Sustainable Finance for a Sustainable Future

Does ESG Scores have an impact on financial and Stock Return performance?

Evidence for EuroStoxx50 index

Research dissertation presented in partial fulfilment of the requirements for the degree of

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I certify that the dissertation entitled:

submitted for the degree of: **MSc in Accounting and Finance Management** is the result of my own work and that where reference is made to the work of others, due acknowledgment is given.

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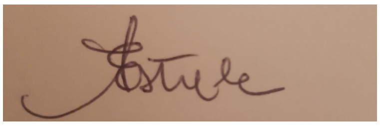

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"No one ever succeeds without the help of others." Jay Abraham

Abstract

Because of the growing awareness of environmental stability and country socioeconomic development, the importance of sustainable and responsible investment techniques has increased dramatically. To improve risk management and provide sustainable profits for investors, responsible investment methods take environmental, social, and governance (ESG) factors into account. This paper aims to study on to what extent ESG scores have influence in the financial performance and stock return performance for listed companies in the Eurostoxx50 index. The findings turn out that the statistical regression analysis has not found significant evidence in order to conclude that the higher the ESG Score the higher would be the financial performance or stock return. The study emphasizes the need of sustainability reporting and the shift to the way of investments decision toward sustainability aiming therefore a sustainable future.

Key words: *Sustainable finance, Sustainable Investments, ESG, Green Finance.*

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List of Abbreviations

COSO - Committee of Sponsoring Organisations of the Treadway Commission
EBA - European Banking Authority
EIOPA - European Insurance and Occupational Pensions Authority
ESG - Environment, Social, Governance
ESMA - European Securities and Market Authority
GHG - GreenHouse Gases
GIIN - Global Impact Investing Network
HLEG - High Level Expert Group
ISS - Institutional Shareholder Services Inc.
MSCI - Morgan Stanley Capital International
MiFID - Markets in Financial Instruments Derivatives
NDCs - Nationally Determined Contributions
OECD - Organização para a Cooperação e Desenvolvimento Econômico
OLS - Ordinary Least Square
SASB - Sustainability Accounting Standard Board
SDGs - Sustainable Development Goals
PRI - Principles for Responsible Investment
UNEP - Nations Environment Programme
WBCSD - World Business Council for Sustainable Development

1 Introduction

1.1 Overview

This chapter presents Sustainable Finance, a trending topic that has been discussed more intensively in the last decade since it concerns social, economic and environmental matters. Sustainable FInance is derived by the Sustainability Agendas that have been leading countries to tackle the global issues such as natural resource scarcity, population growth correlated with inequality and evidently climate change. The Global Risk Report revealed that among the most alarming global risks, environmental issues were positioned for the first time as the top five on the probability in terms of global landscape, where the consequences of continued environmental exploitation have been increasingly concerned (The World Economic Forum, 2020). Consequences that bring Governments, Businesses and the financial sector to engage and come up with alternatives for their own survival as well as the common good.

Therewith, Sustainable Finance emerges from combining the traditional financial framework while addressing environment and social issues by integrating Environment, Social, Governance (ESG) related financial risks into investments decisions. According to the Swiss Sustainable Investment Market Study (2020) Sustainable Finance is the third new era and there is evidence on how the highest growth rates are gaining in importance, where regulators, asset owners and managers are questioning whether sustainable investments contribute to a better world.

Ultimately, several studies have estimated that financial markets will have to make available over a trillion dollars each year to achieve the Sustainable Development Goals. Positive expectations upon businesses responsibilities towards financial resources in society and growth of evidence upon the long-term value creation taking account of non-financial resources as a key in decision-making according to Global Impact Investing Network (GIIN, 2018).

This first chapter offers a background into Sustainable Finance and its attributes, highlighting ESG metrics into Europe and their response toward Sustainable Finance growth development. It closes setting the structure for the research questions which underpin the remaining chapters.

1.1 Background

The concept of sustainability stems back to the early twentieth century, during the industrial revolution, The World Conservation Strategy (1980), the Brundtland Report (1987), and the United Nations Conference on Environment and Development in Rio (1992), as well as national government planning and wider engagement from business leaders and non-governmental organizations of all kinds, helped to shape mainstream sustainable development thinking in the following decades. Although the definition of sustainable development has changed over the decades, it has always kept the meaning of mitigating the fundamental issues such as the problem of environmental degradation that frequently occurs as a result of economic progress, and the need for such growth to alleviate poverty.

Governments, institutions, and corporations have all responded to the problem of sustainability by developing policies and action plans on the social and environmental cause. The 'greening' of business has become a significant problem in corporate social responsibility for many global firms due the pressure the world is facing, such as climate change and recession that lately has been more exacerbated with the global pandemic caused by Covid-19, therefore, has been seen a faster Global need of transformation toward these issues.

Sustainability Goals Agendas and Its Financing

The UN Sustainable Development Goals (SDGs) established in 2015 with 17 goals adopted by 193 member states where each country has to draw up the voluntary national review to report the progress and results of the targets by 2030. The accomplishment of implementing the Sustainable Development Goal has the function to mitigate the harm that has been done in the climate change, social exclusion and inequality will not be possible without providing funds to support and financing action toward sustainability (Ziolo et al, 2019).

In the same year was also established, The Paris Agreement as a legally binding international treaty on Climate Change with the goals to reduce by 1,5 degrees celsius to limit global warming. An agreement that requires economic and social transformation where countries have to present their Nationally Determined Contributions (NDCs) which state their actions that they will take to reduce the greenhouse gas emission in order to reach the climate change goals.

Nevertheless, these agendas came up with strategies where governments, institutions and citizens must work as a joint responsibility in favor of raising resources to finance the actions to tackle critical issues.

Thereafter, a further agreement, The Addis Ababa Action Plan was adopted in order to raise funding to finance the SDGs and the Climate Change goals. These action plans are an alignment of all sources of finance, policies with the economy that require substantial contribution from government and private sector, with emphasis in the financial sector.

For years, theoretical and empirical studies have been published by academics, practitioners and professionals on the function and development of the financial market and its innovation itself in order to its role in economic growth. The primary function of financial systems is to facilitate the allocation of resources, across space and time, in an uncertain environment (Merton and Bodie, 1995).

Finance literature evidences a link correlation that financial system has on the development and economic growth and suggests a massive importance that shareholders, investors, corporate governance has in ensuring the positive economic outcome (Levine, 1997).

Updated studies still advocate that the financial system has the power in the decision-making process when companies are lending or investing, as it can exert influences in transition such as sustainable investments (Schoemaker and Schamarade, 2019).

Financial sector has a fundamental role for the implementation and execution of the Sustainable Development Goals as it has been one of the propellant to accelerate the overall changes claimed by society. Thus, there have been debates addressing the need and encouragement to the changes of financial innovation (Ziolo et al, (2019). In addition, financial innovation has the function to provide resources and consequently opportunities to several sectors in the market. Private enterprises recognize the opportunities in making meaningful contributions through large amounts of capital to the Sustainable Development Goals (Etzion et al, 2019).

Notwithstanding the SDGs progress reported in 2019, that is, four years after the adoption of the 2030 SDGs, an in depth review was undertaken by the UN. In overall terms, the progress made was not regarded as fast enough if the 2030 goals are to be met: “It is abundantly clear that a much deeper, faster and more ambitious response is needed to unleash the social and economic transformation needed to achieve our 2030 goals.” stated (United Nations, 2019)

It is acknowledged that the role of the private investor in financing long-term investment is critical. Therefore, Sustainable Finance emerges as a viable alternative to traditional finance paradigms, and it should be redirected toward ensuring global prosperity and well-being. It connects finance and sustainability and it mostly concludes that the conventional financial system no longer assists in financing sustainable development (Ziolo et al, 2019).

There is a growing interest in investing in sustainable investments, which might be fueled even further by building consensus around impact investing, Clarifying fiduciary duty and asset owner preferences, Supporting sustainability relevance through policy measures such as pricing externalities, long term horizons, regulation, and procurement, Unpacking the relationship between ESG and Financial Performance. (World Bank Group, 2019)

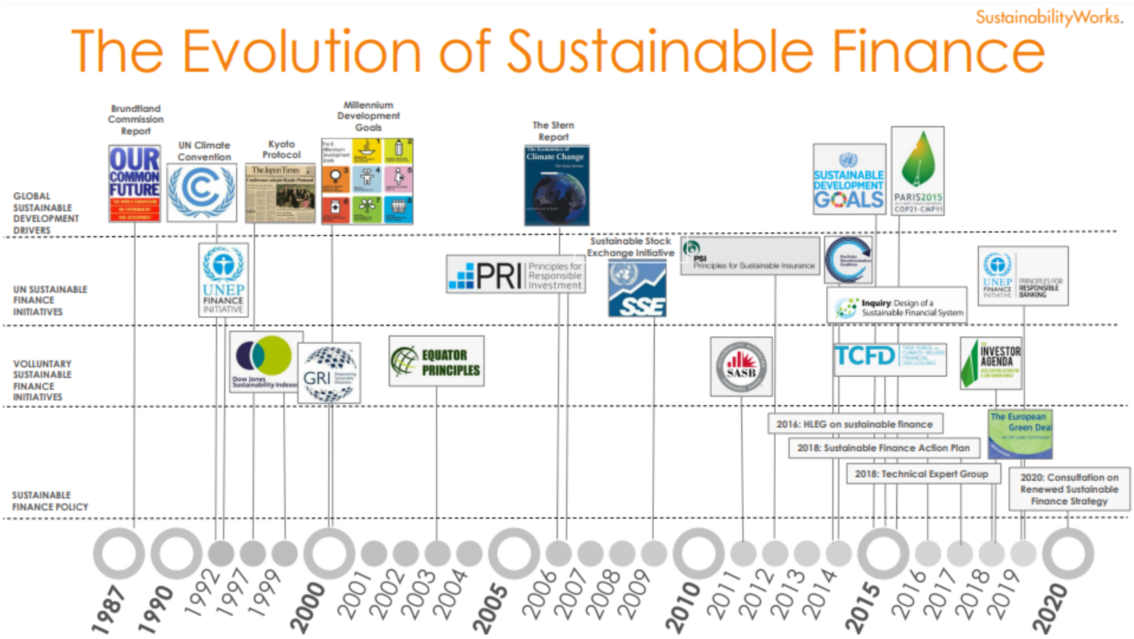
The traditional finance paradigm appears to be insufficient and incoherent in light of recent economic changes, especially those related to the growing threat of social and environmental risk. Additionally, there are assumptions that the more instruments of sustainable finance are traded-off in the financial system, more support and results toward the sustainable development goals will be achieved Ziolo et al,(2019).

