null hypothesis argues that there is no correlation between the explanatory variable and the error term, thus the random-effects model is preferred. The alternative hypothesis emphasizes that it exists a correlation between the error term and the explanatory variable, therefore the fixed-effects model is applied. Considering this, after applying the Hausman Test, it was verified that the fixed-effects model is preferred against the random-effects for the six different regressions that will be tested. Therefore, Time-Fixed Effects and Firm Fixed-Effects will be used in each Model.

*Time Fixed-Effects* ( $\delta_t$ ) are used to control for variations that happen throughout each year and *Firm Fixed-Effects* ( $\gamma_i$ ) are used to control for specific risk factors of each company, while removing omitted biases of each individual firm that remains constant over time.

Therefore, two different models will be measured to see the relationship between ESG and its respective Pillars, and the Financial Performance of the European banking industry.

**Model I:** Understand the relationship between ESG and Financial Performance. In order to measure it, three different regressions will be used for each indicator of Financial Performance (the first model of hypotheses described above).

$$\begin{aligned} \text{Financial Performance}_{it} \\ = \beta_0 + \beta_1 \text{ESG}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{Capitalization}_{it} + \gamma_i + \delta_t + \varepsilon_{it} \end{aligned}$$

**Model II:** Understand the relationship between ESG Pillars (Environmental, Social, and Governance) and Financial Performance. In the same way as Model I, three regressions (the

second model of hypotheses displayed above will be tested), according to each Financial Performance indicator, will be used to measure this effect.

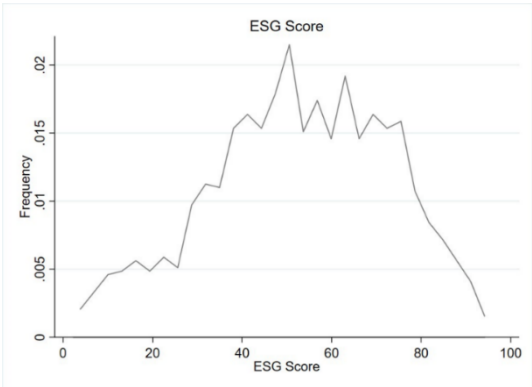
$$\begin{aligned}
 \text{Financial Performance}_{it} &= \beta_0 + \beta_1 \text{ENV}_{it} + \beta_2 \text{SOC}_{it} + \beta_3 \text{GOV}_{it} + \beta_4 \text{Size}_{it} + \beta_5 \text{Capitalization}_{it} \\
 &+ \gamma_i + \delta_t + \varepsilon_{it}
 \end{aligned}$$

**IV. Data Analysis:**

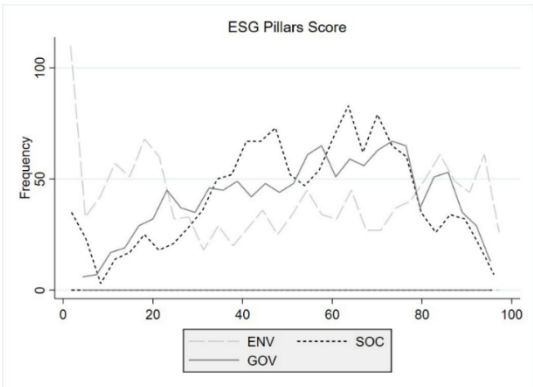
This section describes the analysis of the data used: there will be some graphs that display the distribution of ESG Score and its pillars individually of the presented data and an analysis of both the descriptive statistics and correlation matrixes of the dataset adopted.

**a. ESG Graphs:**

*Figure 1: Distribution of ESG Score*



*Figure 2: Distribution of ESG Pillars Score*



**Figure 1** describes the distribution of ESG Score within the sample selected. Through the analysis of the graph, it is evident that European banks have an ESG score of around 40 to 80. Moreover, there is no company whose ESG value is either 0 or 100.

Moreover, **Figure 2** displays the distribution of each Pillar of ESG Score. The Governance Pillar is the one which influences more the overall ESG Score since it is the one that has more stable values between 50 and 80. Moreover, the Environmental Pillar is the score that pursues lower values (some firms disclose 0 on this parameter). In terms of the Social Pillar, it is the score that provides more oscillations throughout the entire sample.

