Lisbon School of Economics & Management
Universidade de Lisboa

MASTERS IN MANAGEMENT (MIM)

MASTERS FINAL WORK

DISSERTATION

ESG FACTORS AND FINANCIAL PERFORMANCE OF CORPORATIONS: THE CASE OF MEDITERRANEAN COUNTRIES

FRANCISCO MIGUEL DINIS DE CARVALHO

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FRANCISCO MIGUEL DINIS DE CARVALHO

SUPERVISOR: PROF. MARIYA GUBAREVA

JURY:
PRESIDENT: PROF. MARIA EDUARDA MARIANO AGOSTINHO SOARES
RAPPORTEUR: PROF. PATRÍCIA SOFIA COELHO DE MELO
SUPERVISOR: PROF. MARIYA GUBAREVA

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RESUMO

Este estudo investiga o efeito da divulgação de informações ambientais, sociais e de governação no desempenho financeiro da empresa, utilizando uma amostra mediterrânica. O estudo avalia o período de 2017 a 2021, abrangendo um período afetado pela crise da COVID-19 e fornece provas empíricas dos países do Sul da Europa. A investigação declara que o ESG e cada um dos seus pilares não estão significativamente relacionados com o desempenho financeiro das empresas. A conclusão deste estudo é que as medidas ESG ainda estão numa fase inicial, em que ainda não é possível medir o seu efeito. A investigação revela algumas oportunidades de melhoria para estudos futuros.

Palavras-Chave: Estrutura ESG, Desempenho financeiro, Retorno sobre Ativos, países Mediterrâneos

ABSTRACT

This study investigates the effect of Environmental, Social, and Governance disclosure on the corporation's financial performance, using a Mediterranean sample. The study assesses the period from 2017 to 2021, covering a period impacted by the COVID-19 crisis, and provides empirical evidence from Europe's southern countries. The research states that ESG and each one of its pillars are not significantly related to companies' financial performance. This study concludes that ESG measures are still in an early stage when it is not possible yet to measure their effect. The research reveals some improvement opportunities for future studies.

Keywords: ESG Framework, Financial Performance, Return on Assets, Mediterranean countries

ABBREVIATIONS

ESG: *Environmental, Social, and Governance*

SDGs: *Sustainable Development Goals*

ROA: *Return on Assets*

CSR: *Corporate Social Responsibility*

KPI: *Key Performance Indicators*

GDP: *Gross Domestic Product*

CPI: *Consumer Prices Index*

PPI: *Producer Prices Index*

HICP: *Harmonized Index of Consumer Prices*

OLS: *Ordinary Least Squares*

PIGS: *Portugal, Italy, Greece, Spain*

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TABLE INDEX

CHAPTER 1 – INTRODUCTION

The primary goal of any firm has always been to generate the highest possible profit and maximize value for shareholders. Throughout the years, many crises have been affecting businesses and their growth, which led to a change in mentality, where the main goal of a firm is to create value for all stakeholders. The topic of sustainability and, in consequence, environmental, social, and governance (ESG) issues are getting more attention than ever (Thukral et al., 2019).

ESG elements collectively form a framework used by investors and companies to evaluate and measure the sustainability and societal impact of an investment in a corporation, as well as being a tool to achieve all 17 SDGs (Cruz & Matos, 2023). This framework helps to ensure the transparency of businesses, to make sure that the reporting is done according to the accounting standards and is a better way of monitoring its progress in the corporate world (Plastun et al., 2020). In addition, the ESG framework helps to monitor the transition to affordable energy and alternative technologies that impact climate change (SDG 7 & 13), as well as leading the way to the inclusion of gender diversity and equality, decent work, and economic growth (SDG 5), and last but not least, good governance that may impact on the society and the community companies are in (SDG 11), mainly (UN SDG, 2023).

ESG alludes to three areas of interest that stakeholders use to assess a firm's sustainability performance and its impact on society. Firstly, the environmental component pays attention to the carbon footprint, waste management, and climate-related risks and opportunities. Secondly, the social component takes into consideration aspects related to gender equality, relations with stakeholders, and involvement with society. Finally, governance deals with the firm's management and practices (OECD, 2015).

The relationship between ESG and firm performance is a topic with relevance in nowadays business world. Companies are delivering ESG reports to meet stakeholders' expectations and scholars are researching to find whether this is an advantage or a disadvantage for the firm. In the end, there is no conclusion yet. There are studies where the connection is positive (Friede et al., 2015; Pulino et al., 2022), which is associated with the stakeholder theory. On the other hand, there are studies where the relationship is negative (Shaikh, 2021; Zhao et al., 2018), which is associated with the trade-off theory.

My generation, Generation Z, is the first to be aware of climate change and sustainable practices from a young age. Being able to develop a study in which it is possible to understand the possible implications of a framework that pays attention to climate-related issues in the financial health of companies fascinates me. Additionally, being part of the financial area of a multinational company with a significant presence in the stock market and publicizing ESG reports, soon opened my eyes to evaluate the influence of ESG on financial performance. In the end, having the possibility of impacting the near future of the firm's performance with a concept that has been present in my mind for years and applying the knowledge acquired in the master's course was definitely crucial in the choice.

The present study intends to contribute to the existing literature to clarify the contradiction persistent on the topic. It will provide an analysis of the ESG ratings and their influence on the financial performance of companies, considering Return on Assets (ROA) as the performance indicator. The empirical evidence presented in this study highlights the relationship between ESG scoring and financial performance using a Mediterranean sample. There are studies conducted in Europe (Aras & Hacioglu Kazak, 2022; Pulino et al., 2022), and other developed countries that explored the topic in question; however, there is still a lack of research on ESG and financial performance relation in the Mediterranean countries.

The current literature calls for research in the Mediterranean countries to complement what has already been studied. The study aims to understand the impact of ESG framework ratings on financial performance, which would contribute to the current knowledge and provide support for future research.

ESG reporting is a way of establishing a connection with stakeholders, therefore having clear conclusions is important for firms. The following aspects will prove the contribution of the current study to the state-of-the-art. Firstly, it will cover a space where there is a lack of literature, meaning that there is a lack of research using Mediterranean countries as samples. These countries, as demonstrated later in the Literature Review, are rarely used to be studied. Secondly, the study's findings may help firms decide whether to adopt or not ESG-related actions, to improve their ratings, as well as help to define if ESG is a priority for a company. Third, the Mediterranean countries were the most affected by the debt crisis, and, recently, by the pandemic crisis due to the specificities of their economies. In addition, policymakers and regulators of the area can use the information to incorporate it into the law to protect and benefit companies that are already

ESG-responsible. After all, this thesis is expected to add value to the current literature as there was a lack of research using Mediterranean countries, as well as there is no conclusion on the topic yet (Buallay et al., 2020; Fatemi et al., 2018).

The rest of the study is organized as follows. Chapter 2 explores the literature on sustainability disclosure, stakeholder theory, ESG Definition, and Reporting, as well as the relevance of ESG for the financial industry and the impact of ESG on firm financial performance in previous studies. In Chapter 3, the data samples and methodology are explained. Chapter 4 is the presentation of the results obtained. Chapter 5 recalls the literature review, and compares with the results obtained in the previous chapter. Finally, Chapter 6 concludes the empirical study.