Sustainable Finance Definition

The United Nations is the major driver in the development of Sustainable Finance through its partnership with the global financial service industry and climate change arena, alongside with the EU Institutions, multinational organizations, central banks, national governments, non-governmental organizations and think tanks, accounting standards setting bodies, rating agencies, academic institutions, and research bodies They all contribute in various ways to informing, challenging, and moving the agenda forward, as well as helping to underlie approaches to the development of sustainable finance.

According to the United Nations Environment Programme (UNEP), there is no single definition for the term Sustainable Finance because it can be viewed as an agenda or a broader set of policies aimed at raising awareness of environmental and social considerations when making investment decisions, resulting in an increase in long-term and sustainable investments. Sustainable Finance promotes economic growth while reducing pressures on the environment embracing social and governance aspects. Sustainable Finance also emcompasses transparency when it comes to risks associated with ESG factors that may have an influence on the financial system as well as the mitigation of such risks through adequate governance of financial and corporate players.

Figure 1: The Evolution of Sustainable Finance



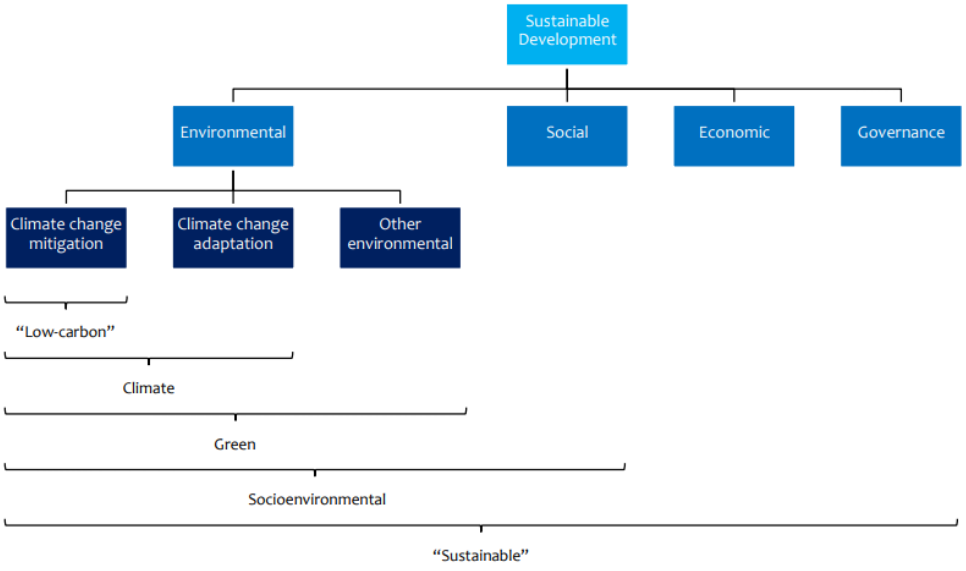
Source: SustainabilityWorks

As the sustainability agenda has evolved, the environmental components of sustainability have become the primary focus. The term "green finance" or "climate finance" was first used in the context of financing aimed at addressing some of the issues posed by climate change. For instance, investments or lending for the construction of renewable energy generating facilities or the reduction of GreenHouse Gases (GHG).

The UN's movement to a broader range of goals than those only concerned with halting climate change have had a significant impact on the argument over the concept of sustainable finance. As a result, the term "sustainable finance" has come to be used to refer to activities other than those related to funding environmental change.

Green and climate financing has taken on several connotations over time, depending on the situation. “Sustainable Finance can be broadly understood as financing and related institutional and market arrangements that contribute to the achievement of strong, sustainable, balanced and inclusive growth, through supporting directly and indirectly the framework of the Sustainable Development Goals” (European Banking Authority, 2018).

Figure 2: Hierarchy between climate, green and sustainable finance



Source: UNEP Inquiry 2016a. http://unepinquiry.org/wp-content/uploads/2016/09/1_Definitions_and_Concepts.pdf

The EU Commision states that in general, 'green finance' refers to the practice of considering environmental and social factors when making investment decisions, resulting in higher investment in longer-term and sustainable operations. "Green finance is defined as financial assistance for economic growth while minimizing environmental constraints and taking social and governance factors into account. Green finance also includes "transparency on risks connected to ESG variables that may have an influence on the financial system, as well as risk reduction through proper financial and corporate governance" EU Commision definition.

The Regulation of European Parliament and Council adds to the above the concept for Sustainable investment which is defined as an investment in an economic activity that contributes to an environmental objective.

Therefore, the terms 'green' and 'sustainable' finance are used interchangeably; the common components are the inclusion of environmental, social, and governance factors.

European Response

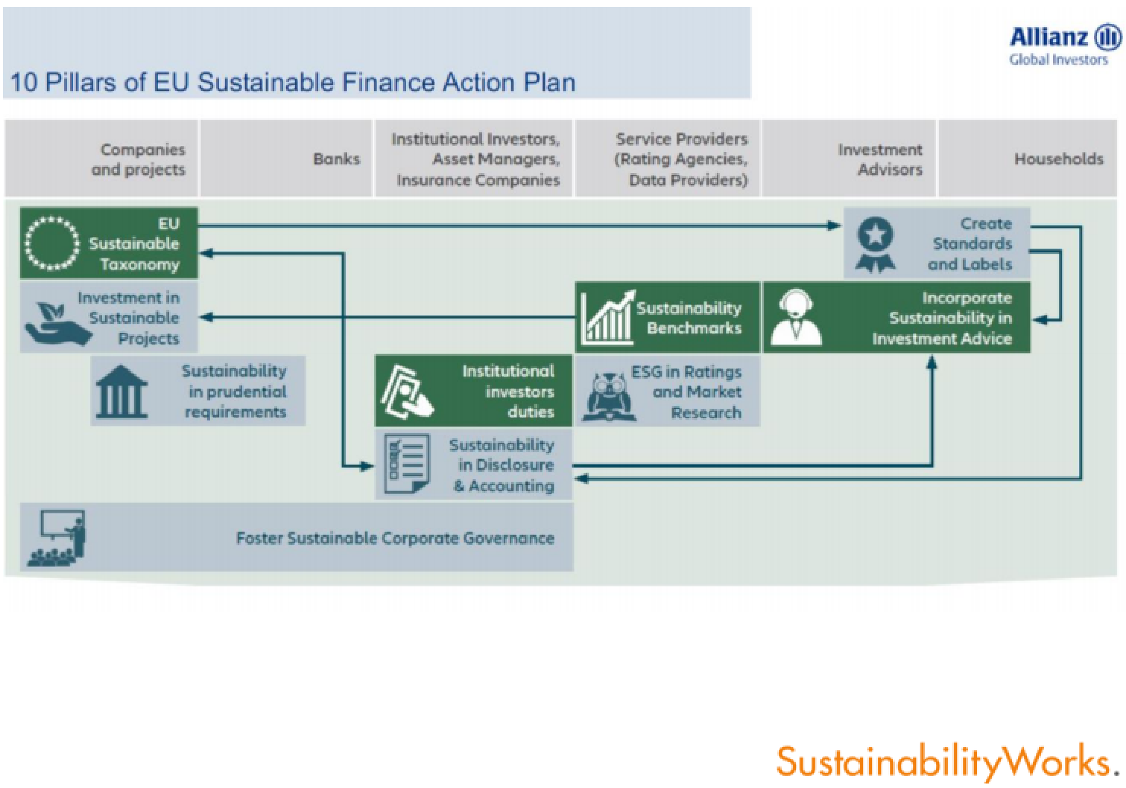
The European Commission recognizes finance as a component to support the environment and social causes and aims economic growth alongside actions to reduce the greenhouse emission, wasting and pollution, as well as, improve efficiency to the use of natural resources. Besides, through its legislative and regulatory frameworks, the EU Commission is taking the lead in the development of sustainable finance.

The EU Action Plan on Sustainable Finance is extensive and ambitious, encompassing issues such as the EU Taxonomy on Sustainable Activities, attempts to encourage investment in sustainable projects, and reforms to the Markets in Financial Instruments Directive (MiFID), among others.

The EU Commission announced in 2016 the formation of an expert group to advise on the development of an overarching and comprehensive EU strategy on sustainable finance called The High-Level Expert Group on Sustainable Finance was formed from this group (HLEG).

In 2018 the EU Commission adopted a set of 10 proposal action plan sustainable finance growth into the current EU policy framework developed by the HLEG which mainly include: mobilize capital toward climate change, adopt sustainability as a component into investment decisions, and weight up longer-term time in the financial and economic activity (European Commission, 2020).

Figure 3: 10 Pillars of EU Sustainable Finance Action Plan



These steps will require a amendments of the legislative acts and measures and to be successful, it will require significant contributions from all stakeholders, including the European Securities and Markets Authority ("ESMA"), the European Insurance and Occupational Pensions Authority ("EIOPA"), and the European Banking Authority ("EBA"). Besides, the legislative measures proposed a concerns framework for an EU taxonomy to label the sustainable investments; disclosure requirements and creation of low-carbon benchmarks (Claringbould et al, 2019).

Taxonomy

Taxonomy regulation entered into force in June 2020 that sets up the requirements for investment and listed companies in the European Union. The EU taxonomy is a classification system that establishes a list of economically sustainable environmental activities. It has the potential to play a significant role in assisting the EU in scaling up sustainable investment and implementing the European Green Deal.

The EU taxonomy aims to provide most adequate definitions for whether economic activities can be considered ecologically sustainable to enterprises, investors, and regulators. As a result, it should provide investors with security, protect private investors from greenwashing, assist enterprises in becoming more climate-friendly, reduce market fragmentation, and assist in shifting investments to where they are most needed. The European regulatory has defined a significant contribution to the main elements for sustainable economic activity In terms of scope, it can be observed that the legislation will apply to financial market stakeholders such as regulators and policymakers, financial service providers, investors, and enterprises required to provide non-financial information. The European Commission is obligated by the Taxonomy Regulation to provide technical screening criteria and to describe the content and structure of mandatory disclosure information in detail.

The European regulator anticipates that the definitions will be utilized by entities not covered by the rule and for reasons other than financial market financing, such as public funding. The regulator's goal is to encourage long-term investment in financial services instruments by rewarding top performers. Those who do not meet the criteria for sustainability, on the other hand, may face market repercussions and be automatically labeled brown or black. The Taxonomy Regulation, is a hybrid regulation in the sense that it uses financial services regulation to stimulate greening in other sectors, with a reach that might expand from reporting requirements to mandatory financing conditions. The Taxonomy Regulation may be subject to a high regulatory risk due to its characteristics and regulatory processing as per (Dobránszky-Bartus and Krenchel, 2020)

1.2 Research Purpose

Despite the variety of research in the topic, this research has a purpose to add to the continuing discussion about the drivers of financial performance based on

ESG-related criteria, since there are still several practical challenges and trends to be addressed as organizations implement ESG considerations into their strategy in order to provide long-term competitive financial returns as well as the positive impact aimed.