## b. Descriptive Statistics:

*Table 3: Descriptive Statistics*

**Table 3** presents the descriptive statistics of the presented sample that has 222 firms, which corresponds to 1254 observations. *ESG*, *ENV*, *SOC*, and *GOV* are measured according to their scores, that range from 0 to 100. *ROA*, *ROE*, and *Tobin's Q* represent the Financial Performance measures. *Size* is measured as the natural logarithm of Total Assets and *Capitalization* is the ratio of Total Equity divided by the Total Assets. Some variables (ratio variables) were highly skewed. Therefore, ROA and ROE were winsorized at 1% level and Tobin's Q and Capitalization were winsorized at 5% level, in order to exclude some possible outliers.

	Count (N)	Mean	p25	Median	p75	Std. Dev.	Min	Max
<i>ROA</i>	1254	0.0369	0.0053	0.0122	0.0405	0.0570	-0.1918	0.3135
<i>ROE</i>	1254	0.1101	0.0526	0.1011	0.1643	0.1066	-0.4595	0.6304
<i>Tobin's Q</i>	1254	1.1759	0.9678	1.0065	1.1073	0.2156	0.7877	2.8477
<i>ESG</i>	1254	52.7300	38.78	52.825	68.43	20.3394	2.23	95.74
<i>ENV</i>	1254	46.7701	17.81	47.245	77.31	31.4836	0	98.84
<i>SOC</i>	1254	53.2182	38.76	55.32	70.64	22.4368	0.23	97.67
<i>GOV</i>	1254	54.9843	37.12	56.925	73.17	22.5915	2.75	96.81
<i>Size</i>	1254	16.5752	14.7116	16.6313	18.2516	2.4892	10.2920	21.7581
<i>Capitalization</i>	1254	0.2593	0.0618	0.1023	0.3848	0.2713	0.0325	0.9293

Regarding **Table 3**, it is possible to observe that ROA has an average value of 3.69%, which is considered low. This can be justified since the minimum value of ROA is quite low (-19.18%), and the maximum value also does not have a high value (31.35%). Generally, the higher the value of ROA, the better the firm is efficiently using their assets to generate profit. The average value of Capitalization is 25.93%, which means that banks use more debt instead of equity to finance a company's assets. In terms of ROE, it has an average value of 11.01%, which translates the respective average percentage of return that shareholders could earn from their investments in banks. In terms of Tobin's Q, it presents an average slightly higher than one (1.176). Since it is not substantially higher than one, it indicates that on average, banks have equivalent standards of market values and book values.

In respect to the ESG variables, it is worth understanding that the average value of ESG is 52.73, meaning that roughly the presented sample has an ESG Score of B-. Considering each pillar of ESG, the Environmental (ENV) reflected an average of 46.77, which suggests than the largely all sample has an average Environmental Score equivalent to C+; the Social (SOC)

indicates an average score of 53.21, worthing that mostly the firms analysed have an average Social Score of B-; and the Governance (GOV) has a slightly higher average value compared to the other pillars of ESG (54.98). This average score correspondent to the Governance indicates that commonly the financial firms have a Governance Score equal to B-.

**c. Correlation Matrix:**

*Table 4: Correlation between ESG and Financial Performance*

**Table 4** disposes the Correlation Matrix of the relationship between ESG and Financial Performance. Some variables (ratio variables) were highly skewed. Therefore, ROA and ROE were winsorized at 1% level and Tobin’s Q and Capitalization were winsorized at 5% level. Significance levels are denoted according to three different significance levels: 1% (\*\*\*), 5% (\*\*), and 10% (\*). In that case, all the variables are significant at 1% level.

	<i>ROA</i>	<i>ROE</i>	<i>Tobin’s Q</i>	<i>ESG</i>	<i>Size</i>	<i>Capitalization</i>
<i>ROA</i>	1.0000					
<i>ROE</i>	0.6961***	1.0000				
<i>Tobin’s Q</i>	0.6175***	0.4300***	1.0000			
<i>ESG</i>	-0.1943***	-0.0801***	-0.1420***	1.0000		
<i>Size</i>	-0.4184***	-0.1696***	-0.4559***	0.6115***	1.0000	
<i>Capitalization</i>	0.5221***	0.0943***	0.4007***	-0.3971***	-0.7004***	1.0000

*p-value < 0.01 (\*\*\*)*

**Table 4** considers the correlation between ESG and each measure of Financial Performance, from which all the correlations are significant at 1% level. Considering the results from the table, in each measure of Financial Performance – ROA, ROE, and TQ –, the correlation between each and the other variables is low, but statistically significant. The results from the table indicate that a company with higher values in the ESG Score tends to have weaker Financial Performance.