CHAPTER 2 – LITERATURE REVIEW

In this chapter, it is explored the non-financial disclosure, theories, and factors that influence firms' decision to provide it. First, the literature on sustainability communication and the stakeholder theory is examined. The second subchapter provides insight into the ESG definition and its divulgence. In section 2.3 it is explored the relevance of ESG to the financial industry. Section 2.4 will provide empirical evidence of ESG scoring on firm performance. Finally, 2.5 provides the hypotheses that are going to be explored in the study.

2.1 Sustainability disclosure and Stakeholder theory

Voluntary disclosure of non-financial information is the detailed reveal of private data used as the baseline for corporate disclosure. Companies with a higher performance reveal information voluntarily to share with stakeholders its real performance and, usually, to increase market value (Hummel & Schlick, 2016). In addition, superior sustainability disclosure leads to lower costs of equity capital and attracts more institutional investors, as well as analysts (Dhaliwal et al., 2012).

Non-financial information disclosure needs to respect the condition of reporting the truth. As well as in financial disclosure, revealing untruthful information brings problems to companies, such as litigation or reputational risks, that firms want to avoid. Creating an image of a sustainable company is a way of achieving corporate success (Ameer & Othman, 2012; Hummel & Schlick, 2016).

The stakeholder theory tells companies that they must establish a connection with their stakeholders to define and develop the business model, as well as strengthen the operational part (Hummel & Schlick, 2016; Michelon & Parbonetti, 2012). Considering this, the divulgence of environmental, social, and governance issues is crucial for the dialogue between a firm and its stakeholders. It provides content on the company's behavior and aligns expectations on both stakeholders and corporate objectives about the future (Adams & McNicholas, 2007; Michelon & Parbonetti, 2012).

In the next section, it will be explored the literature on the ESG definition and its disclosure.

2.2 ESG Definition and Reporting

Environmental, Social, and Governance (ESG) performance has been widely seen as a protection for socially responsible companies, allowing them not to destroy value compared to non-ESG firms (Narula et al., 2024). The acceptance of the ESG framework highlights the importance of Sustainable Development worldwide. ESG is a detailed method to assess the risk in topics covered by this framework, meaning environmental protection, social responsibility, and corporate governance (Bai et al., 2022).

There is no academic definition for ESG, although it is known to be a combination of three areas. This concept rose from the aggregation of responsible and ethical investment, giving power to corporate social responsibility being the main framework for sustainable firms (Wan et al., 2023).

ESG is a three-way concept. It incorporates environmental, social, and governance points. The first letter, E, deals with Environmental criteria and addresses issues such as a firm dependence on fossil fuels, management of water, level of pollution, climate change, waste management and disposal, as well as the carbon footprint and other factors that are impactful in climate. Companies should take opportunities like changing to renewable energy, minimizing pollution, and controlling the carbon footprint to evolve this point of ESG measures. Considering these opportunities enables the creation of competitive advantages that every company pursues in the respective markets (Boffo et al., 2020; Dobers, 2009; Dragomir, 2020; Senadheera et al., 2021). After all, there is one point that is delaying the change to alternative technologies and renewable energy: the cost of capital. This cost is the biggest obstacle for firms and the main reason why this change did not occur instantaneously, especially for smaller enterprises. However, building a clear path to reach sustainable goals is halfway to conquering responsible investors and taking advantage of green businesses (Senadheera et al., 2021).

The second letter, S, refers to Social criteria and considers the relationship between employees, how employees describe the firm, and the point of view of clients towards the firm, whether good or bad. Measures such as the involvement of lower-level employees in board meetings, diversity inclusion, and no gender discrimination can help deal with the problem. Companies that do not accomplish the S objectives tend to have a higher level of absenteeism, lower productivity, or weak client relations. The Social criteria rely on the corporate social responsibility (CSR) framework (Boffo et al., 2020; Lee et al., 2023).

CSR is a crucial aspect of businesses nowadays. The framework is not only a moral aspect but something that can be considered a competitive advantage, with consumers' preferences aligned with socially responsible companies, rewarding those firms with loyalty and purchase of its goods. The domains related to the social aspect of ESG are employee relations, human rights, diversity, and community issues. The first one, employee relations, refers to the way companies are involved with employees, giving them the best health and safety during their career and providing them with retirement plans when it comes to an end, as well as having good relations with unions. Secondly, human rights consider all the actions that support basic needs and ensure there is no restriction to freedom. Third, the company needs to guarantee that there are no exclusions regarding gender, age, ethnicity, or sexual orientation, everyone has the same possibilities inside a firm. Last but not least, companies should pay attention to community issues, meaning evaluate the impact of the company on the local community, producing initiatives that help the community to grow (Baskentli et al., 2019; Sen & Bhattacharya, 2001). Businesses' goal is to create new jobs and wealth within society. If they fail to do so, they are putting pressure on people. The pandemic exposed the issues intertwined with this pillar, putting pressure on companies to analyse the society surrounding them and build action plans to improve social matters (Shayan et al., 2022).

The last letter, G, refers to Governance and considers factors related to board independence and diversity, corporate ethics, and management compensation. Governance takes into consideration the relationship between all stakeholders, either management, shareholders, or other stakeholders. It is this pillar that establishes the path that the company wants to follow, how to go along with it, and how to monitor it. Companies with weak corporate governance usually incentivize unethical behaviours related to disclosure and illegal payments (Boffo et al., 2020; OECD, 2015).

Governance depends on the equilibrium between internal and external factors that enable its efficiency and help in solving conflicts of interest, control, and transparency, that arise from corporate structure. An effective governance system should meet the laws and regulations defined by governments and allow firms to escape litigation (Graham et al., 2004; Tipurić et al., 2020).

The attention given to ESG factors has been rising over the years compared to financial factors usually used to evaluate enterprises. If the market wants to become mainstream, businesses cannot be evaluated based only on economic indicators (D'Amato et al., 2023). Formerly, financial factors for assessing firms relied heavily on asset availability or

financial results while today those are less valuable in evaluating companies compared to intangible assets such as ESG performance, brand value and reputation, or intellectual property (Egorova et al., 2021; Halid et al., 2023; Șerban et al., 2022). ESG disclosure is an addition to non-financial information disclosure - a tool to understand the enterprises in a detailed way, as well as the stakeholders involved in the business (Bai et al., 2022; Pulino et al., 2022).

ESG has differentiated the companies' approach, changing the strategy of chasing maximum profit to maximizing value. The new objective considers the environmental protection, social responsibility, and governance policies adopted. Firms that made the change can develop new business models (Iazzolino et al., 2023). It is possible to create and establish a business environment that focuses on all aspects using the triple bottom line approach (Zehir & Aybars, 2020). The triple bottom line approach produces a framework that measures the accomplishments of businesses using the three lines: profit, people, and planet, or, in other words, environmental, social, and governance. The term is defined to be the development that meets the needs of present generations without thinking of future generations' needs (Norman & Macdonald, 2003).

ESG Reporting has obtained popularity and attention within organizations and communities that are aware of socially responsible factors (Escrig-Olmedo et al., 2013; Hill et al., 2007; Pérez-Calderón et al., 2011; Shaikh, 2021).

A higher level of non-financial reporting disclosure allows researchers, investors, analysts, and other stakeholders to understand exactly what has been done, meaning a higher level of scrutiny. A positive outcome of scrutiny helps the enterprise to understand weak and strong aspects, enabling the firm to improve the weaknesses and take advantage of the strengths. Moreover, higher disclosure also leads to more transparency, meaning more efficiency that, in the end, results in a better operating performance (Kocmanová et al., 2016; Pu, 2023; Quintiliani, 2022).