More Specifically, this study is to investigate to what extent ESG factors exert influence on financial performance and the stock price performance for listed companies in the EuroStoxx 50 index through running a multiple linear regression to examine the historical ESG data

1.3 Research Objective

For too long, businesses have only prioritized profit as this is the main principle for a business. Whereas, the Sustainability foundation is to encompass the environment, social and economic or in other words, Sustainability should also be viewed based on the principle of triple bottom line coined by Elkington "People, Planet, Profit" meaning that "the deeper thinking of capitalism and its future, but also to encourage companies in the engagement of the economic, not only financial, social and environmental creation value" Elkington (2018).

Besides that, given the severity projected by the sustainability agendas such as resources scarcity and climate change, businesses should care about sustainability by embracing the idea of "Profit, Purpose and Survival"(Bridges and Eubank, 2020) converting the environment, social and economic factors into business opportunity as they are also elements that can be high level risks in the coming years.

Accordingly, Sustainable Finance brings sustainability as a core to every business to include in their business strategy. As suggested by Elkington in his article the notion of win-win-win strategy where successful companies will have no choice but only face the challenge and get involved with sustainability and find ways to contribute with key areas in the business activities ensuring the benefits for all involved Elkington (1994).

As exposed, this study aims at an understanding of how European companies are embracing Sustainable Finance in their business strategies. Having said that, the main question aimed at this research is: To what extent the Sustainable Finance measured by ESG scores can have influence in the financial performance and stock return performance for listed companies in EuroStoxx50 perspective? Or in other words, Do corporate sustainability and ESG investing strategies improve financial and stock performance?

By analyzing the literature and evolution data, the researcher hopes to test a connection between the variables ESG and financial and stock return performance through running a multiple linear regression that measures the level of correlation between variables that will be detailed presented later in this research.

1.4 Study Structure

In order to obtain the most appropriate understanding of the Sustainable and ESG topics, an amount of literature was gathered through the EBSCOhost database, datastream and websites from authorities in several countries. Terminologies such as ESG, sustainable finance, financial performance, stock return and non-financial metrics, are some of the most regularly used search phrases, and they were utilized in various combinations to discover the most relevant sources for this thesis. As a result, multiple filters, such as peer-reviewed, scholarly journals, and articles, have been employed to determine the relevance and reliability from the sources in order to support the subject approached.

The quantitative data obtained mainly through the providers S&P Global Inc and Morningstar both providers committed to delivering data, research, credit rating benchmarket and ESG solutions to support governments and institutions in their decision making.

This research is structured in 5 chapters:

Chapter 1: Introduction - consist of its background information as well as the research's principal goal and objectives. The research question and rationale for selecting and performing the current research study for the aim of investigation are also explained in this part.

Chapter 2: Literature Review - A number of theoretical studies relating ESG and its relationship with organizational performance and stock return including patterns from regions outside Europe.

Chapter 3: Research Methodology - offers details of research methodology principles that were employed in the current research study and that has supported in the process of selecting and analyzing the data collected.

Chapter 4: Data analysis, Findings and Discussion - The major findings from the data that was collected and analyzed to obtain the core findings were presented in this chapter.

Chapter 5: Conclusion - presents a research project, and the main conclusions are the final outcomes. This chapter also contains the recommendations that were found to be useful.

2 Literature Review

2.1 Overview

As observed in the literature researched, there is a real convergence towards ESG integration as a core strategy which is leading the way on responsible investment.

This chapter is dedicated to critically examining the ESG criteria as a relevant variable that has been discussed by literature as a driver to achieve long term environment, social and economic performance related to the company's profitability performance.

2.2 ESG Scores

In order to enrich the definitions, is worth first to aggregate into the ESG score definition to the SCORE interpretation as to according (Eccles et al, 2020) research, that addresses the ESG as pertinent to corporation performance and its effect on long-term profitability by approaching the concept of linkage corporate purpose to strategy and performance, based on a study as part of Enacting Purpose Initiative which describe the SCORE framework that compile the purpose once it is carried out in ways that involve strategy, capital allocation, as well as applicable processes and reporting practices. Many organizations today assert that they have expressed their purpose through mission and vision statements, that they are putting this purpose into reality, and that they have proven this through multilateral institutions' adoption of global norms and sustainability reporting. However, having only the intention isn't enough. Organizations must find systematic strategies to carry out their declared goals (Enacting Purpose Initiative Report, 2020).

The SCORE (Simplify, Connect, Own, Reward and Exemplify) a framework that outlines five actions that can assist boards in articulating and nurturing a company's long-term value proposition and drivers, in order words, five techniques to help people translate their intentions into actions, as follows:

Simplify - With shared frames of reference, make your objective easy and believable. Complicated strategies are doomed to fail. Leaders must work diligently to reduce the complexity involved in conducting business. It's the same with purpose. It must be easy enough for the entire organization's staff, as well as the wider supply chain and other associated stakeholders, to understand. A statement of purpose should be clear and concise, not hazy or ambiguous. It should state clearly what and whose problems the organization is attempting to solve, as well as why the organization is uniquely qualified to address them.

Connect - Corporate mission must drive everything the organization does, including strategy and capital allocation decisions, once it has been simply and clearly expressed. After careful consideration, strategy is about making decisions and rejecting decisions. It must be the reference point for such judgments in order for purpose to be authentically executed. Internally, boards must ensure that the organization's mission is reflected in what everyone does, because mission statements are meaningless unless they are followed up with actions. Externally, the board should guarantee that the organization's mission is shared with partners and customers throughout its supply chain.

Own - The board takes responsibility for the mission. It must put in place the necessary structures, control systems, and processes in order to carry out the mission. This extends far beyond the official committee structures of risk, compliance, and ethics. Everyone in the organization, from the board to the shop floor, must be on board with it. If the goal is to have any credibility, it must also be acknowledged and supported by the company's shareholders.

Reward - The board of directors must establish performance measures that assess the organization's ability to achieve its goals. It should implement a group-wide performance measuring system that connects the company's incentives and rewards with the promotion of purposeful behavior. Financial factors continue to be the most important aspects of salary and advancement for the majority of managers. It's critical that these accurately reflect the company's ability to achieve its goals. Financial and non-financial measurements should be blended to record the organization's progress in a balanced manner, delivering advantages to all stakeholders, including shareholders.

Exemplify - Through communication and storytelling tactics, leadership may help bring the organization's mission to life. When done correctly, these provide a feeling of shared identity based on a common goal that motivates employees to believe that they are part of something meaningful and rewarding as a team. The stories should be vivid and inspiring, but they should also be honest and transparent about the problems and setbacks as well as the triumphs. They should demonstrate the leadership's willingness to make personal sacrifices in sharing the costs of failure and the benefits of success (Enacting Purpose Initiative Report, 2020).

The roots of ESG concepts can be described in diverse ways. ESG score measures determine the company's sustainable performance. ESG score is a non-financial technique of analyzing organizations, with the goal of determining how and to what extent they engage with environmental, social, and governance factors, (Achim & Borlea, 2015). Bloomberg specifically says that ESG ratings are an additional financial indicator of valuation risk that is intangible. By analyzing the elements that represent opportunities and risks for businesses and industries using ESG's primary performance indicators for industries, the factors that represent opportunities and risks for firms and industries may be identified (Hedqvist and Larsson, 2020). ESG metrics are designed to capture additional aspects of a company's performance that aren't exposed by accounting data (Tarmuji et al, 2016).

Last but no least, ESG ratings are indices that combine a variety of different metrics to produce a score that is used to assess a company's environmental, social, and governance performance. The scope, measurement, and weights of such a rating can all be described conceptually. The scope of a company's ESG performance is the set of attributes that define it. The indicators used to generate a numerical value for each property are referred to as measurements. The function that combines many indicators into a single rating is known as weights (Berg et al, 2019).

For over 35 years, the function of ESG information has been explored by academics to evidence qualitative relevance of ESG exposure, that for the most part were referred to as a traditional data for yearly report and website of the company. In the last decade, the role of ESG information has significantly modified and effectively changed the business, as it understands that ESG disclosure is vital to illustrate their reputation in the green challenges (Tarmuji et al, 2016). In addition, investors are constantly looking for strategic vision and capability to achieve and maintain excellent ESG performance, rather than whether it has good intentions. Businesses must begin evaluating and reporting on their projects' outcomes, not only communicating water management, climate change mitigation, diversity and other policies, but must communicate outcomes through numbers such as liters of water consumed, carbon emission saved or percentage of women and people of color being promoted. "Moving from intention to results is the next evolution that investors are looking for" and "Global society faces enormous challenges. But if companies are bold and strategic with their ESG activities, they will be rewarded" (Serafeim, 2020)

As exposed, with the rapid evolution of ESG demand, a variety of frameworks, standards, and rating providers has emerged. Several companies and services providers are specializing in collecting and disclosing ESG ratings or scores. A number of groups have taken steps to increase and standardize ESG disclosures, which are currently primarily voluntary, in response to increasing investor demand for more ESG data points that are comparable across a broad universe of companies. Investors and other stakeholders primarily assess ESG performance through research and ratings given by third parties, despite a substantial focus on enhancing the volume and quality of ESG disclosures by corporations. These third parties gather ESG data from various sources and convert it into company-specific ESG ratings (Bergman et al, 2021). As per as, (Kotsantonis and Serafeim, 2019) ESG metrics and related corporate reporting efforts were developed in response to a demand for information on how companies use various forms of capital—natural, social, and intellectual, as well as financial—to provide their products and services, as well as how their activities affect society through positive and negative externalities. These efforts have resulted in an increase in the number of ESG reports, statistics, and ratings, as well as businesses attempting to build more rigorous and systematic reporting of ESG information.

ESG ratings and its studies are currently provided by at least 125 organizations. Major data suppliers and credit rating agencies are also joining this area, but many are niche businesses that focus on certain ESG issues or geographies and employ unique rating methodology. Established financial data providers are acquiring smaller ESG rating providers in order to merge their services into responsible investment, for instance S&P Global Inc. acquired RobecoSAM's. Morgan Stanley Capital International (MSCI) bought KDL, and Morningstar bought Sustainalytics. Institutional Shareholder Services Inc. (ISS); RepRisk AG; and Refinitiv (formerly Asset4), are the other most known service providers in the market (Bergman, 2021).

Although there are out there many ESG rating providers, the report, rating methodology, scope and coverage differ widely amongst providers and according to (Kotsantonis and Serafeim, 2019) and (Bergman, 2021) there is a concern about conflicts between ESG ratings measures, resulting that rated companies often struggle to interpret rating reports which is one of the most challenge for investors leaving them confused of which ratings are trustworthy.