In terms of Size, it illustrates that larger firms have lower values of ROA, ROE, and TQ, since it is negatively correlated with all the three indicators of Financial Performance. Furthermore, considering Capitalization, it is positively correlated with each Financial Performance measure, meaning that companies that use more equity to finance its assets perform better.

**Table 5: Correlation between ESG pillars (ENV SOC, GOV) and Financial Performance**

**Table 5** disposes the Correlation Matrix of the relationship between ESG Pillars and Financial Performance. Some variables (ratio variables) were highly skewed. Therefore, ROA and ROE were winsorized at 1% level and Tobin's Q and Capitalization were winsorized at 5% level. Significance levels are denoted according to three different significance levels: 1% (\*\*\*), 5% (\*\*), and 10% (\*). In that case, variables are significant at 1% and 5% levels.

	<i>ROA</i>	<i>ROE</i>	<i>Tobin's Q</i>	<i>ENV</i>	<i>SOC</i>	<i>GOV</i>	<i>Size</i>	<i>Capitalization</i>
<i>ROA</i>	1.0000							
<i>ROE</i>	0.6961***	1.0000						
<i>Tobin's Q</i>	0.6175***	0.4300***	1.0000					
<i>ENV</i>	-0.1763***	-0.1050***	-0.1565***	1.0000				
<i>SOC</i>	-0.2027***	-0.0820***	-0.1523***	0.7225***	1.0000			
<i>GOV</i>	-0.1248***	-0.0367	-0.0723**	0.4069***	0.5454***	1.0000		
<i>Size</i>	-0.4184***	-0.1696***	-0.4559***	0.6724***	0.6168***	0.3572***	1.0000	
<i>Capitalization</i>	0.5221***	0.0943***	0.4007***	-0.3816***	-0.4213***	-0.2390***	-0.7004***	1.0000

*p*-value < 0.01 (\*\*\*), *p*-value < 0.05 (\*\*)

Additionally, **Table 5** displays the correlation between each ESG Pillar and each indicator of Financial Performance. According to the table, almost all variables are significant at 1% level, except the correlation of Tobin's Q with GOV, which is significant at 5% level. In terms of the results of the table and, in the same way as Table 4, the correlation between each Financial Performance measure and each pillar of ESG is low (ranging from -0.09 to -0.27). Considering each pillar of ESG, all of them are negatively correlated with ROA, ROE and TQ, which indicates that higher values of each pillar influence a low performance.

## V. Empirical Findings and Analysis:

After analysing the selected sample and the respective descriptive statistics and correlation matrices, different regressions were performed in order to fully understand the relationship between ESG and each ESG Pillar with Financial Performance (the respective Model I and II presented in the Methodology). Therefore, the following section presents the empirical results of each regression. Moreover, to understand the reliability of the regression results, different robustness tests were made. Furthermore, it is essential to analyse the possible limitations of this research, so there is going to be presented a section that states those constraints of this study and suggestions for future research around the same topic.

## a. Regression Results:

### Model I:

**Table 6:** Model I, Regression Results: ESG and Financial Performance

**Table 6** presents the regression results of the relationship between ESG and Financial Performance, considering Size and Capitalization as control variables. Both Firm and Time Fixed-Effects were used. Some variables (ratio variables) were highly skewed. Therefore, ROA and ROE were winsorized at 1% level and Tobin's Q and Capitalization were winsorized at 5% level, in order to exclude some possible outliers. Standard errors are robust to heteroscedasticity and are placed in parentheses. Significance levels are denoted according to three different significance levels: 1% (\*\*\*), 5% (\*\*), and 10% (\*). In that case, variables are significant at 1% level and 10% levels.

	ROA (I)	ROE (I)	Tobin's Q (I)
<i>Intercept</i>	-0.338645* (0.20574)	-0.0857* (0.50393)	3.238169*** (1.28128)
<i>ESG</i>	-0.000047 (0.00019)	0.000538 (0.000648)	0.001351 (0.001386)
<i>Size</i>	0.01897* (0.01217)	0.050780* (0.029846)	-0.130313* (0.076654)
<i>Capitalization</i>	0.264418*** (0.05536)	0.405468*** (0.12550)	0.316649 (0.34020)
<i>Firm Fixed-Effects</i>	Yes	Yes	Yes
<i>Time Fixed-Effects</i>	Yes	Yes	Yes
<b>Prob &gt; F</b>	0.0000	0.0000	0.0000
<b>Within R<sup>2</sup></b>	13.18%	8.65%	18.60%
<b>Between R<sup>2</sup></b>	13.01%	2.04%	24.20%
<b>Overall R<sup>2</sup></b>	14.51%	0.76%	24.14%
<b>Observations</b>	1254	1254	1254

*p-value < 0.01 (\*\*\*), p-value < 0.10 (\*)*

**Table 6** considers the regression results from the relationship between ESG and each indicator of Financial Performance. It is important to mention that in all the estimated regressions, Firm and Time Fixed-Effects were considered. Moreover, to account for heteroskedasticity, standard errors are robust.