Investors want to ensure that their investments generate a return. On the other hand, governance or corporate governance considers those investments and ensures that they are possible, from every point of view, from the board of directors to legal frameworks, not forgetting financial markets or the environment the firm is in (Davis, 2005).

Responsible investment is what investors are seeking to do. Including ESG indicators has turned out to pay dividends in corporate behaviour. Companies that focus on following sustainability principles have been able to create long-term success and value, leading to improvements in financial performance (Escrig-Olmedo et al., 2013).

Generally, enterprises consent that short-term focus only on financial performance is not the preferred evaluation method. Although companies seem to understand the importance of ESG measures, firms keep publishing separate reports, which turns out to be challenging to find connections between financial performance and sustainability performance (Halid et al., 2023; Zahid et al., 2022).

ESG reporting reveals risks and opportunities from environmental, social, and governance issues, helping investors focus on other important issues rather than just looking at companies' financial reports. Investors are increasingly accepting this ESG report as valuable, requesting new ways to evaluate firms considering this topic (Halid et al., 2023). Even though ESG Reporting is not mandatory for companies, a growing number of firms have been reporting what goals they have been achieving and the future ones they want to achieve. The main objective of the ESG framework is to emphasize ethical topics, which usually leads to superior corporate performance (Șerban et al., 2022).

The turning point for ESG Reporting was COVID-19, with the global health issue leading to a rising interest in the topic. Firms and investors have been pushing managers to incorporate ESG criteria in the business approach (Narula et al., 2024; Pu, 2023; Shayan et al., 2022; Wan et al., 2023).

Companies have been facing arduous challenges in recent years, namely the pandemic crisis, the climate crisis, the social and justice crisis, and the global economic crisis, all risks related to ESG. Consequently, ESG risks have the highest potential to damage businesses and must be included in corporate strategy. Sustainability risks are not only something that sounds good thinking about and incorporate into a firm’s strategy but are decisive nowadays. The incorporation of these risks and opportunities helps to build a path towards short-, medium-, and long-term performance, usually a better long-term performance for firms that take into consideration ESG metrics (Aras & Hacioglu Kazak, 2022).

Firms use ESG reporting to communicate with stakeholders and give emphasis to its crucial role in potential value creation, social benefits, and risk mitigation. The quality of non-financial information must be improved to improve utility and to be confirmed as a comparative advantage. Thus, academics and corporations pay more attention to it due to its importance in value creation (Plastun et al., 2020).

In the 21st century, companies no longer pursue net profit maximization without thinking about people and the planet. Stakeholders and managers are convinced that firms

with a higher level of ESG disclosure can yield better operating performance and transform it into higher returns, accompanied by a lower risk (Pérez-Calderón et al., 2011; Shaikh, 2021). In addition, corporations are changing their way of thinking, trying to move from a shareholder perspective to a stakeholder perspective, meaning companies and their owners prefer and are adopting an approach that thinks of all the parties involved within their business environment (stakeholders) instead of only thinking about shareholders and their interests (Myšková & Hájek, 2020; Pu, 2023).

Companies that operate with consideration of ESG standards can capture the attention of employees, customers, and other stakeholders around them. As a consequence, these corporations guarantee and are rewarded with good ESG ratings, as well as the possibility to generate sustainable growth (Henisz et al., 2019).

In the next section, the main question is to address the relevance of ESG for the financial industry.

2.3 ESG relevance for the financial industry

The 2008 Global Financial crisis has led to an increase in scrutiny of the beliefs and the pillars underneath global markets and investment models. The severe financial crisis encouraged the commitment to responsible investment and ESG integration in companies. Moreover, national and international regulators started developing practices related to sustainable finance, with increased attention on ESG taxonomy (D'Amato et al., 2023).

The public interest in the social, environmental, and ethical profile of firms has been growing. The interest in ESG has put the financial industry under a level of scrutiny higher than ever. Financial mediators have a critical role in the allocation and transmission of capital and, as a consequence, financial firms and banks are under specific legislation on capital adequacy, resolution mechanisms, and transparency. Despite the regulation, a large number of scandals have been emerging in the last decades (Crespi & Migliavacca, 2020).

The salvation of the financial industry might be intertwined with the current sustainability trend, where financial industries can restore their credibility and reputation to the public's point of view. Investors increase the demand for transparency and financial firms answer with ESG standards, creating a sustainable finance rating that has been seen as a phenomenon within the industry (Busco et al., 2020; Crespi & Migliavacca, 2020).

To increase clarity, the ESG rating is a report that guarantees the solidness of companies, from an environmental, social, and governance point of view. From the financial industry viewpoint, not all factors from ESG ratings are valuable with factors related to governance issues, namely money laundering or fraud, taking a higher importance for the industry and banks (Quintiliani, 2022).

The sustainability trend can contribute to creating or destroying value, with investors not pricing the value of climate-related risks or opportunities in the value of the contracts yet. Banks and financial institutions are the market players that transmit and allocate capital, as well as, spread political and economic impulses. To transmit a preference for green projects rather than non-green projects, incentives are implemented (D'Amato et al., 2023).

There is an open discussion following the connection between ESG and a company's financial performance. There is some disagreement among researchers on whether the impact is positive or negative due to a lack of evidence and studies to prove it, resulting in no consensus on whether financial performance is linked to or impacted by ESG factors (Halid et al., 2023).

During the next section, the empirical literature on ESG and firm performance will be examined.

2.4 ESG and Firm Performance

ESG is considered one of the principal aspects of non-financial disclosure. As a consequence, companies are improving and publishing their ratings. The three pillars of ESG are divided into categories. The framework assesses a company's sustainability performance by its score, which is the average result of the scoring of each pillar's key performance indicators (KPIs). Summing up, a company is more sustainable when the ESG scoring is better (Carp et al., 2019; Halid et al., 2023; Melinda & Wardhani, 2020). All dimensions combined strengthen management practices that enable good financial performance (Tarmuji et al., 2016; Zahid et al., 2022).

The relationship between a firm's ESG performance and financial performance needs to be well-defined and identified. The accumulation of empirical studies and their conclusions give support to the legislation and regulations developed by governments regarding the issue (Jung & Yoo, 2023).

According to previous studies, there is no clear evidence of positive, negative, or no relation between ESG and firm performance. The unclear evidence of the studies depends on the conditions of analysis, such as country, industry, type of firm, as well as the financial indicators applied in the studies (Jung & Yoo, 2023).

In some cases, ESG scoring produces a positive impact on firm performance leading to reduced financing costs (Aras & Hacioglu Kazak, 2022; Bai et al., 2022; Friede et al., 2015; Melinda & Wardhani, 2020; Pu, 2023; Pulino et al., 2022; Tarmuji et al., 2016; Wang & Sarkis, 2017). The positive outcome of the studies is justified by the stakeholder theory, where the focus is on maximizing the value for all stakeholders. The theory also considers that ESG activities should be seen as opportunities and possibilities for innovation rather than just an academic concept with no influence (Jung & Yoo, 2023).