In this article, the authors (Kotsantonis and Serafeim, 2019) explore a few of the challenges that current and new ESG providers might come across and compromise the use of ESG data in investment decision in continuing to grow, which include: The variety and inconsistency of data and measures and how companies report them; Benchmarking and the definition of the peer's groups, where transparency and observed ranges for ESG measures leads to inconsistency and reliability; Distinction imputation methods which can lead different gap filling such as span ranges of companies and time periods resulting in large disparities; The disagreement between ESG data providers are not only wide, but they are also widening as the amount of publicly available data grows and according to studies, companies that disclose more ESG have more variation in their ESG ratings (Kotsantonis and Serafeim, 2019).

(Berget et al, 2019) their article explore why ESG ratings diverge, the authors developed a framework that evidence and compare the vary of rating methodologies, concluding that measurement divergence is the real reason why ESG diverge due to that rater consider certain measure of the performance of the same company in the same category differently, and further findings, show that ESG rating disparity is caused by conflicts over underlying data as well as disagreement in opinion.

Accordingly, both articles call companies, investors, stock exchange and data providers's attention for its individual implication when assessing the ESG data but also suggest guidelines and best practices among ESG providers and consumers to make the ESG data as much as transparent and reliable as possible.

(Bergman et al, 2021), add that more and more investors are attempting to clarify the situation by developing their own proprietary ratings and assessments based on raw ESG data analysis, and they should thoroughly evaluate the data they collect and analyze to assure its accuracy. Similarly, when investors employ an ESG rating, it is critical that they understand the methodology and data collection procedure properly. Investors should check that the ESG ratings they employ are satisfying their expectations because not all ESG ratings convey the same set of facts. Companies must also take precautions to guard against rating mistakes. As a first step, organizations should actively monitor their present ESG ratings and adopt a strategy for engaging with ESG rating agencies to ensure that the company's ESG performance is accurately assessed.

2.3 ESG and Financial Performance

Traditionally, the ESG framework has as its original purpose to screen mainly characteristics related to social, environment and Governance performance (Syed, 2017). For years companies have been monitoring themselves by voluntarily gathering ESG non-financial quantitative information, but given the importance of sustainability in the last decade, investors and stakeholders have required substantial ESG information and disclosure in the financial report (Cubas Díaz, 2019). Since 2004, The Global Compact Summit reported that 20 of the major financial companies compromised to incorporate ESG into investments and financial analysis

(Report of the Global Compact, 2004). In addition, there are over 1,500 signatories from institutions that own or manage over $80 trillion to the Principles for Responsible Investing collected in 2018 (UNPRI, 2018). Since then, a number of scientific literature has been produced to deeply explore the correlation between ESG and financial performance (De Lucia et al, 2020).

The adoption of ESG as a metric to financial performance represents a real paradigm shift in the relationship between companies and their investors, as practices associated with sustainability have come to be considered part of the financial strategy of companies. More recently, investment managers are more prone to use ESG indicators as it shows the company's long-term performance where they are investing in, as well as, they are convinced that ESG maximizes good corporate governance and sustainability (Kocmanová and Dočekalová, 2012).

Worth to mention, Syed's article suggests that academic literature reveals differences in investor's beliefs regarding the ESG criteria when making investment decisions. Managers are key stakeholders in any organization's investment process. The behavior of an organization is the equilibrium behavior of a complex contractual system composed of maximizing agents with varied and conflicting purposes, with managers serving as the focal point of the organization. The ability of an organization's managers to provide adequate wealth and satisfaction for its key stakeholders is critical to its existence and success (Syed, 2017).

In contrast, (Liekefett et al, 2021) states that the world's leading institutional investors and pension funds have expressed their belief in the potential of ESG to generate shareholder value and make companies and markets more sustainable. Their backing has given ESG investing and operating concepts more legitimacy and respect. Nonetheless, companies and investors are converging on certain practices and expectations. Boards and management teams are progressively expected to ensure that ESG is a component of strategic decision making, identify key ESG opportunities and risks, interpreted in terms between shareholders' and stakeholders' ESG priorities, oversee ESG-related disclosures, and determine how board oversight of ESG will be allocated among the board and its committees.

A number of analyses has shown an increase in demanding ESG data which has resulted in legislation changing in several countries, requiring that large, public and state-owned companies must disclose ESG practices (United Nations Global Compact, 2015). Hence, in 2013 The European Parliament issued its "Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertaking", obliging large companies to disclosure not only environmental and social metrics but also humans rights, labor standards and anti corruption risks (Cubas Díaz, 2019).

(Claringbould et al, 2019) argue that there is business opportunity with profitable results that Sustainable Finance can generate, for instance, the highly demand on low-carbon energy sources replacing the use for oil reserves and it could turn in longer-term value for the investors in terms of profit and stock value. However, it can also be costly resulting in compensation claims or reputation damage, once the business has no commitment with sustainable practices. For that reason, (Kocmanová and Dočekalová, 2012) states that ESG key performance indicators provide firms with methods for measuring progress toward achieving the strategic objectives of sustainability. They provide quantitative or qualitative feedback that reflects the findings within the context of their corporate strategy, which might generate high financial returns while taking on a certain level of risk, all that investors aim for.

And yet, the economic consequences of long-term risks and opportunities, in conjunction with the strategies of the companies where the investments are made, should be the emphasis of the integration of ESG indicators into the investment strategy. Future cash flows should be reflected in ESG performance measures as the author suggested (Kocmanová and Dočekalová, 2012).

Serafeim's studies also confirm a growing level of internal innovation aligning sustainability with corporate performance. While most companies had inward-focused sustainability programs focusing on cost savings, risk management, and downside risks ten years ago, now, there is a new trend to integrate sustainability at the core of the business, adopting an external orientation, identifying new needs and markets, and focusing on value creation and upside potential. Potential rewards are raised as sustainability becomes increasingly incorporated into a company's business strategy and operations. This entails greater investments, greater risks, and greater potential payoffs (Serafeim, 2014).

According to research, managing ESG concerns responsibly fosters a business spirit and atmosphere that enhances a company's social integrity as well as stakeholder trust. As a result, organizations that publicly disclose ESG practices have been found to have improved their reputation, enhancing investor trust, maximizing resource efficiency, and remaining competitive (Tarmuji et al, 2016).

(Bassen & Kovács, 2008) ESG indicators are critical since they capture additional information about a company's performance that isn't included in accounting data, it is non-financial information about a company's performance and challenges related to environmental, social, and governance (ESG) issues that provides additional relevant information and allows investors to make more informed investment decisions by allowing them to better assess risks and opportunities.

Companies can demonstrate their commitment to transparency and proactive management measures to address externalities by releasing a public report on ESG problems. According to a number of researchers, a company's ESG performance is a predictor of managerial efficiency, and organizations that score well on ESG criteria are more responsive to market conditions, have lower production costs, and more motivated and productive staff.

2.3.1 - Previous Studies - ESG Score and Financial Performance by Region

As exposed above, the literature analysis has evidence that the impact of ESG scores on company market value has been extensively debated. A series of papers from different regions were developed to assess financial performance correlated with ESG ratings, briefly commented as follows:

Sweden and the UK - A research by (Hedqvist and Larsson, 2020) investigated the correlation between ESG scores and financial performance measures, assessing Return on Assets (ROA), Retention (RET), Operating Cash Flow (CF) and Debt Equity (DE) for 75 listed companies for both regions Sweden and the UK. The study indicates a positive correlation between variables CF and DE with ESG scores for middle and lower ranked companies for Sweden. However, for the UK, the results found indicates there is no correlation when in comparison for ESG scores and financial performance. Furthermore, the study presented a separate regression analysing high, middle and low scored companies which was not possible to determine the correlation between the variables, as they concluded that there isn't enough data to suggest that these variables are linked. The author mentioned that both (Eccles et al, 2014 and Velte, 2017) came across positive correlation between highly sustainable performance and the financial measure ROA for a sample of US companies.

Europe - a logistic regression model (De Lucia et al, 2020) for 1038 listed companies in Europe, a study with a combined approach of machine learning and techniques and inferential which presented better accuracy for the combination between Return of Assets (ROA) and Return of Equity (ROE). The main findings captured the existence of a favorable association between ESG and financial indicators. Furthermore, when organizations invest in environmental innovation, employment productivity, diversity, and equal opportunity regulations, the existing relationship becomes more apparent and yet, the new European New Green Deal and circular economy policies and visions may foresee difficult socio economic and environmental consequences if Corporate Social Responsible policies and practices are developed to implement future sustainable development goals in public organizations.

EU, US, Australia and South-East Asia - An research conducted by Refinitiv one of the largest ESG provider investigated the relationship between ESG scores and large cap firms for EU, the US, Australia and Asia (Japan, China and South Korea) combined with stock returns, market value, and volatility. A dataset of 2,000 companies and a period of 9 years. According to the correlation studies, there is a positive link for a company's ESG score and its size, for the reason that larger organizations have more resources to invest in sustainability, therefore, higher scores. Furthermore, negative correlations between ESG ratings and market volatility suggest that companies with higher ESG scores are less risky on average. The studies concluded there is a positive linkage for ESG scores in the EU firms and its excess in returns. There is also a positive correlation for Australia and South Korean, as highly ESG scoring does not comprise returns. As observed, EU and Australia lead institutional investors strongly embracing ESG scores on their portfolio. For US and other Asian firms, find out a strong negative correlation between ESG scores and its stock returns as it tends to be, once investors in these regions are not compromised with sustainability issues (Borovkova and Wu, 2020).

India - The authors (Dalal and Thaker, 2019) applied the annual ESG data of 65 Indian listed firms of a 2 years period, to investigate the impact of ESG aspects on the profitability and value of Indian public limited firms using different measures of return on assets and Tobin's Q ratio. According to the conclusions of the study, excellent corporate ESG performance improves financial performance as measured by accounting and market-based indicators. Corporates, investors, regulators, and policymakers will all benefit from the findings. The study emphasizes the importance of implementing sustainability reporting, which includes ESG score disclosure. Furthermore, the author also outlined past literature such Chelawat and Trivedi (2016) that argue ESG enhances the firm's financial performance and for Gosh (2013) Companies with specific characteristics such as being large, affiliated with a business group, having less leverage, higher R&D and advertising expenses, and operating in environmentally sensitive industries are likely to be superior in sustainability, which leads to superior financial performance, analise using the Ohlson's model. In addition, the authors opinions that previous research that looked at all ESG elements in depth could not find clear evidence of their impact on financial success in the Indian setting. In emerging economies, there is a scarcity of study on this link (Dalal and Thaker, 2019).