According to the results presented, it is possible to infer that ESG is not statistically significant for all the three Financial Performance measures. Therefore, the first Null Hypothesis that posits there is a positive relationship between ESG and Financial Performance of European banks using either ROA, ROE, or Tobin's Q as dependent variables, is **Rejected**. Considering this, these results are aligned with the Shareholder Theory, previously mentioned in the literature, which states that maximizing shareholder's value is above any other sustainable activity (Frieman, 1962).

Moreover, these results are also aligned with previous research of different authors, who found a non-linear and non-significant relationship between ESG and Financial Performance (Duque-Grisales and Aguilera-Caracuel, 2021; Xie et al., 2018 and Nollet et al., 2016). In fact, these results could be explained since corporate responsibility is not reflected in a firm's ROA, ROE, or Tobin's Q. Both ROA and ROE are accountability measures that enable shareholders to see how well companies use their assets to create profit (ROA) and equity to generate profit (ROE). Tobin's Q is used as a proxy for the value of a firm; therefore, sustainability measures are not reflected on it.

Furthermore, ESG has become an important factor for financial companies to increase their image among their borrowers, something that is more related to increasing reputation between each bank rather than increase profitability (Gholami et al., 2022). In addition to that, banks should focus on ESG at a strategic level, meaning that if a bank aims to finance environmental projects, it should be incorporated as a bank risk strategy (Bătae et al., 2021).

By analysing the control variables used, it is possible to conclude that Size is statistically significant at 10% when using all the dependent variables. For both ROA and ROE, this variable presents a positive coefficient, which means that for every unit increase in Size, both ROA and ROE increase 0.019 and 0.05 percentage points, respectively. This conclusion is aligned with previous literature, since the larger the firms, the probability of these enterprises having more revenues is larger, that can potentially lead to an increase in firms' profits (Xie et al., 2018).

Furthermore, there are more studies that have found a positive relationship between Firm Size and Financial Performance measured by ROA (Velte et al., 2017) and using both measures – ROA and ROE (Alareeni & Hamdan, 2020). In terms of the relationship between Size and Tobin’s Q, it has a negative relationship (Hussain et al., 2018).

In terms of Capitalization, it is positive and statistically significant at 1% for both the regressions using ROA and ROE, which means that for every unit increase in Capitalization, both ROA and ROE increase by 0.264 and 0.405 percentage points, respectively. This is particularly aligned with recent literature related to financial firms, since the higher the ratio of Capitalization, the more a company uses equity rather than debt to finance its assets, which can be a factor that can positively influence both ROA and ROE (Nizam et al., 2019). In addition to that, the higher Capitalization is, the lower the financial risk, which might result in lower expenses and therefore increase both ROA and ROE.

## **Model II:**

*Table 7: Model II, Regression Results: ESG Pillars and Financial Performance*

**Table 7** presents the regression results of the relationship between ESG Pillars and Financial Performance, considering Size and Capitalization as control variables. Both Firm and Time Fixed-Effects were used. Some variables (ratio variables) were highly skewed. Therefore, ROA and ROE were winsorized at 1% level and Tobin’s Q and Capitalization were winsorized at 5% level, in order to exclude some possible outliers. Standard errors are robust to heteroscedasticity and are placed in parentheses. Significance levels are denoted according to three different significance levels: 1% (\*\*\*), 5% (\*\*), and 10% (\*). In that case, variables are significant at 1% level, 5% level, and 10% levels.