When we look at a wide range of studies the conclusion is not the same. ESG scoring either influences negatively firm performance (Brammer et al., 2006; Ruan & Liu, 2021; Shaikh, 2021; Zhao et al., 2018), or does not find a relation between ESG and firm performance (Atan et al., 2018). There are even studies that show a positive relation from one variable, no relation from one other, and a negative relation from another (Narula et al., 2024; Velte, 2017). The negative outcome is justified by the trade-off theory, where it is argued that ESG activities are too expensive and end up inefficiently using the resources, leading to a decrease in profitability (Jung & Yoo, 2023).

TABLE I – REVIEW OF EMPIRICAL LITERATURE

Source	ESG Measure	ESG Database	Performance Measure	Country	Conclusion
Pulino et al, 2022	ESG Score Environmental Score Social Score Governance Score	Refinitiv	EBIT ROA	Italy	Positive
Pu, 2023	ESG ESG^2	Wind database	Tobin's Q ROA	China	Positive
Melinda & Wardhani, 2020	ESG ESGCOMB ENV SOC GOV CONTRO	Thomson Reuters	Tobin's Q ROA ROE	Asia	Positive

	CGOV				
Aras & Hacioglu Kazak, 2022	ESG_M ESG_C	Refinitiv	Price Book Value Tobin's Q ROE	OECD	Positive
Friede et al, 2015	Meta-analysis				Positive
Bai et al, 2022	lnESG	CSMAR	ROA	A-share companies: Shanghai and Shenzhen Stock Exchanges	Positive
Wang & Sarkis, 2017	ESG	Bloomberg	ROA Tobin's Q	United States	Positive
Narula et al, 2024	ESG Score E Score S Score G Score	CRISIL	ROA ROCE Tobin's Q	India	E pillar - Negative, S pillar - neutral G pillar – positive
Velte, 2017	ESG rating	Thomson Reuters	ROA Tobin's Q	Germany	Positive Neutral
Atan et al, 2018	ESG Score	Bloomberg	ROE Tobin's Q WACC	Malaysia	Neutral
Shaikh, 2021	ESG	Bloomberg	ROA ROE Tobin's-Q	Europe America Asia Australia	Negative
Zhao et al, 2018	ESG performance index	CSMAR	ROCE D-E ratio	China	Negative
Brammer et al, 2006	ESG scores	EIRIS Sustainability Ratings	Stock returns	United Kingdom	Negative

NOTE: "Conclusion" means the results of the empirical studies

Source: created by the author based on (Halid et al., 2023)

The table above shows mixed results on the topic. The performance measure varies across studies, with Return on Assets (ROA), return on Equity (ROE), and Tobin's Q as the most common (Atan et al., 2018; Bai et al., 2022; Melinda & Wardhani, 2020; Narula et al., 2024; Pu, 2023; Shaikh, 2021; Velte, 2017; Wang & Sarkis, 2017). Although these are the most used performance variables, they are combined with others, such as EBIT, WACC, and Price Book Value (Aras & Hacioglu Kazak, 2022; Atan et al., 2018; Pulino et al., 2022), or even combined only two out of three. In what concerns ESG variables, there are also different choices from authors, with some choosing only one variable to disclose the topic in their models (Atan et al., 2018; Bai et al., 2022; Brammer et al., 2006; Shaikh, 2021; Velte, 2017; Wang & Sarkis, 2017; Zhao et al., 2018), and others opting for more detail (Melinda & Wardhani, 2020; Narula et al., 2024; Pulino et al., 2022), although in either there is presence of studies with both positive and negative relation.

The results also differ by scope analysis, meaning that studies produced with the scope focused on European countries have results that are mainly positive (Aras & Hacioglu Kazak, 2022; Pulino et al., 2022; Velte, 2017). When there is not a specified focus or at least a focus on countries that have similarities, the results turn out to produce a negative impact on firm performance (Shaikh, 2021).

Results produced using data from Chinese firms have different conclusions: we can find studies with positive impact and studies with negative impact (Pu, 2023; Zhao et al., 2018).

A study produced with Indian data shows an unusual result of having three different outcomes for the variables, with the environmental pillar showing a negative influence on firm performance, the social pillar not producing any impact and the governance pillar having a positive impact on firm performance (Narula et al., 2024).

2.5 Research Hypothesis

The purpose of the research will be to study a positive relationship between ESG and firm performance.

Even though there are mixed results, when considering European countries, the majority of the studies show that the relationship in question is positive, which is why the following hypotheses were chosen for the study:

Hypothesis 1: ESG scoring has a positive relationship with firm performance.

To reinforce Hypothesis 1, three additional hypotheses considering individually the ESG pillars are examined:

Hypothesis 1a: The Environmental score has a positive relationship with firm performance.

Hypothesis 1b: The Social score has a positive relationship with firm performance.

Hypothesis 1c: The Corporate Governance score has a positive relationship with firm performance.

3. SAMPLE AND METHODOLOGY

This chapter aims to explain the data sample selection, detailing the criteria used, the sources from where data was retrieved, the explanation of the variables that are going to be used in the research, and, finally, the methodology to answer the research question of the study.

3.1 Data Source and Sample

To conduct this thesis, the focus is on the Mediterranean countries, and the period in consideration is 5 years, from 2017 to 2021, with monthly observations. The European Mediterranean countries in the analysis are France, Greece, Italy, Portugal, and Spain which are the ones that have representative data from its firms. The period in analysis was chosen based on three motives: 1) The Mediterranean countries went through a difficult period with the public debt crisis from 2012 and beyond, and for that reason it was selected the period in which firms were already recovering from the crisis factors, excluding external factors that could affect the accuracy and validity of the model; 2) The COVID-19 crisis brought difficult times for companies in the economic and financial situations, although decisions such as remote work helped to reduce carbon footprint. COVID-19 changed the direction of companies, and ESG activities are no longer just a thought, but a decisive factor regarding the capital allocation process; 3) The disclosure of ESG Reporting had an exponential growth from 2017 onwards, which means that adding more observations from previous years, it would not add value to the study.

All the financial data and the sustainability indicators were retrieved from Thomson Reuters and the Eurostat databases. The Thomson Reuters database contains detailed sustainability information, such as the combined score for ESG and, also an individual score for each pillar, being one of the most comprehensive ESG databases, following an approach used by Pulino et al. (2022), Melinda & Wardhani (2020), and Velte (2017), whereas the Eurostat database was used to collect country-specific information.

During the data collection process, it was retrieved information for every single firm of the countries in analysis. The first process of cleaning the data consisted of eliminating every firm that did not have available data at all. This first step resulted in reaching the amount of 450 firms across the 5 countries in analysis, namely France, Greece, Italy,

Portugal, and Spain. The decision made was not to include the information of firms with missing values due to the possibility of skewing or biasing the final results.

After all, we ended up with 215 companies and a total of 12900 total observations. Almost half of the observations come from France, with 44,19%, as shown in Table II. The rest of the observations are distributed with 23,72% for Italy, 19,53% for Spain, 8,84% for Greece, and, finally, Portugal with 3,72%. In what concerns the number of firms, it follows the same pattern, with France being the most represented country, with 95 firms, followed by Italy with 51, Spain with 42, Greece with 19, and Portugal with 8 firms. In table II it is shown the picture of the research.

TABLE II – DATA SAMPLE PER COUNTRY

Country	Number of firms	Total number of observations	N percentage
France	95	5700	44,19%
Greece	19	1140	8,84%
Italy	51	3060	23,72%
Portugal	8	480	3,72%
Spain	42	2520	19,53%
Total	**215**	**12900**	**100%**

3.2 Variables Explanation

To answer the hypothesis raised, the variables used in the study will be explained in a detailed way. The database provides a definition and an explanation for all the variables collected, exposing the evaluation method or the formula used for the calculations.