Malaysia and Singapore - this study explores a sample for a period of four years, selecting 35 Malaysian companies and 45 Singaporean, researching ESG practice on economic performance instead of financial performance. According to the authors, economic performance is based on client loyalty, performance, and shareholder loyalty, metrics that demonstrate a company's ability to achieve long-term growth and a good return on investment by utilizing all of its resources efficiently, resulting therefore, in assessing a company's overall financial health as well as its ability to generate long-term shareholder value by using optimal management practices. The study's findings demonstrate that both countries' environmental practices are significantly positively connected with economic performance. This result is consistent with earlier empirical investigations that found a favorable relationship between environmental factors and economic success. In addition, the authors reference other studies to reinforce that Implementing environmental management necessitates the expenditure of additional resources, such as cash, technologies, and human resources, resulting in increased expenses. Ultimately, the majority of research on the effects of ESG disclosure on company market value has been conducted in industrialized countries. Companies in the United States, Australia, Germany, Finland, and areas such as the European Union are the focus of empirical investigations (Tarmuji et al, 2016).

2.3.2. ESG News and Market Reaction

This idea of creating synergy within a company through connecting with stakeholders, whether clients, business partners, or employees, isn't quite new. It could be viewed by investors as part of the goodwill that is valued above the book value. As a result, we should see better demand, growth, and market pricing for the corresponding firm when a positive ESG score or news is released, as investors should notice the enhanced value and decreased residual risks. This increased value and reduced residual risk should be reflected in a stock market model as a positive alpha (SAHUT and PASQUINI-DESCOMPS, 2015).

A survey led by (Serafeim and Yoon, 2021) observed how market reacts with positive or negative ESG News and found out that prices only react to issues defined as financially material sustainability accounting requirements for a certain industry, and that the reaction is stronger for positive news that gets more attention and is tied to social-capital issues. In addition, the ESG performance score of a company predicts future ESG news. The majority of market reaction stems from unexpected news, implying that investors factor future expectations about ESG-related news into company prices recorded in ESG performance scores.

Several scholarly articles have looked at how markets react to ESG information and events. Mentioned in the survey carried out by (Serafeim and Yoon, 2021) Firms that mandatory disclosure ESG have less negative market reaction, whereas (Dimson et al, 2015) argue that Investors who engaged in successful ESG engagements had positive atypical returns, while (Capelle-Blancard and Petit 2019) discovered that the market reacts badly to both positive and negative ESG news, and (Krüger,2015) found that the market reacts negatively to both positive and negative ESG news (Serafeim and Yoon, 2021).

The authors (SAHUT and PASQUINI-DESCOMPS, 2015) argue that the first viewpoint of beneficial impact of ESG activities is that it boosts the company's image. In terms of marketing the sustainability policy would have costs and benefits to a similar advertising campaign. For instance, (Albuquerque et al., 2012) indicates that ESG is a strategic product that a company sells to clients, and that the sooner it is established, the more positive revenues it generates, with late adopters gaining less value.

An additional point made by the authors is that there is a common consensus that ESG should lead to reduction of cost of capital which contributes to improve the company performance. He also mentioned that studies by (Kurtz, 2005; Sharfman and Fernando, 2008) argue that the company's scores on non-accounting metrics reveal how it manages its risks. Strong ESG ratings would indicate that such businesses have less residual risk than the market as a whole. A reputation risk issue based on ESG criteria could have an impact on a company's stock price, or even cause it to fail. News, both good and negative, is being spread extraordinarily quickly. The risk-mitigation effect of ESG should not be overlooked, as reputation risk has emerged as a serious challenge to businesses today (SAHUT and PASQUINI-DESCOMPS, 2015).

As per the survey, (Serafeim and Yoon, 2021) a variety of perspectives could predict how the market will react to ESG news. In the angle that a company's ESG initiatives can be related to agency costs, in this situation, ESG would most benefit management at the shareholders's expense. Another argument is that sustainability performance can lead to shareholder value, not only contribute to a better resource but also a higher-quality employees, enhancement of reputation and lessen risk in the stock price market (Serafeim and Yoon, 2021).

Observations that companies who adopted environmental and social initiatives even before they were widely embraced had greater future stock returns and accounting performance (Eccles et al, 2014). A third argument raised in the

(Serafeim and Yoon, 2021) survey, It's possible that the ESG news will have little or no impact, cited by other authors that in such a scenario, ESG data would be worthless and thus financially meaningless. There would also be little reaction if investors did not adjust their beliefs in the wake of ESG news because so much information is already available through existing channels.(Serafeim and Yoon, 2021). ESG data would be worthless and thus financially meaningless. There would also be little reaction if investors did not adjust their beliefs in the wake of ESG news because so much information is already available through existing channels (Khan et al, 2016).

2.4 ESG Materiality Risk

The universe of Corporate Sustainability issues viewed through the ESG pillars lens but slightly differ from the SDGs agenda, where the environment, social and economic factors are directly relevant in the perspective of a company can be split in a list derived by the global reporting initiative toward quantitative and qualitative metrics and key performance indicators that companies will be required to disclose and which will differ by sector and its material risks.

Environmental factors concerns more explicitly applied to climate change mitigation and adaptation, as well as the environment in general and the hazards associated with it. Examples: Decarbonization, Resource efficiency, Material and Waste Circular Economy and Biodiversity among others.

Social factors include Human Rights, Labour Rights, Health and Safety, Diversity and Inclusion, Skills and Talent, Ethical sourcing, Community Engagement, Data Protection, Access and Affordability, Responsible Market.

Economic factors refers to Livelihoods and Employment, Tax transparency, Business Ethics, Legal Compliance, Reporting.

Whereas, the *Governance factors* refers to the management of the legal and regulatory environment, critical incident risk management, systemic mix management, business model resilience, factors that ensure that social and environmental issues are factored into decision-making. Nevertheless, It has been recognized that there is a high potential impact of ESG factors on investment strategy and on the broader operating environment has led to a good corporate governance according to Organização para a Cooperação e Desenvolvimento Econômico (OECD, 2017).

One of the first questions to examine when analyzing the impact of ESG risks is how to define each of these environmental, social, and governance concerns. Stated by The Committee of Sponsoring Organisations of the Treadway Commission COSO Guidance and e World Business Council for Sustainable Development (WBCSD) issued a guidance for ESG-related risk, that there are no universally agreed upon definitions of ESG-related risks, but that each organization would have its own definitions depending on its internal and external context, which may be broad or specialized. ESG-related risks are not new, according to the advice, and governance has been a clear priority for many years. However, new environmental and social concerns have evolved, and internal control, governance, and culture for managing these risks must be addressed (COSO and WBCSD, 2018).

As argued earlier in this paper, practices of ESG bring opportunities for companies. In terms of disclosure, sustainability reporting can be viewed as only a mainstream evidence of ESG practices. Although, there is a gap that connects financial report and ESG data reporting, which lengthen the shift to the mainstream. Materiality is a notion that is used in both reporting streams to influence corporations' disclosure responsibilities, but it has varied implications for different organizations. Materiality, as expressed in the obligation that corporations disclose material information, defines corporate disclosure. 6 The government has long dominated the definition of materiality, focusing on a narrow definition of materiality that is limited to economic data. Environmental, social, and governance (ESG) information, on the other hand, has been advocated for by sustainability organizations. Due to disagreements over the notion of materiality, financial and ESG disclosure have been separated, obstructing the mainstreaming of sustainability by separating ESG factors from business operations (Jebe, 2019).

The Sustainability Accounting Standard Board (SASB) has developed a Materiality Map that identifies financially material issues, which are those most likely to have an influence on a company's financial position or operating performance, therefore, most important to investors. Companies should determine what information is financially material and what information must be disclosed, taking legal obligations into consideration (SASB, 2018).

Fort (Madison and Schiehll, 2021) financial materiality of environmental, social, and governance (ESG) issues, or the possible impact of ESG issues on investment value. It's vital to note that SASB's financial materiality framework was created to help companies identify, manage, and report material environmental, social, and governance (ESG) information to their investors in a uniform, comparable, and trustworthy way. In addition, because industries define their own financial material issues, the SASB classification enables comparison of enterprises within the same industry. In the same paper, the authors conducted a research to investigate the effect on considering financial materiality of ESG issues on ESG scores and its ranking and the overall findings imply that financial materiality has an impact on the informative value of ESG scores and rankings, allowing for the discovery of investment opportunities in companies that score highly on business-critical ESG concerns. In addition, financial materiality can help investors make better ESG-based investment decisions. (Madison and Schiehll, 2021).

As Sustainability is becoming a strategic component of board evaluations and scenario planning it evolves into a longer-term possibility for wealth development. It encourages proactive management, which is what investors want to see. By merely using the indicators as conversation starters in the boardroom and beyond, the availability of more standardized information surrounding voluntary reporting of sustainability themes, such as the SASB effort, would significantly improve decision making and business effectiveness. The most successful way to integrate sustainability is through an educational process that focuses on long-term organizational performance. The ultimate issue may be recognizing underlying biases and contradictory values (Falsarone, 2017).

The propriety of audit committee oversight of specific ESG-related concerns, such as the identification of material ESG factors and oversight of disclosures, disclosure controls and procedures, is being debated. Boards are expected to value and focus on parts of ESG-related monitoring that only a board can accomplish, such as management oversight, CEO remuneration setting, and auditing and internal controls supervision (Liekefett et al, 2021)

To mitigate risks and create long-term value, it is possible to integrate ESG with corporate strategies, better governance and greater communication between shareholders and stakeholders. Adopting ESG practices requires companies to adapt to more sustainable processes and practices traditionally linked to the Circular Economy, which can be a good way to attract the growing public interested in conscious consumption (European Bank Authority, 2021.

2.5 ESG and Stock Returns Reaction

As per (Cornell, 2020) Premiums over the risk-free rate, according to finance theory, come from three sources: (1) benefits for taking risks, (2) behavioral biases, and (3) market obstacles such low liquidity. The relationship between risk, return, and ESG qualities, expects that the securities in question are traded in active developed markets, making obstacles of secondary concern. Investor preferences relating to ESG qualities are also the only behavioural biases considered here. As a result, bias should not be regarded as a demeaning term. Investors may choose common stock issued by companies with strong ESG ratings, for example, because they value ESG attributes such as lower carbon emissions in addition to the stock's financial return. Furthermore, (Hartzmark and Sussman, 2018) affirms that by evaluating investor flows to and from mutual funds with different sustainability globes, it is also discovered that investors (both institutional and individual) value sustainability.

As early approached, the sustainability ratings issued by various rating agencies are frequently incompatible, which may affect the investor's decision making as they must have confidence in the accuracy of sustainability ratings (Graham et al, 2013) and a thorough understanding of them in order to make well-informed investment decisions that may affect firms' performance, capital structure, and capital allocation in the markets.