	<b>ROA (II)</b>	<b>ROE (II)</b>	<b>Tobin’s Q (II)</b>
<i>Intercept</i>	-0.32309* (0.200274)	-0.84915* (0.495423)	3.29739*** (1.25306)
<i>ENV</i>	0.000368** (0.000160)	0.000455 (0.000461)	0.001962*** (0.000808)
<i>SOC</i>	-0.00025 (0.000166)	0.000345 (0.000050)	-0.000082 (0.000875)
<i>GOV</i>	-0.0001 (0.000137)	-0.000048 (0.000364)	-0.000028 (0.000745)

<i>Size</i>	0.017767 (0.011824)	0.049670* (0.029296)	-0.135743* (0.074890)
<i>Capitalization</i>	0.26165*** (0.054375)	0.402767*** (0.124645)	0.303933 (0.334769)
<i>Firm Fixed-Effects</i>	Yes	Yes	Yes
<i>Time Fixed-Effects</i>	Yes	Yes	Yes
<b>Prob &gt; F</b>	0.0000	0.0000	0.0000
<b>Within R<sup>2</sup></b>	13.83%	8.93%	19.54%
<b>Between R<sup>2</sup></b>	12.52%	2.15%	24.87%
<b>Overall R<sup>2</sup></b>	14.09%	0.83%	24.98%
<b>Observations</b>	1254	1254	1254

*p-value < 0.01 (\*\*\*)*, *p-value < 0.05 (\*\*)*, *p-value < 0.10 (\*)*

**Table 7** considers the regression results from the relationship between each ESG Pillar and each indicator of Financial Performance. It is important to mention that in all the estimated regressions, Firm and Time Fixed-Effects were considered. Moreover, as happened in the previous regressions, to account for heteroskedasticity, standard errors are robust.

According to the results, it is possible to infer that the Environmental Pillar (ENV) is positive and statistically significant for both ROA and Tobin's Q. In fact, this is particularly in accordance with a previous research that found a positive relationship between ENV and both ROA and Tobin's Q (Buallay, 2018). When considering both the Social (SOC) and Governance (GOV) Pillars, they are not statistically significant within any Financial Performance indicator (Nollet et al., 2016; Gutiérrez-Ponce & Wibowo, 2023). Therefore, it is evident that only the hypothesis that considers a positive relationship between Environmental Pillar (ENV) and ROA or Tobin's Q as two different dependent variables, is confirmed. The other hypotheses that consider the relationship of the other pillars of ESG and Financial Performance are not accepted.

By considering each control variable, Size is statistically significant at 10% for both ROE and Tobin's Q, and not for ROA, as happened in Model I, which means that for every unit increase

in Size, ROE increase by 0.05 percentage points and Tobin's Q decrease by 0.136 percentage points. In terms of Capitalization, it is also significant when using ROA and ROE as dependent variables, therefore for every unit increase in Capitalization, both ROA and ROE increase 0.267 and 0.402, respectively.

### **b. Robustness Tests:**

In order to deeply understand the reliability of the previous results, robustness tests were developed. As a first approach, some bank's Profit and Loss (P&L) variables were considered as Dependent Variables rather than using ROA, ROE, or Tobin's Q to see if the relationship between ESG and those P&L variables exists (using as control variables the initial ones – Size and Capitalization).

Considering this, Non-performing Loans (NPL), which are characterized as bank loans that are subject to late payment by the borrower, were used as a dependent variable for both Model I and Model II. It is important to consider NPL since financial firms that adopt sustainable initiatives tend to have fewer Non-Performing Loans (Boussaada et al., 2023), that could contribute to a more bank's stability.

In fact, the results differ for Model I compared to the ones from section a). This means that, when analysing **Table 8**, the relationship between ESG and NPL suggests a statistically negative relationship, which means that for every unit increase in ESG, Non-Performing Loans decrease by 0.0098 percentage points. However, when looking for each Pillar of ESG, the relationship continues to be insignificant. Moreover, in terms of the control variables, Size continues to be statistically significant for both Models and Capitalization became insignificant.

#### ***Table 8: Model I and II Robustness Tests: ESG/ESG Pillars and Non-Performing Loans***

**Table 8** presents the regression results of the robustness tests of the relationship between both ESG and each ESG Pillar and Non-Performing Loans, considering Size and Capitalization as control variables. Both Firm and Time Fixed-Effects were used. Standard errors are robust to heteroscedasticity and are placed in parentheses. Significance levels are denoted according to three different significance levels: 1% (\*\*\*), 5% (\*\*), and 10% (\*). In that case, variables are significant at 1% level, 5% level, and 10% levels.