The dependent variable selected for the study is the Return on Assets (ROA). ROA is a ratio that provides an evaluation of a firm's financial performance, specifically profitability, taking into consideration the Net Income and the firm's Total Assets. The greater the value for this indicator, the better the company manages its assets. The choice for ROA relies on the path followed by Pulino et al. (2022), Narula et al. (2024), and Wang & Sarkis (2017). This choice relies on the fact that ROA takes into consideration the real performance of a company, stated by the revenue that gives origin to the Net Income.

The independent variables for this thesis are the ESG Score and each pillar score – the Environmental pillar Score, the Social pillar Score, and the Corporate Governance pillar

Score. The independent variables of the study aim to comprehend the firm's commitment to what concerns non-financial topics that go far from the sole objective of profit maximization and think about maximizing shareholder value. The independent variables were retrieved from the Thomson Reuters database, following the examples of Melinda & Wardhani (2020), and Velte (2017).

The ESG Score represents an overall score based on the self-reported information on the three themes, Environmental, Social, and Governance. The database defines each pillar and which indicators it uses when measuring firms.

Secondly, the Environmental pillar Score is a metric based on the three categories incorporated in the pillar. It considers the responsible use of environmental resources, such as water, air, and land, meaning a responsible treatment of ecosystems, the level of carbon emissions of a company, and innovative practices.

The Social pillar Score is a variable that analyses three categories. It reflects the capacity to captivate the businesses workforce to stay in the company, and its customers to buy its products and/or its services; it also considers the company's attention to human rights, in the adjacent community, and the product responsibility.

Finally, the Corporate Governance Score follows the same strategy as the other two pillars, assessing three categories to give an evaluation. It assesses the firm's management, the capacity for leading the company in the right direction and not being influenced by the shareholders to give them a good return, the shareholders' capacity to influence the management team, and the corporate social responsibility strategy in the short and long term. All independent variables' ratings vary from a 0 to 100 scale.

To have a reliable model it is important to take out internal and external effects that influence the independent variables. The following variables are control variables that are either firm-related or country-related.

Following the same path as the existing literature, it was decided to control the firm's size using the number of employees of each company, the same way that was done by Pulino et al. (2022) and Kocmanová et al. (2016).

Financial leverage is a ratio that provides the interpretation of the percentage of debt in the total invested capital in a firm, meaning the level of usage of debt to cover its assets. The main goal of financial leverage involves using borrowed funds to boost potential returns. This control variable was present in Pulino et al. (2022), and Melinda & Wardhani (2020) models because the goal of the study is to know the effect of ESG scoring on financial performance without the impact of other variables inside. By controlling

financial leverage, it is possible to isolate the impact of other variables on a firm's performance, and in consequence, the firm's risk, increasing the reliability and accuracy of the model.

This research is based on countries whose economies are similar, although prices and dimensions differ. To control for countries' specificities, GDP growth rate and inflation were selected.

Gross Domestic Product (GDP) is a fundamental measure used to evaluate the economic performance of a country. It represents the total value of all goods and services produced within the borders of a country during a specific period. GDP is often used as an indicator of the size and health of a nation's economy. GDP is commonly divided into four main components: Consumption, Investment, Government Spending, and Net Exports, Exports minus Imports. The choice is for the GDP growth rate which indicates the percentage change in GDP from one period to another, typically year-on-year or quarter-on-quarter. Positive GDP growth generally signifies economic expansion, while negative growth indicates economic contraction. GDP growth is generally associated with increased employment opportunities, rising incomes, improved living standards, and enhanced economic well-being. The inclusion in the model follows the research done by Aras & Hacioglu Kazak (2022).

Inflation is a fundamental economic concept that measures the rate at which the general level of prices increases over time, impacting purchasing power, income distribution, and overall economic stability. Central banks and governments closely monitor and manage inflation to maintain price stability and support sustainable economic growth. Inflation is measured using various indices such as the Consumer Price Index (CPI), Producer Price Index (PPI), or GDP Deflator. On one hand, CPI measures the change in prices of a representative basket of consumer goods and services typically purchased by households. On the other hand, PPI measures the change in prices received by domestic producers for their output. Finally, the GDP deflator measures the change in prices for all goods and services produced in an economy.

The sample presents only European Union countries and, due to that reason, it was chosen the Harmonized Index of Consumer Prices (HICP) to measure inflation. The HICP measure is an important and consistent economic indicator used to monitor inflation within the European Union (EU) and support economic analysis and decision-making at both national and EU levels. The inclusion in the model follows the path of Aras & Hacioglu Kazak (2022).

The country-specific variables, GDP per capita and Inflation, were retrieved from the Eurostat database for the period in analysis, 2017 to 2021.

TABLE III – DEFINITION, ABBREVIATIONS, AND VARIABLES SOURCES

Variable	Abbreviation	Definition	Source
Dependent variables			
Return on Assets	ROA	Net Income / Total Assets	Thomson Reuters
Independent variables			
ESG Score	ESG	ESG score of the database	Thomson Reuters
Environmental Score	ENV	Environmental score of the database	Thomson Reuters
Social Score	SOC	Social score of the database	Thomson Reuters
Corporate Governance Score	CGOV	Governance score of the database	Thomson Reuters
Control variables			
Financial Leverage	LEV	Total Debt / Total Capital	Thomson Reuters
Firm Size	SIZE	Number of employees of each firm	Thomson Reuters
GDP growth rate	GDP	$(GDP_2 – GDP_1) / (GDP_1)$	Eurostat
Inflation	INF	Generalized increase in Goods and services over some time	Eurostat

3.3 Methodology

The study is conducted using an ordinary least squares (OLS) analysis, resulting in the estimation of the coefficients of a linear regression, which is a statistical methodology used in similar studies such as Narula et al. (2024), Velte (2017), and Shaikh (2021).

The basis of the model is the same for all the regressions, with a change in only one of the independent variables, depending on the hypothesis being studied. The first regression presented uses the combined variable, namely ESG rating, assessing the relationship between ROA and ESG valuation. The other three regressions assess each one of the

elements of ESG, specifically the environmental, social, and governance pillars to corroborate the first model results.

For the estimation of **Hypothesis 1**, the following equation is used:

(1) $ROA = \beta_0 + \beta_1 * ESG + \beta_2 * SIZE + \beta_3 * LEV + \beta_4 * INF + \beta_5 * GDP + \mu$

For the estimation of **Hypothesis 1a**, the following equation is used:

(2) $ROA = \beta_0 + \beta_1 * ENV + \beta_2 * SIZE + \beta_3 * LEV + \beta_4 * INF + \beta_5 * GDP + \mu$

For the estimation of **Hypothesis 1b**, the following equation is used:

(3) $ROA = \beta_0 + \beta_1 * SOC + \beta_2 * SIZE + \beta_3 * LEV + \beta_4 * INF + \beta_5 * GDP + \mu$

For the estimation of **Hypothesis 1c**, the following equation is used:

(4) $ROA = \beta_0 + \beta_1 * GOV + \beta_2 * SIZE + \beta_3 * LEV + \beta_4 * INF + \beta_5 * GDP + \mu$

4. DATA ANALYSIS AND RESEARCH FINDINGS

This chapter aims to describe the data used in the research, providing a preliminary analysis with a detailed description, correlation analysis, and the analysis of the regression employed in the study.