As per the author's findings, individual investors regularly watch stock sustainability rankings and react quickly to significant changes in a company's sustainability, or changes in ESG ratings by (dis)investing in more (less) sustainable assets, putting significant downward pressure on prices and resulting in risk-adjusted abnormal returns. Therefore, the relevance of rating methodology transparency and investor awareness, as well as changes in sustainability ratings, can affect capital allocation in the market. This necessitates the creation of a single structure that benefits retail investors (Latino et al, 2021).

In theory, stronger stock returns should correspond to good ESG factor management: companies are viewed as being able to strengthen their market position by avoiding myopic ESG decisions [8]. The premise is that, like traditional variables, market agents view ESG aspects as a proxy for a firm's financial stability (La Torre et al, 2020).

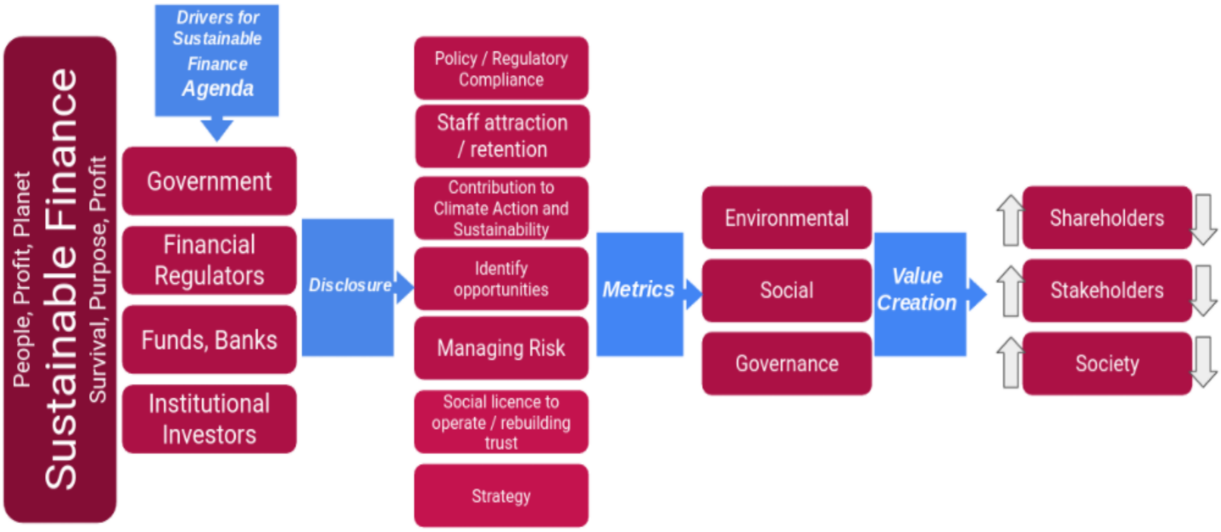
(Białkowski and Starks, 2016; Brandon et al 2019; Hartzmark and Sussman, 2018; Cui and Docherty, 2020) among others studies, makes aware of the topic of whether socially responsible funds outperform conventional funds in terms of risk-adjusted returns has yet to be answered definitively, whether the use of ESG values could lead to market inefficiencies — and hence the possibility of abnormal returns. Some researchers have found a link between socially responsible investing and abnormal returns, while others have found none. Previous research has mostly focused on calculating returns in the days and weeks following the revelation of ESG-related news.

When institutional investors notice a negative shock to a stock's ESG qualities, they are likely to overestimate the likelihood of subsequent shocks, leading to a higher tendency to sell and a steeper drop in the stock price than may be warranted by fundamental factors. With a higher institutional holding before the news release there is a more pronounced price reaction to ESG news events, and that there is a statistically significant decrease in institutional holdings following the release of bad ESG news compared to changes after good news (Cui and Docherty, 2020).

2.6 Conceptual Framework

A conceptual framework based on the research and literature review that embraced this study, is represented in the diagram below. The framework attempts to illustrate an overall linkage where Sustainable Finance begins, its aspects and outcome that should benefit Shareholders, Stakeholders and Society.

Figure 4: Sustainable Finance Conceptual Framework



Source: Assembled by the author

As already mentioned in this research, ESG covers a wide range of topics, from carbon footprints to labor practices to corruption. The fact that a growing amount of research reveals a favorable correlation between ESG performance and financial success or value creation. They are interconnected in the sense that the environment, social issues, and the amount to which you have excellent governance all have an impact on your ability to operate as a firm in the outside world. This has an influence on your ability to operate in the eyes of your stakeholders: regulators, governments, and, increasingly, non-governmental organizations (NGOs) using social media. In parallel, consumers are expecting firms to meet high standards of sustainability and employment quality. Regulators and policymakers are more interested in ESG because they rely on the private sector to help them handle social issues like pollution and diversity in the workplace.

On the other hand, as studies have advocated that stakeholders have embraced even more a paradigm in terms of corporate purpose toward consumers, suppliers, employees, communities and the environment in order to create long term value and no doubt, to maximize the returns. (Signori et al, 2021) Various tools have been proposed in an attempt to grasp and measure such value(s), but in many circumstances, the shareholders' perspective remains the most important one. A cultural shift, or a new way of thinking and looking at firms, is required to enable any shift toward a larger stakeholder-oriented purpose for corporations on a long term basis. In response to the request to contribute fresh narratives and debate how value creation for stakeholders could be quantified in various ways, as have been seen, ESG ratings are increasingly being used by investors to evaluate and pick firms based on how they treat their stakeholders, the environment they potentially impact, and their corporate governance.

(Miralles-Quirós et al, 2019; Ting et al 2020) The rating's utility as a tactical and strategic tool has been empirically proven. ESG ratings, in particular, have often been employed in stakeholder-based research to investigate if high levels of stakeholder performance are linked to high levels of financial performance. The majority of research found a favorable association between ESG ratings and financial performance, according to meta-analysis.

In conclusion ESG focuses on sustainability not only in organizations where it is clear from a value-creation standpoint, but also in companies where it is less obvious but still has value-creation potential.

Conclusion

This chapter aimed to develop an understanding on how extent the ESG scores have been integrated in business and investment decisions. Due that sustainability is a trending topic and a series of requirements and procedures has been implemented in a fast pace once it is the overall interest, there has been an extensive number number of literature in order to debate, study the effects of this changes in business and in favor the overall awareness upon the relationship between sustainability and business interests. This research attempted to capture the latest paper in order to bring the most updated data.

3 Methodology and Research Design

3.1 Overview

This chapter provides thorough insights into the research methodology and research approach used in this study. It approaches the strategies, research design and data collection techniques and methodology chosen that best fit to understand the hypotheses that embrace this research.

3.2 Research Philosophy and Approach

This study aims to investigate to what extent the ESG scores can have influence in the financial performance and stock market performance evidence from companies listed in the Eurostoxx50 index over 5 years, from 2016 to 2020. As explored in the prior chapters, ESG scores measure the company's sustainability initiatives, as it has been considered in the financial market a trending proxy that influences the investment decision making.

Thus, the approach for this study takes into account the theoretical aspect, the background to the subject and a designed hypothesis to what the research aims to explore. According to (Saunders et al, 2009), a dissertation's research philosophy and approach follow a path that gradually improves the core idea that was developed with the question to be answered, or a gap to be filled. The objective is to ground and design the research while maintaining the relationship to what the work is attempting to prove in mind at all times.

Whereas, the philosophy adopted is positivism, as according to (Creswell and Poth, 2016) a research philosophy is the belief system, basic assumptions, and theoretical underpinnings that influence the research process. The positivist philosophy supports the quantitative methodologies and aims to comprehend the true nature of the subject under examination by considering it independent from social constructs and human interactions.

Furthermore, according to (Bryman, 2016) the philosophy of positivism is used to analyze the research problem objectively, the interpretivism philosophy, on the other hand, it can be used to further the research, but it is rejected because it complements qualitative research and focuses on comprehending the research problem in light of social conceptions, beliefs, and experiences of individuals. Overall, the researcher chose to conduct the research in accordance with the positivist philosophy in order to generate statistical data on factors influencing stakeholders' interest in sustainable investment and to determine the relationship between long-term business performance and sustainable investment.

3.3 Research Strategy

The study design is to support the author in planning to collect data and, as a result, get the greatest possible outcome (Blanche at el, 2006). A research design also encompasses the study's execution process and integrates research components in a logical manner. Descriptive design calls for a rigid process or framework to perform the entire study, as well as a set structure that adheres to particular principles (Mayers et al, 2011).

As this is a quantitative research, based on experimental research, which is a strategy for developing a research process that compares the outcomes of an experiment to what was expected. To put it another way, experimental research is a sort of study in which one or more independent variables are manipulated and their impact on one or more dependable variables is measured. In this method, constructing a set of methods to test a hypothesis is referred to as the experimental component (Saunders et al, 2019).

An experiment is set up and a hypothesis is tested by generating a setting in which one of the variables is altered in experimental research. This is also used to determine the cause and effect relationship. It is put to the test to examine what happens to the independent variable when the dependent variable is deleted or changed. Proposing a hypothesis, testing it, assessing the results, and reporting them to see if they support the theory or not is usually the process for such a method. Correlational research is a technique for determining the relationship between two sets of variables. To forecast the consequences of such a strategy, regression is commonly used. Correlation can be positive, negative, or neutral. In addition, a well-designed experiment is critical since the outcomes and inferences that can be taken from it are heavily influenced by the data collection method (Montgomery, 2012).

Additionally, a positivism research might make use of existing theory to develop hypotheses that offer hypothetical explanations that can be examined and confirmed, in whole or in part, or denied, leading to the development of a theory that can subsequently be tested through additional study through gathered data and observations. Positivist research tends to be deductive, the original positivists emphasized the necessity of inductive research due to the value of empirical evidence (Saunders et al, 2019). Furthermore, as per (Jasti and Kodali, 2017) empirical research is to back up traditional research with a variety of tests and observations, to improve the credibility and authenticity of the research. It allows a researcher to recognize potential dynamic changes and adjust his strategy accordingly. This type of study has a high level of control, allowing the researcher to manipulate several factors.

Given the justifications above and furthermore, in order to explore the influence of ESG Scores which is determined as an independent variable over the financial performance and stock return ratios, thus the dependent variables, this research is guided by attempting to correlate ratios and scores gathered by collection of data and analysed based on statistical methodology.