	Non-Performing Loans (Model I)	Non-Performing Loans (Model II)
<i>Intercept</i>	-1.2182 (7.09996)	-0.1625 (7.20429)
<i>ESG</i>	-0.0098** (0.00410)	
<i>ENV</i>		0.0021 (0.002863)
<i>SOC</i>		-0.0070 (0.00286)
<i>GOV</i>		-0.0051 (0.003509)
<i>Size</i>	0.9614*** (0.370753)	0.9034* (0.05558)
<i>Capitalization</i>	-14.6319 (6.80839)	-14.9518 (6.75297)
<i>Firm Fixed-Effects</i>	Yes	Yes
<i>Time Fixed-Effects</i>	Yes	Yes
<b>Observations</b>	626	626

*p*-value < 0.01 (\*\*\*), *p*-value < 0.05 (\*\*), *p*-value < 0.10

In addition to NPL, Net-Interest Income, which is the difference between total interest income (the amount of income a bank generates) and total interest expense (the amount of costs a bank incurs) is also important to consider when looking at a P&L of a bank. Therefore, when looking at the results from **Table 9**, it shows a non-statistical significance between Net-Interest Income and ESG. In terms of evaluating each Pillar of ESG, only for both ENV and SOC exists a positive and negative relationship with Net-Interest Income, respectively. Additionally, Size remains statistically significant for the two Models and Capitalization only seems significant for Model II (when evaluating the relationship between each ESG Pillar and Net-Interest Income).

**Table 9: Model I and II Robustness Tests: ESG/ESG Pillars and Net-Interest Income**

**Table 9** presents the regression results of the robustness tests of the relationship between both ESG and each ESG Pillar and Net-Interest Income, considering Size and Capitalization as control variables. Both Firm and Time Fixed-Effects were used. Standard errors are robust to heteroscedasticity and are placed in parentheses. Significance levels are denoted according to three different significance levels: 1% (\*\*\*), 5% (\*\*), and 10% (\*). In that case, variables are significant at 1% level, 5% level, and 10% levels.

	Net-Interest Income (Model I)	Net-Interest Income (Model II)
<i>Intercept</i>	-1.3645 (1.9970)	-0.1625 (7.20429)
<i>ESG</i>	-0.0022 (0.00123)	
<i>ENV</i>		0.0021*** (0.00086)
<i>SOC</i>		-0.0022** (0.00097)
<i>GOV</i>		-0.0017 (0000921)
<i>Size</i>	0.8903*** (0.09846)	0.8585*** (0.102866)
<i>Capitalization</i>	-7.27697 (3.53416)	-7.4162* (6.75297)
<i>Firm Fixed-Effects</i>	Yes	Yes
<i>Time Fixed-Effects</i>	Yes	Yes
<b>Observations</b>	667	667

*p-value < 0.01 (\*\*\*), p-value < 0.05 (\*\*), p-value < 0.10*

Moreover, in order to complement the initial study (the relationship between ESG/ESG Pillars and Financial Performance), a different approach to robustness tests was considered. For that, two different control variables were added to the research: Liquidity, which is the number of

Total Deposits divided by Total Assets, that is an important measure to understand the Liquidity Risk related to the withdrawal of bank deposits' (Nizam et al., 2019) and Non-Performing Loans, that were measured by using the natural logarithm of it.

Those variables were also retrieved from *Refinitiv Eikon*. However, when adding them to the previous sample, the number of observations dropped around 50%, because there are a lot of European Banks that do not dispose values regarding these two categories.

### **Model I:**

**Table 10: Model I Robustness Tests: ESG and Financial Performance**

**Table 10** presents the regression results of the robustness tests of the relationship between ESG and Financial Performance, considering Size, Capitalization, Liquidity and Non-Performing Loans as control variables. Both Firm and Time Fixed-Effects were used. Standard errors are robust to heteroscedasticity and are placed in parentheses. Significance levels are denoted according to three different significance levels: 1% (\*\*\*), 5% (\*\*), and 10% (\*). In that case, variables are significant at 1% level.

	<b>ROA (I)</b>	<b>ROE (I)</b>	<b>Tobin's Q (I)</b>
<b>Intercept</b>	-0.249062*** (0.075453)	-3.01885*** (1.02998)	1.29797*** (0.226484)
<b>ESG</b>	-0.0000064 (0.000069)	-0.000204 (0.000834)	-0.000724 (0.000556)
<b>Size</b>	0.011660*** (0.031020)	0.156200*** (0.05558)	-0.011408 (0.013352)
<b>Capitalization</b>	0.104426*** (0.031873)	1.654914*** (0.459970)	-0.468307*** (0.192846)
<b>Liquidity</b>	0.032836*** (0.010776)	0.406694*** (0.133212)	0.018480 (0.065305)
<b>Non-Performing Loans</b>	0.001484 (0.00109)	-0.005630 (0.009442)	0.000049 (0.005258)
<b>Firm Fixed-Effects</b>	Yes	Yes	Yes
<b>Time Fixed-Effects</b>	Yes	Yes	Yes