4.1 Descriptive Statistics

The preliminary analysis of all variables is presented in Table IV. It is possible to observe the descriptive statistics for the 215 Mediterranean firms in the sample.

In what concerns the independent variables, the ESG Ratings, the Mediterranean countries have a higher classification for the social pillar when compared to the other two pillars, which means that these countries' focus is directed to the social aspects such as labour factors and human rights, gender equality, and inclusion, employee relations, and well-being. All pillars have a great disparity in their values, the environmental pillar ranges from 0 to 99,06, with a mean of 69,23, and a standard deviation of 21,29; the social pillar ranges from 9,9 to 98,19, with a mean of 74,61, and the standard deviation of 17,22; and the governance pillar ranges from 2,08 to 97,26, with a mean of 58,75, and a standard deviation of 21,57. The combined variable of the framework follows the same pattern, ranging from 4,47 to 97,04, with a mean of 68,70, and a standard deviation of 15,64. The combined variable is affected by the decisions made in the three fields in question. If a corporation is not as well rated in one of the pillars, it will influence negatively the ESG rating, as well as the other way around, if an organization is well rated in only one out of the three pillars it will help to improve the combined rating.

On the other hand, in the firms' controlling variables, SIZE is within the range of 16 to 470237, with a mean of 45742,89, and a standard deviation of 67033,92, whereas LEV ranges from 0% to 96,5%, with a mean of 48,49%, and a standard deviation of 20,94%. The mean value of LEV indicates that, on average, companies in the sample have a significant part of their capital structure financed by debt. In addition, a high standard deviation indicates high volatility.

In terms of countries controlling variables, INF varies within the range of -2,4% and 6,6%, with a mean of 1,22%, and a standard deviation of 1,13%. On the other hand, GDP ranges between -5,87% and 5,83%, with a mean of 0,12%, and a standard deviation of 1,64%. The mean GDP reflects the average growth rate for the dataset, and it reflects the

expansion or contraction of a country's economy over a specific period, which in this case represents a slow expansion. Furthermore, a high standard deviation for this variable indicates high volatility in economic growth, which could be influenced by external shocks, e.g., the pandemic crisis.

Finally, the independent variable, ROA, ranges from -27,46% to 26,87%, with a mean value of 3,91%, and a standard deviation of 5,16%. ROA is a financial ratio that measures how efficiently a company is using its assets to generate profit. A mean value of 3,91% indicates that for every euro of assets the company holds, it generates, approximately, 0,039 euros. In terms of volatility, ROA is more volatile than all independent variables, as well as SIZE and INF. The high volatility of ROA might be justified by the volatility of LEV, and the high volatility of GDP.

TABLE IV – DESCRIPTIVE STATISTICS ANALYSIS

Variable	Observations	Mean	Std. dev	Min	Max
ROA	12900	3,909295	5,163737	-27,46	26,87
ESG	12900	68,69883	15,63732	4,47	97,04
ENV	12900	69,22821	21,28661	0	99,06
SOC	12900	74,61125	17,21712	9,9	98,19
CGOV	12900	58,75018	21,57174	2,08	97,26
SIZE	12900	45742,89	67033,92	16	470237
LEV	12900	48,4935	20,93807	0	96,5
INF	12900	1,215868	1,132437	-2,4	6,6
GDP	12900	0,1194186	1,637571	-5,866667	5,833333

NOTE: ROA, LEV, INF, and GDP values are in percentage; ESG, ENV, SOC, CGOV, and SIZE are in numerical values

4.2 Correlation Analysis

Table V presents the correlation matrix in the analysis. A correlation matrix is a table that displays the correlation coefficients between multiple variables in a dataset. Each row and column in the matrix represent different variables. The diagonal elements represent the correlation of each variable with itself, which is always 1, a perfect correlation. The other elements represent the correlation between two different variables.

Correlation is a statistical measure that describes the relationship between two variables. It indicates the linear relation and quantifies the degree to which changes in one

variable are associated with changes in the other. The correlation coefficient ranges from -1 to 1. A correlation coefficient of 1 indicates a perfect linear correlation, a coefficient of -1 indicates a perfect negative correlation and a coefficient of 0 indicates that there is no correlation between the variables. It is important to note that correlation does not imply causality, correlation measures the strength and direction of the relationship between variables.

The correlation analysis was chosen to confirm the insights of the descriptive statistics, as well as to provide new insights into the interdependencies among the variables in the study.

The ESG variables, ESG, ENV, SOC, and CGOV, are positively correlated with each other, supporting the validity of the ESG concept, as well as the framework, being the governance criteria the least correlated.

Concerning the controlling variables, SIZE exhibits a low positive correlation with the ESG variables, somehow supporting the use of SIZE as a control variable. On the other hand, all the other control variables, LEV, INF, and GDP, demonstrate low correlation with each other and the rest.

The dependent variable ROA is almost uncorrelated with all the other variables, except for LEV, which indicates a negative correlation. The correlation coefficient, except for LEV, ranges from -0,10 to 0,14. Nevertheless, there is a weak negative correlation between ROA and the ESG variables.

TABLE V – CORRELATION MATRIX

	ROA	ESG	ENV	SOC	CGOV	SIZE	LEV	INF	GDP
ROA	**1,0000**								
ESG	**-0,0775**	**1,0000**							
ENV	**-0,0957**	**0,7870**	**1,0000**						
SOC	**-0,0284**	**0,8062**	**0,6113**	**1,0000**					
CGOV	**-0,0724**	**0,7071**	**0,3064**	**0,3290**	**1,0000**				
SIZE	**-0,0855**	**0,3226**	**0,2885**	**0,3422**	**0,1394**	**1,0000**			
LEV	**-0,4399**	**0,2435**	**0,2507**	**0,1727**	**0,1584**	**0,1514**	**1,0000**		
INF	**0,1313**	**0,0497**	**0,0751**	**0,0632**	**-0,0114**	**0,0812**	**-0,0689**	**1,0000**	
GDP	**0,0276**	**-0,0002**	**0,0012**	**0,0014**	**-0,0039**	**0,0015**	**-0,0079**	**0,0606**	**1,0000**

4.3 Regression analysis

Table VI presents the regression models using the Ordinary Least Squares (OLS) model to test the hypothesis.

Model 1 (M1) tests the combined effect of the ESG rating, whereas Model 2 (M2), Model 3 (M3), and Model 4 (M4) test the Environmental pillar, the Social pillar, and the Corporate Governance pillar, respectively.

According to the results, and in concordance with the preliminary analysis, the descriptive statistics and the correlation analysis, the relationship between ESG and ROA, ENV and ROA, SOC and ROA, and CGOV and ROA is positive, although with little effect for ESG, ENV, and SOC, and neutral effect for CGOV. To corroborate this result, the R-squared value is low. However, by the F-test analysis and its p-value, it is possible to observe that the model has global significance. Regarding the t-tests, ESG, SOC, SIZE, LEV, and INF have individual significance in every model, while GDP has individual significance at a 5% significance level, ENV has individual significance at a 10% significance level, and CGOV is not individually significant.