3.3.1 Hypothesis

A number of alternative theories have been proposed to explain the link between a company's financial performance and sustainability. These theories are connected to the relationship's influence (positive, negative, or neutral) as well as its causality (direction). The hypotheses are founded on a positivistic approach, which means that the starting point is that the independent and dependent variables have no correlation. Therefore, 2 hypotheses are presented below which intend to evidence first the Financial performance relationship with ESG and second, the stock return performance in function of ESG score.

H1: Is there a relationship between ESG factors and financial performance for listed companies in the Eurostoxx50 index?

H2: Is there a positive or negative effect of ESG score for the stock returns for listed companies in the Eurostoxx50 index?

3.3.2 Research Variables Definition

The variables were chosen based on research studies that aimed to investigate the correlation between financial performance and stock return performance, although the financial measures varied among studies. Debate shows that Return on assets (ROA), Return on equity (ROE), Return on capital (ROC), Debt-Equity ratio, and Retention ratio are among the most often used conventional financial performance measures and that performance indicators utilized and calculated depend on a company's growth stage, whether it is focused on growth or profitability Garcia et al, 2014).

For this paper, the chosen dependent, independent and control variables for the regression applied are split in two measurements: Financial Performance and Stock Return Performance, explained accordingly in Table 1, variable list.

Dependent Variables for Financial Performance: Financial measures Return on Assets (ROA), Return on Equity (ROE), Return on Invested Capital (ROIC) and Earning Before Interest, Tax, Depreciation and Amortization (EBITDA).

Dependent Variables for Stock Return Performance: Earning per Share (EPS), Price to Earnings (PE), Dividend Yield and YTD Stock Return.

Control Variable: (Barnett and Salomon 2012; Garcia et al 2014) among others, explains that control variables are factors that might have a consistent impact on the independent and dependent variables. In addition, control factors, to the independent variables, influence the dependent variable, depending on the sample size. Prior studies have employed drive results including leverage or debt to equity ratio that measure the company's capital structure and risk, fixed effects such as industry, year, age, region. To measure the size of the company, studies have employed total assets by its natural logarithm, sales revenue or even market capitalization by its natural logarithm. (Ratsimiveh et al, 2020; Rupesh, 2020) justified the use of Market Capitalization as a measurement for a company size, as the share price of a corporation multiplied by the total number of shares available in the company equals the market capitalization. This is a market-based measurement of a company's size. It is anticipated that when the company's value rises, the dividend amount paid to shareholders will rise as well. Market capitalization has been used as a measure of a company's size by Bostanci, Kadioglu, and Sayilgan (2018), Ahmad, Barros, and Sarmento (2018), and Labhane and Makund (2016).Thus, in order to smooth the distribution of market cap units by using the natural logarithm of the market cap for each issuer in our panel as the size variable.

Table 1 - Regression Variable Explanation

			Explanation
Dependent Variables	Financial Performance	*Return on Asset (ROA)*	ROA Indicates how profitable a company is relative to its total assets. It gives the ideia as to how efficient a company's management is at using its assets to generate earnings.
		Return on Equity (ROE)	ROE is a measure of financial performance calculated by dividing net income by shareholders' equity. Itis considered a measure of a corporation's profitability in relation to stockholders' equity
		Return on Invested Capital (ROIC)	ROIC measure how well a company uses its capital and how efficiently a firm uses capital to generate earnings.
		EBITDA	EBITDA helps you analyze and compare profitability between companies and industries, as it eliminates the effects of financing, government or accounting decisions.
	Stock Return Performance	*Earnings Per Share*	Earnings per share (EPS) is calculated as a company's profit divided by the outstanding shares of its common stock. The resulting number serves as an indicator of a company's profitability.
		P/E Ratio	It is a popular ratio that gives investors a better sense of the value of the company. The P/E ratio shows the expectations of the market and is the price you must pay per unit of current earnings (or future earnings, as the case may be).
		Dividend Yield %	The dividend yield is an estimate of the dividend-only return of a stock investment.
		YTD Stock Return	YTD return is the amount of profit (or loss) realized by an investment since the first trading day of the current calendar year. YTD calculations are commonly used by investors and analysts to assess the performance of a portfolio or to compare the recent performance of a number of stocks
Independent Variables	ESG Perfomance	*ESG Scores*	Environmental, social and governance performance score collected from S&P Global
Control Vabiable	Control Vabiable	*MktCap SIZE*	The investment community uses this figure to determine a company's size, as opposed to using sales or total asset figures. In an acquisition, the market cap is used to determine whether a takeover candidate represents a good value or not to the acquirer.
		Financial Leverage (LEV)	Leverage is an investment strategy of using borrowed money. Specifically, the use of various financial instruments or borrowed capital—to increase the potential return of an investment. Leverage can also refer to the amount of debt a firm uses to finance assets

3.3.3 Statistic Methodology

Based on multiple previous researched, including (Atan et al, 2017; Días, 2019; Dalal and Thaker, 2019; D'Costa et al, 2016; Ferrell et al, 2016; Landi and Sciarelli 2019; Tarmuji et al. 2016; Zhao et al. 2018; Hedqvis and Larsson, 2020; Garcia et al, 2014) among others, use the statistical model Ordinary Least Squares (OLS) and it seems commonly applied as it is a conventional technique used to examine relationships between variables in a regression framework and it is mostly combined with a varied models through machine learning technique and empirical tests.

In a multiple linear regression model, the least squares method is commonly employed to estimate the regression coefficients (Montgomery, 2012).

The equation for OLS, as a preliminary model is:

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_k x_k + \varepsilon$$

Where:

Y Dependent variable

X Independent variable

β_0 Intercept

β_1 Slope

k number of slope

ε error term or residual of the model

For this research a convencional short-panel for multiple linear regression is applied for each one of the variables.

Thus, 4 regression tables representing hypothesis 1, where the financial indicators ROA_{it}, ROE_{it}, $ROIC_{it}$ and $EBITDA_{it}$ are the dependent variables in function of ESG_{it} scores for that firm *i* in period *t*, while, employed as control variables, factors $MCapSize_{it}$ by its natural logarithm represents the firm's size and Lev_{it} measures the firm's debts structure and risk.

Hypothesis 1: Financial Performance

$$ROA_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2\, MCapSIZE_{it} + \beta_3 LEV_{it} + \varepsilon \ldots (1)$$

$$ROE_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 MCapSIZE_{it} + \beta_3 LEV_{it} + \varepsilon \ldots(2)$$

$$ROIC_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2\, MCapSIZE_{it} + \beta_3 LEV_{it} + \varepsilon \ldots (3)$$

$$EBITDTA_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2\, MCapSIZE_{it} + \beta_3 LEV_{it} + \varepsilon \ldots (4)$$

The hypothesis 2 is employed in the same equation regression and presented in further 4 tables with dependent variables that measure the stock return performance EPS_{it}, PE_{it}, DY_{it} , and $YTDReturn_{it}$,in function of ESG_{it} scores, and the control variable as such employed in the first hypothesis.

Hypothesis 2: Stock Return Performance

$$EPS_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 MCapSIZE_{it} + \beta_3 LEV_{it} + \varepsilon \text{ ...(5)}$$

$$PE_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 MCapSIZE_{it} + \beta_3 LEV_{it} + \varepsilon \text{ ... (6)}$$

$$DY_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 MCapSIZE_{it} + \beta_3 LEV_{it} + \varepsilon \text{ ... (7)}$$

$$YTDReturn_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 MCapSIZE_{it} + \beta_3 LEV_{it} + \varepsilon \text{ ... (8)}$$

As per (Artan et al; Días, 2019; given the variety of variables, it is essential to take into account the problem of multicollinearity that happens when two or more explanatory variables are significantly correlated, they do not give unique or independent information in the regression model. When the degree of correlation between variables is strong enough, it might present issues with fitting and interpreting the regression model.

(Osbourne & Waters, 2002), in a multivariate regression study, researchers should always evaluate four assumptions. The variables utilized must be regularly distributed, there must be linearity between the independent and dependent variables, the variables must be reliable, and the variables must be homoscedastic. The results and findings are less reliable if certain assumptions are not met; thus, they can skew the results. The absence of multicollinearity in multiple regression is another assumption. It's difficult to assess the effects of the independent variables in the regression when this assumption isn't met, which is why it's one of the more serious issues with regression analysis.

(Nyawira et al, 2017) the extent of inflation of standard errors of slopes owing to multicollinearity is measured by variance inflation factor (VIF). A VIF of 1 indicated that the predictor and the remaining predictor variables had no association, and hence the variances were not inflated at all. VIFs greater than 10 are considered to be symptoms of substantial multicollinearity that need rectification.

Therefore, the VIF test was applied for this research in order to test the multicollinearity between dependent, independent and control variables. As a result the VIF value for each predictor is within acceptable limits as shown in table 2.

Table 2. VIF Test

Test Summary	Independent Variables		
	ESG	McapSize	Leverage
Variance Inflation Factor	-1,02541	1,89116	1,61888
Minimum possible value = 1.0; values >10.0 may indicate a collinearity problem.			

3.4 Collection of Data

A quantitative research deals with secondary data, as per as (Saunders et al, 2019), the use of data refers to examine propositions or hypotheses connected to an existing theory, to investigate a phenomenon, find themes and patterns, and develop a conceptual framework and test it with more data, and so on.

There are three types of biases that can emerge while measuring data: willful distortion, changes in data collecting, and a data gathering method that does not fit the topic's goal. These factors have an impact on the research's credibility. The ability to replicate the study and consistency are referred to as reliability. As a result, the method is dependable if someone can successfully recreate a previous research design and achieve the same results. Validity, which refers to the accuracy of the many measures utilized as well as the precision of the study, is another important aspect of any research (Saunders et al., 2016)

The secondary data included in this research is considered reputable because it was gathered from S&P Global and Morningstar databases, major players in the financial data industry.

3.4.1 Sources

This research is based on two databases which include a time frame from 2016 to 2020 composed by 50 listed companies in the EuroStoxx 50 index. The dataset includes financial ratios collected from Morningstar which is a well-known source of information, research, and ratings on mutual funds and individual securities. As well as, the ESG scores collected S&P Global Inc., which is a division of S&P Global (NYSE: SPGI) and provides essential intelligence for consumers, businesses, and governments to make financial decisions. Because of the increasing importance the ESG is gaining in the market, the company recently launched public ESG scores on over 9.000 firms in order to stimulate the debate and allow all market players to make decisive decisions.

In regards to the ESG Methodology, as per the company, the S&P Global ESG Scores are based on the S&P Global Corporate Sustainability Assessment's assessment of corporate sustainability performance (CSA) as well as in publicly available information. The scale runs from 0 to 100 and it is updated annually or in response to the major developments. Because the CSA uses 61 industry-specific questionnaires, the scores should not be used to rank organizations across industries, but rather should be evaluated inside each CSA industry. Throughout the year, S&P Global keeps track of company activities, reviews company names and nations on a regular basis and updates them to the best of its knowledge at the time of publishing.