<b>Prob &gt; F</b>	0.0000	0.0000	0.0000
<b>Within R<sup>2</sup></b>	21.58%	17.49%	28.16%
<b>Between R<sup>2</sup></b>	13.19%	8.41%	0.02%
<b>Overall R<sup>2</sup></b>	7.54%	1.41%	4.16%
<b>Observations</b>	626	626	626

*p-value < 0.01 (\*\*\*)*

**Table 10** provides the regression results of the robustness tests from the relationship between ESG and Financial Performance. It is important to mention that, as happened in the original study, in all the estimated Regressions, Firm and Time Fixed-Effects were considered. Moreover, as before, to account for heteroskedasticity, standard errors are robust.

The results from the robustness tests that establish the relationship between ESG and Financial Performance are in accordance with the Model I, since ESG is not significantly related with any Financial Performance measure (ROA, ROE, or Tobin's Q). Moreover, considering the same control variables that was used before, Size is also positively significant with both ROA and ROE and Capitalization is significant for the three different indicators of Financial Performance. Considering the added control variables, Liquidity is positive and significantly related to both ROA and ROE (Nizam et al., 2019). However, when it comes to Non-Performing Loans variable, it does not have any impact either on ROA, ROE, and Tobin's Q.

Therefore, this analysis was important to confirm the initial results, that ESG does not have any impact on determining each ratio of Financial Performance for banks.

### **Model II:**

**Table 11:** *Model II Robustness Tests: ESG Pillars and Financial Performance*

**Table 11** presents the regression results of the robustness tests of the relationship between each ESG Pillar and Financial Performance, considering Size, Capitalization, Liquidity and Non-Performing Loans as control variables. Both Firm and Time Fixed-Effects were used. Standard errors are robust to heteroscedasticity and are placed in parentheses. Significance levels are denoted according to three different significance levels: 1% (\*\*\*), 5% (\*\*), and 10% (\*). In that case, variables are significant at 1% level.

	<b>ROA (II)</b>	<b>ROE (II)</b>	<b>Tobin's Q (II)</b>
<i>Intercept</i>	-0.267952*** (0.073004)	-3.10169*** (1.00457)	1.24159*** (0.259334)
<i>ENV</i>	-0.0000046 (0.000041)	-0.000384 (0.00048)	-0.000348 (0.00035)
<i>SOC</i>	0.000019 (0.000053)	0.000088 (0.00069)	-0.00011 (0.000274)
<i>GOV</i>	0.000033 (0.000041)	0.000117 (0.00033)	-0.000262 (0.000304)
<i>Size</i>	0.012244*** (0.003788)	0160385*** (0.054306)	-0.00839 (0.001302)
<i>Capitalization</i>	0.108270*** (0.031202)	1.68513*** (0.447704)	-0.44285*** (0.186072)
<i>Liquidity</i>	0.031727*** (0.011108)	0.399501*** (0.13251)	0.015855 (0.06628)
<i>Non-Performing Loans</i>	0.001510 (0.00109)	-0.004763 (0.009216)	0.000463 (0.005584)
<i>Firm Fixed-Effects</i>	Yes	Yes	Yes
<i>Time Fixed-Effects</i>	Yes	Yes	Yes
<b>Prob &gt; F</b>	0.0000	0.0000	0.0000
<b>Within R<sup>2</sup></b>	22.41%	17.78%	28.60%
<b>Between R<sup>2</sup></b>	12.99%	8.52%	0.07%
<b>Overall R<sup>2</sup></b>	7.49%	1.48%	3.87%
<b>Observations</b>	626	626	626

*p*-value < 0.01 (\*\*\*)

**Table 11** contemplates the regression results of the robustness tests from the relationship between each ESG Pillar and Financial Performance. As happened in all the previous studies, Firm and Time Fixed-Effects were considered and to account for heteroskedasticity, standard errors are robust.

According to the results, there is no impact of each ESG Pillar – ENV, SOC, and GOV, – on the Financial Performance of European banks. This is in accordance with the previous results, when considering both the Social and Governance Pillars. When it comes to the Environmental Pillar, previously ENV was positively and significantly related with both ROA and Tobin's Q. However, when adding Liquidity and Non-Performing Loans, it is not the case. Therefore, it cannot be totally confirmed that this relationship exists, and it is mainly justified since the Environmental Pillar is not an indicator of analysing how well companies assess their profits, as ROA and ROE do.