TABLE VI – REGRESSION MODELS

Variables	M1: ESG	M2: ENV	M3: SOC	M4: CGOV
constant	7,866 (0,000*)	8,372 (0,000*)	7,454 (0,000*)	8,547 (0,000*)
ESG	0,012 (0,000*)			
ENV		0,003 (0,091***)		
SOC			0,017 (0,000*)	
CGOV				0,000 (0,924)
SIZE	-3,05e-06 (0,000*)	-2,52e-06 (0,000*)	-3,63e-06 (0,000*)	-2,25e-06 (0,000*)
LEV	-0,107 (0,000*)	-0,106 (0,000*)	-0,107 (0,000*)	-0,106 (0,000*)
INF	0,463 (0,000*)	0,465 (0,000*)	0,458 (0,000*)	0,470 (0,000*)
GDP	0,057 (0,022**)	0,057 (0,022**)	0,057 (0,022**)	0,057 (0,022**)
R squared	0,206	0,205	0,208	0,205
Adjusted R squared	0,206	0,205	0,208	0,205
F test **p-value**	669,2 0,000*	665,32 0,000*	675,95 0,000*	664,61 0,000*

NOTE: *,**,*** indicate significance levels at 0,01, 0,05, and 0,1 respectively

Considering the preliminary results, as well as the regression results, which indicate low robustness and consistency, as observed by the R squared and the impact of the variables, we moved on to an analysis of two sub-samples. The two sub-samples considered are one with France countries with 5700 observations, and the other with PIGS countries, which are Portugal, Italy, Greece, and Spain, with 7200 observations.

TABLE VII – REGRESSION MODELS FOR COUNTRY DIVISION

Variables	M1: ESG		M2: ENV		M3: SOC		M4: CGOV	
	France	PIGS	France	PIGS	France	PIGS	France	PIGS
constant	11,014 (0,000*)	6,634 (0,000*)	9,654 (0,000**)	7,784 (0,000*)	8,976 (0,000*)	6,944 (0,000*)	10,417 (0,000*)	7,117 (0,000*)
ESG	-0,028 (0,000*)	0,027 (0,000*)						
ENV			-0,007 (0,040**)	0,006 (0,022**)				
SOC					0,003 (0,548)	0,019 (0,000*)		
CGOV							-0,024 (0,000*)	0,019 (0,000*)
SIZE	-9,44e-07 (0,191)	-1,55e-07 (0,914)	-1,89e-06 (0,008*)	2,09e-06 (0,146)	-2,25e-06 (0,002*)	3,58e-07 (0,806)	-1,46e-06 (0,036**)	2,05e-06 (0,138)
LEV	-0,127 (0,000*)	-0,100 (0,000*)	-0,129 (0,000*)	-0,097 (0,000*)	-0,130 (0,000*)	-0,098 (0,000*)	-0,126 (0,000*)	-0,098 (0,000*)
INF	0,686 (0,000*)	0,421 (0,000*)	0,682 (0,000*)	0,423 (0,000*)	0,680 (0,000*)	0,416 (0,000*)	0,694 (0,000*)	0,440 (0,000*)
GDP	0,050 (0,127)	0,064 (0,075***)	0,051 (0,123)	0,064 (0,075***)	0,051 (0,122)	0,064 (0,075***)	0,050 (0,129)	0,064 (0,075***)
R squared	0,280	0,174	0,276	0,168	0,276	0,172	0,286	0,174
Adjusted R squared	0,280	0,174	0,276	0,168	0,275	0,171	0,286	0,173
F test p-value	443,48 0,000*	303,21 0,000*	434,57 0,000*	291,21 0,000*	433,50 0,000*	297,86 0,000*	456,75 0,000*	302,29 0,000*

NOTE: *,**,*** indicate significance levels at 0,01, 0,05, and 0,1 respectively

According to Table VII, for every regression, the model has global significance, confirmed by the F-test, and its p-value. The split between France and PIGS firms showed better results for its sample regressions. The R squared for France is higher than the regressions for the whole sample and the PIGS one. The t-tests reveal that the ESG, CGOV, LEV, and INF are individually significant. On the other hand, ENV is individually significant at a 10% significance level, whereas SOC is not individually significant at all. SIZE varies in significance, for the ESG regression is not individually significant, but for the other regressions, it is. Finally, GDP is not individually significant.

Overall, for the France sample, and using ESG, ENV, and CGOV as the independent variable, the impact on firm performance is negative but with little effect, whereas the SOC variable has also a little but positive impact.

For the PIGS corporations, GDP is individually significant at a 10% significance level, either with ESG or each one of the pillars as the independent variables, SIZE is not individually significant, ENV is individually significant at a 5% significance level while ESG, SOC, CGOV, LEV, and INF have individual significance. Considering PIGS firms, all regressions show a small but positive impact.

Taking into consideration the analysis, still with a low R squared result for all the regressions, a different division was considered. The split considers the most volatile variables identified in the preliminary analysis - LEV and GDP -, used in the six sub-samples chosen. The six sub-samples consider the split between low, medium, and high LEV, and for each a sub-division considering low and high GDP. On one hand, the LEV variable division is as follows: low LEV considers firms with 30% or minus for leverage; medium leverage ranges from 30% to 60%; and high leverage is considered above 60%. On the other hand, a GDP growth rate lower or equal to 0 is considered low, while a growth rate above 0 is considered high.

The division resulted in 536 observations for Low LEV and Low GDP, 1957 observations for Low LEV and High GDP, 1678 observations for Medium LEV and Low GDP, 5002 observations for Medium LEV and High GDP, 984 observations for High LEV and Low GDP, and, finally, 2743 observations for High LEV and High GDP.

In this division, it was selected the independent variable ESG – the combined effect of the Environmental, Social, and Governance pillars –, to compare the impact in the sub-samples.

TABLE VIII – REGRESSION MODELS FOR LEV & GDP DIVISION

Variables	Low LEV		Medium LEV		High LEV	
	Low GDP	High GDP	Low GDP	High GDP	Low GDP	High GDP
Constant	-3,171 (0,004*)	4,649 (0,000*)	8,789 (0,000*)	10,287 (0,000*)	16,764 (0,000*)	17,200 (0,000*)
ESG	0,168 (0,000*)	0,097 (0,000*)	0,002 (0,833)	-0,027 (0,000*)	-0,013 (0,201)	-0,023 (0,000*)
SIZE	-0,0000483 (0,000*)	-8,59e-06 (0,009*)	3,10e-06 (0,077***)	-3,17e-07 (0,707)	-6,09e-06 (0,001*)	-2,73e-06 (0,006*)
LEV	-0,004 (0,895)	-0,201 (0,000*)	-0,121 (0,000*)	-0,080 (0,000*)	-0,195 (0,000*)	-0,190 (0,000*)
INF	1,548 (0,001*)	0,511 (0,000*)	-0,073 (0,713)	-0,104 (0,861)	-0,187 (0,374)	0,327 (0,000*)
GDP	0,148 (0,412)	-0,163 (0,171)	0,365 (0,000*)	-0,472 (0,000*)	0,338 (0,000*)	-0,325 (0,000*)
R squared	0,204	0,147	0,059	0,058	0,182	0,248
Adjusted R squared	0,196	0,145	0,056	0,057	0,178	0,246
F-test **p-value**	27,10 0,000*	67,23 0,000*	20,77 0,000*	61,06 0,000*	43,53 0,000*	180,03 0,000*

NOTE: *,**,*** indicate significance levels at 0,01, 0,05, and 0,1 respectively

Following Table VIII, the split using the variables LEV and GDP still resulted in regressions with low R squared values. The global significance, tested by the F-test, confirms the models' global significance. The individual significance, measured by the t-test and its p-value, reveals that ESG has individual significance in all regressions, except for Medium LEV and Low GDP, and High LEV and Low GDP. GDP is not significant for Low LEV, both regressions; INF is not individually significant for Medium and High LEV combined with Low GDP, as well as Medium LEV and High GDP; LEV is not individually significant for Low LEV and Low GDP.

In conclusion, the impact of ESG on ROA is positive for firms with Low Leverage, both regressions, and Medium leverage and Low GDP, while for Medium Leverage and High GDP, and High Leverage firms, the impact of ESG on ROA is negative.

5. DISCUSSION

The purpose of this chapter is to compare research findings with the existing literature.

Recalling what was said in the literature review, there is still disagreement on whether financial performance is linked to or impacted by ESG (Halid et al., 2023). There are two perspectives, the stakeholder theory, and the shareholder theory (Hummel & Schlick, 2016; Mansell, 2013). The stakeholder theory defends the view that the firm should be oriented in thinking about all interested parties (Hummel & Schlick, 2016). On one hand, Friede et al., 2015, Pulino et al., 2022, Pu, 2023, and Bai et al, 2022 demonstrate a positive relationship between ESG and performance defending this viewpoint. On the other hand, Shaikh, 2021, Zhao et al., 2018, and Brammer et al., 2006 studies reveal a negative impact of ESG on performance, defending the shareholder point of view.

When considering samples from European countries, the results are mainly positive (Aras & Hacioglu Kazak, 2022; Pulino et al., 2022), although there are others where the results are not conclusive (Velte, 2017) or with negative outcomes (Brammer et al., 2006).

The correlation analysis confirms the accuracy of the ESG framework, with correlation between all pillars of the framework. This analysis confirms and follows the same pattern of the correlation analysis presented by Narula et al., 2024 and Pulino et al., 2022, which also reveals this positive correlation between the Environmental, Social, and Governance pillars.

The regression results of the present study reveal different outcomes according to the sample and sub-sample that is used. Although for the whole sample, the impact of ESG is little but positive, for the sub-sample considering France's firms the impact is also little but negative, while for the PIGS countries, a small positive impact is observed. When considering different levels of Leverage, the results vary. For Low Leverage there is a positive relationship, for High Leverage the relationship is negative, and for Medium Leverage it depends on whether the GDP growth is positive or negative. These positive/negative but almost neutral impacts reach the same conclusion as Velte, 2017, and Narula, 2024.

The analysis suggests that introducing ESG practices in a company does not always produce a better performance, depending on the geographical impact, the economy of the country, and the leverage of the firms.

Although the influence of ESG on financial performance is low and almost neutral, companies should implement ESG measures because it will gradually add value. A

suggestion for companies is to consider the sector they are in to have information on how their competitors are. However, with the growing interest in ESG (Wan et al., 2023; Narula et al., 2024), the impact of ESG might be more tangible than nowadays. At this point, the pillar with more influence on firm performance is the Social one, with decisions related to people, which shows that when employees feel valued and identify with the company, the customers' view of the company improves and justifies the improvement in financial results.

Taking into consideration the research hypotheses, the regression considering the whole sample does not reject any of the four hypotheses. Therefore, in this case, ESG, the Environmental pillar, the Social pillar, and the Governance pillar scores have a positive relationship with firm performance.

When considering the division by countries, PIGS' regressions do not reject the hypotheses, confirming the positive impact, while France´s regressions reject all the hypotheses, except for hypothesis 1b. Thus, for France, ESG, the Environmental pillar, and the Governance pillar scores have a negative relationship with firm performance, whereas the Social pillar has a positive relationship with firm performance. For PIGS, ESG, and its pillars have a positive relationship with firm performance.

Considering the split using Leverage and GDP variables, it does not reject hypothesis 1 for Low Leverage, it rejects when considering High Leverage, and, for Medium Leverage, it does not reject for Low GDP growth, but it rejects for High GDP growth. Hence, ESG has a positive relationship with firm performance for Low Leverage, and Medium Leverage and Low GDP, while ESG has a negative relationship with firm performance considering High Leverage, and Medium Leverage and High GDP.

6. CONCLUSION

The present study explored the relationship between ESG factors and a firm's financial performance based on 12900 observations across the Mediterranean countries.

The results show that the ESG influence on corporations' financial performance is at a point where its impact is not tangible. As a whole, Mediterranean countries are positively impacted by ESG factors however, if we separate France from the other countries, it is possible to conclude that France is negatively impacted by ESG factors, while the others are positively impacted. Either the positive or the negative impact has a residual effect on the performance. The division for the type of Leverage and GDP depicts the impact when there is a control of the most volatile variables, reaching the same conclusion of residual impact, positive for Low Leverage, negative for High Leverage, and both for Medium Leverage, depending on the GDP growth rate.

All in all, incorporating ESG measures has, mainly a positive impact on firms, although measures related to Social causes have higher impact than Environmental, and Environmental causes have a higher impact than Governance causes.

Taking into consideration the ESG research that is already available in the existing literature, and this study's limitations that could affect similar studies, future investigations could try to overcome them and try to reach cleaner conclusions.

The first limitation addressed is the geographic disparity within countries' observations. ESG disclosure is in an initial phase, where small and poor countries have difficulties in disclosing ESG type of information. This study's sample is highly influenced by France and Italy's observations covering almost 70% of the sample. The focus of this study is to find out the relationship between ESG and financial performance, using a Mediterranean sample. As the sample is mostly influenced by these two countries, this may not be the reality for the other countries in the analysis. For future research, a more balanced sample may bring a better outcome that can be capable of showing a better picture for every single country in the study.

One other question that can be emphasized is the different evaluation methods across databases. For instance, this study used the Thomson Reuters methodology, where the ESG ratings range from 0 to 100. The same range is used in the CRISIL ratings and the Sustainalytics, whereas the Bloomberg and the MSCI ESG ratings use the range of 0 to 10. Additionally, the MSCI ratings also have a qualitative evaluation, which cannot be

compared to the quantitative method. Considering this problem, it would be helpful to create a universal method to facilitate the comparison between studies.

Another issue raised during the execution of this study is the quality of the data and its availability. In what concerns data quality, there are some databases with reliable information, although, for some corporations, the ESG data is communicated without being audited or revised by external companies that can certify the information. As this study uses companies from some of the European Union countries with the lowest level of income, it raises the question of reliability. In addition, the availability of data for these countries is reduced, as can be seen by the number of observations for Portugal or Greece. These countries' firms have a difficult financial health and prefer to invest their money elsewhere rather than in ESG measures or disclosure.

In addition to the previous points, the period in analysis covers a time when the COVID-19 pandemic skewed the results. Even though the lockdown brought good measures in the environmental pillar, namely the reduction of the carbon footprint, it completely stopped the economy for months in the first semester of 2020. After this period, while every economy was trying to recover at low speed, a second lockdown was decreed. All in all, it might be beneficial to study the Mediterranean for a different period.

Finally, instead of studying the ESG impact since it seems to be residual, it might be worth trying to study the incremental impact of the ESG, this is studying the impact of changes in the ESG valuation.

The link between ESG factors and a firm's financial performance is an important study to understand whether companies should make ESG-oriented decisions, although future studies should take into consideration the suggestions appointed previously to increase the quality and interpretation of the results.

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