Furthermore, when looking at the control variables, Size is also positively significant with both ROA and ROE. Additionally, Capitalization is significant for the three different indicators of Financial Performance – ROA, ROE, and Tobin's Q. In terms of Liquidity, it is positive and significantly related to both ROA and ROE and NPL are not significant for any indicator of Financial Performance.

### **c. Limitations and Suggestions for Further Research:**

The data sample selected for this study incorporates European financial institutions, limiting the study to a small number of companies and sectors. Moreover, there is a lack of ESG Data available that also constrains the number of companies included in the research. In fact, banks only started to disclose ESG Data in the recent years. Hence, the main limitation of this analysis is the small number of observations used. Moreover, the presented research only includes banks in the European sector, also indicating a geographical limitation.

Following the previous mentioned limitations of this research, a suggestion related to the small number of observations could be do the same study in the future but use also other sectors and then compare them in order to analyse if the results are consistent with the financial institutions or not. Furthermore, despite the European market is considered as one of the largest in the world, for the future, banks from the United States (the effective largest market in the globe) could also be included, in order to compare the results according to each market. In fact, the differences between European and United States markets should be interesting and relevant, since banks are subject to a lot of obligatory requirements, that differ within each nation. Additionally, more control variables could be included in order to perform a better analysis, for example considering macro-economic variables, such as GDP Growth or Inflation.

As a last consideration, it exists also the limitation that the results are not causal. This is because the correlations of the relationship between variables are conditional, meaning that there are other factors that might justify both ESG and Financial Performance simultaneously. Thereby, future research should consider whether changes in ESG directly influence Financial Performance or if there are other factors affecting both variables.

## **VI. Conclusion:**

In the past decades, the urgency to include ESG risks in a company's business has emerged. A complement to that, the necessity to understand how this risk might be related to Financial Performance has also substantially risen. This study only considered a specific sector of an economy, the banking sector and, as previously discussed, banks only started to disclose ESG data more recently. For European Banks, the main legislation that turned out to be mandatory for financial institutions were the Directive 2014/95/EU the Directive 2022/2462/EU, and specific regulations of the European Bank Authority.

The notion of including ESG in a company's business and operations is very premature. Because of that, most of the scholars, who have been analysing the relationship between ESG and Financial Performance, have still not found a clear and concise interaction between those two variables – some authors found a positive relationship, others negative evidence and others have not found any relationship. As previously discussed, researchers mostly use as measures of Financial Performance, ROA, ROE and TQ. This previous literature has analysed the relationship between Financial Performance with ESG as an overall score, and within each Pillar – Environmental, Social, and Governance, and the results of considering only ESG or ESG Pillars and relating it with Financial Performance, still need to be more accurate.

The results of this thesis were important to understand that ESG, specifically for the banking industry, does not have any relationship with Financial Performance. In the same way as ESG, only the Environmental Pillar showed positive evidence between both ROA and Tobin's Q. To understand the reliability of this study's outcomes, two different approaches of robustness tests were made. As a first approach, the current Dependent Variables (Financial Performance indicators) were changed to specific items of a bank's P&L: Non-Performing Loans and Net-Interest Margin. The results were important to understand that when using specific variables of

a bank's P&L, there might be a relationship between ESG/ESG Pillars and those items. In fact, using Non- Performing Loans led to a negative relationship with ESG Score and considering Non-Interest Margin, a positive relationship with Environmental Pillar and a negative one with Social Pillar. Despite doing this approach, another one was performed, by creating a new sample with additional control variables, and it was important to understand that even adding more bank related variables to the initial research, the relationship between ESG and Financial Performance remained insignificant. The main difference when analysing the relationship between ESG Pillars and Financial Performance using the new sample, was the fact that the Environmental Pillar showed a non-significant relationship and in the main study results' it had a positive relationship with both ROA and TQ.

To conclude, this research enabled to understand that it is important for banks to consider ESG however, as a long-term strategy. At the same time, ESG is a practice that does not directly relate to a company's Financial Performance, namely because either ROA, ROE, are measures of accountability and Tobin's Q is a measure of a firm's value, whose sustainability is not quantified.

In addition to that, it is essential for financial institutions to become more aware of how they implement and manage those actions since, as time moves on, ESG practices will increase because there are more employees who focus their attention on how their enterprises are conducting a more socially responsible behaviour. As a result, this study provided great enhancement to the ongoing discussion of ESG and Financial Performance within the banking sector.

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