It is worthy to mention when dealing with a secondary source of data to be used in a quantitative method, as per (Smith and Noble, 2014) state that the researcher's personal ideas can influence on how information or data is acquired, data collection bias can arise. In quantitative studies, measurement bias can occur if a tool or instrument has not been assessed for its validity or reliability. A well-designed study procedure that specifically outlines data collection and analysis can help reduce bias. Feasibility studies are frequently carried out to improve processes and procedures. Bias can be reduced by maximizing follow-up and using randomised control trials when applicable.

Therefore, even though the level of bias can be reduced in quantitative research, a reliable source must be considered when dealing with quantitative data in the matter of financial performance and stock data source.

3.4.2 *Access and Ethical Issues*

Because this study is based on an empirical analysis of secondary data, all necessary material for the research is available online, hence an informed consent form was not required. In other words, because this study is based on data already available on DataStream websites and in the company's annual reports, the author does not need to consider ethical issues that may arise in studies as required in primary data, such as surveys or interviews which contain personal data.

3.5 Approach to Data Analysis

To assess the relationship between a set of variables is applied a regression analysis which is a statistical approach that can be used to evaluate the hypothesis that one or more variables are dependent on each other. Additionally, regression analysis can assess the degree of the impact of a change in one variable on another, it figures out how one or more variables affect the dependent variable in order to spot trends and patterns (Montgomery, 2012).

For quantitative investigations, data analysis entails a rigorous examination and interpretation of figures and statistics, as well as an attempt to determine the explanation for the development of key discoveries. Descriptive statistics were also employed to display and summarize the key findings of the hypothesis test.

This study used positivism, a deductive approach to express the results, to investigate the research question.

3.6 Conclusion

The chapter attempted to ground the research in various research philosophies and techniques. The goal of the research isn't to come up with a right or wrong answer. The fundamental goal was to ground the research in the most appropriate philosophies and methodologies. As a result, a positivism philosophy was chosen, and quantitative research was used. Despite the fact that a variety of other studies have looked into the relationship between financial measure and ESG, this research aims to understand whether the financial and stock return performance might be influenced by the ESG scores measured taking account the listed companies in the EuroStoxx50 index. Patterns and correlations were assessed using a statistical approach in order to identify the phenomenon.

4 Presentation and Discussion of the Findings

4.1 Overview

This section presents the observations for the variables defined by the hypotheses employed in this study. As previously mentioned, the hypothesis and subsequently its variables are split between financial performance and stock return performance. As this study is based on analysis, examination, and interpretation from a particular perspective, it's worthy to mention that the work does not seek to provide definitive answers or guarantee that this is the only real answer. The purpose of this study is to provide relevant findings through stressing the outcomes of the data collected.

Furthermore, this chapter will give charts and tables of the most relevant points of the data, constantly attempting to draw a connection with the hypothesis and the research question, in order to bring clarity to the hypotheses presented.

4.2 Findings

As stressed in the prior chapters, the ESG factors are being considered by the market players when making decisions upon investments, furthermore the European Union is at the forefront of ESG policies and the disclosure obligations have been already introduced mainly in the financial sector and due diligence is anticipated to be imposed in the near future for all sector. These proposals include both additional disclosure requirements and, perhaps, substantive requirements for enterprises to address ESG issues related to their operations as its implementation is anticipated to have substantial implications for enterprises based in the EU as well as those operating within the EU. As has been stated before, over the last few years, a number of studies has been published in order to explore the relationship between sustainability and business and was observed that although a few have not necessarily come across with a positive correlation between profitability in function ESG Scores, these studies have advocated that companies that publicly publish their ESG practices have been found to have improved their reputation, resulting in increased investor trust, efficient resource utilization, and the ability to remain competitive, factors that might bring the financial return in a long term basis, which is the essence for sustainability.

As already mentioned, the purpose of this study is to have the understanding through data statistics analysis using the sample composed by the 50 supersector leaders companies in Europe listed in the EuroStoxx50 index,

Table 3 evidences the sectors ranked by the overall average of ESG score from the period 2016 to 2020. ESG ratings, ESG scoring, and ESG opinions all have a basic difference. ESG ratings are used to assess a company's exposure to environmental, social, and governance (ESG) concerns. Higher ratings indicate a lower risk of exposure and a better ability to manage such risks. ESG scores and views, on the other hand, do not use a forward-looking approach and hence do not provide a risk assessment; instead, they measure a company's ESG attitude and provide a valuation of how ethical companies have been and are in handling ESG factors in the past and present (La Torre et al, 2020).

The highest average ESG Score is 86 out of 100 shown in the table, however, the S&P provides the ranking by industry splitted with an individual score by the Environment, Socio or Governance for each individual company, therefore, further analysis has to be done by requesting the full data report to the ESG provider. By following the S&P Global Score overall ranking as a score of 50 indicates that the company is ordinary in comparison to its peers; a score of 70 or more indicates that the company is at least two standard deviations above its peers. Thus, a score smaller than 50 is a lower standard.

It's observed that the sectors Gambling and Internet Content and Information are considerably lower in the average for ESG score, as mentioned before, a further analysis is needed to a better understanding on which element the companies have the criterias marked down.

However, studies have shown the use of a new term in the investment market called sin stock which are the shares in corporations engaged in unethical activities, such as alcohol, cigarettes, gambling, adult entertainment, or weaponry. Ethical investors avoid sin stocks because the companies involved are supposed to profit from exploiting human flaws and vices. According to (Hong and Kacperczyk, 2009) demonstrates that social standards are a key driver of lower investor demand for 'sin' stock, resulting in higher predicted returns on companies that produce alcohol, cigarettes, and gambling.

In addition, (Serafeim, 2020) argues that as now the data information is easily accessible and on a regular basis the investors are screening out poor ESG performance expecting that the factors that cause low ESG ratings will lead to poor financial performance. Some people seek out high ESG performance because they feel that doing so would result in higher financial returns, or because they want to invest predominantly in "green funds" for ethical reasons. ESG data is used by other investors as part of their fundamental analysis. Some activists use the information to invest in businesses and then pressure them to improve their practices.

Table 3 - EuroStoxx 50 company by Sector and ESG

Industry	*ESG SCORES Average (2016-2010)*
Utilities	86
Telecom Services	85
Specialty Chemicals	85
Diagnostics & Research	85
Consumer Cyclical	84
Insurance	83
Building Materials	81
Banks	81
Semiconductor Equipment & Materials	81
TotalEnergies	76
Integrated Freight & Logistics	74
Apparel Retail	74
Industrials	72
Drug Manufacturers - General	72
Packaged Foods	72
Specialty Industrial Machinery	70
Technology	69
Financial Data & Stock Exchanges	67
Luxury Goods	66
Auto Manufacturers	61
Medical Instruments & Supplies	60
Chemicals	55
Beverages - Wineries & Distilleries	55
Consumer Defensive	54
Oil & Gas Integrated	52
Broadcasting	45
Household & Personal Products	43
Software	42
Real Estate	35
Aerospace & Defense	34
Gambling	20
Internet Content & Information	6

4.2.1 Financial Performance Regression

The tables 4 to 6 presents a description of statistics for 250 observations and it has an overview of its mean, median, standard deviation, maximum and minimum values. This is a summary for the first 4 samples that represent hypothesis 1. The overall average result for ESG scores 65 points out of 100, according to the methodology employed by S&P Global a higher score represents a strong sustainability commitment by the company and consequently less risk of ESG materiality, crucial elements that can directly influence the performance of a company. Other than that, the mean for each one of the variables is presented positively, which means the companies performed well during the period analysed.

Table 4 - Descriptive Statistics for Financial Performance

Discriptive Statistics (Financial Perfomance Variables)					
No. of Observation: 250 - Period 2016 - 2020					
Variable	*Mean*	*Median*	*St. Dev.*	*Maximum*	*Minimum*
ROA	4,71584	3,95500	4,93496	45,38000	-8,63000
ROE	12,71648	11,51000	10,39303	65,39000	-26,96000
ROIC	8,36116	7,21500	8,36171	60,18000	-11,67000
EBTIDA	23,60980	16,46500	42,64321	508,47000	-5,79000
ESG	65,60000	76,50000	23,41472	92,00000	0,00000
MarkCap(ln)	1,65639	1,74071	0,47846	2,50057	0,00000
Leverage	5,51780	2,94000	6,16176	36,55000	0,00000

Table 5 presents the correlation matrix between the dependent, independent and control variables. According to the Pearson correlation coefficient is a unit of measurement for the strength of a link between two variables.

A correlation value of 1 indicates that for every positive increase in one variable, a set proportion of the other increases as well; A correlation coefficient of -1 indicates that for every positive rise in one measure, a set proportion of the other decreases; For 0, There is no positive or negative rise for every increase, by meaning there is no connection between the two.

It's observed that for each of the dependent variables ROA -15%, ROE -7,96%, ROIC -24%, and EBITDA -30% in function ESG score have its ranges negatively, meaning that a variation with -1 indicates that the two variables are diametrically opposed in a perfectly negative way, one goes up and the other goes down. Therefore, the increase or decrease to the independent variable might affect the variation of the dependent variable.

Table 5 - Correlation Matrix for Financial Performance

Correlation (Financial Perfomance Variables)							
	ROA	*ROE*	*ROIC*	*EBITDA*	*ESG SCORES*	*Market Cap (ln)*	*Leverage*
ROA	1						
ROE	0,8007334713	1					
ROIC	0,889634788	0,9002582817	1				
EBITDA	0,5303269072	0,3452162349	0,4020470702	1			
ESG SCORES	-0,1541160251	-0,07960659521	-0,2427813192	-0,3061758522	1		
Market Cap (ln)	-0,1580732864	-0,1786841684	-0,2218649219	-0,2421051066	0,3818012789	1	
Lev	-0,3661198378	-0,1130239738	-0,239463247	-0,141930542	0,1275053261	0,08866520949	1

Table 6 shows the Regression linear employed for financial performance variables (dependent variables). Before run the regression, it was tested the VIF to check the multicollinearity between the variables (results demonstrated in table 2), Furthermore, it was discovered that the control variables (MCapSize and Leverage) have a considerable impact on the regression results, with a strong impact, resulting in a robust p-value, F statistic, and R Square. Therefore, as shown in the table 6, the linear regression turns out the following interpretations:

The R Square which is the coefficient of determination used when forecasting the result of a given event, a measurement that looks at how differences in one variable can be explained by differences in another one. Therefore, turns out that ROAit 2,38%, ROEit 0,63%, ROICit 5,89%, EBITDA 9,37% percentages of strength of the linear relationship between these dependent variables and ESG score,

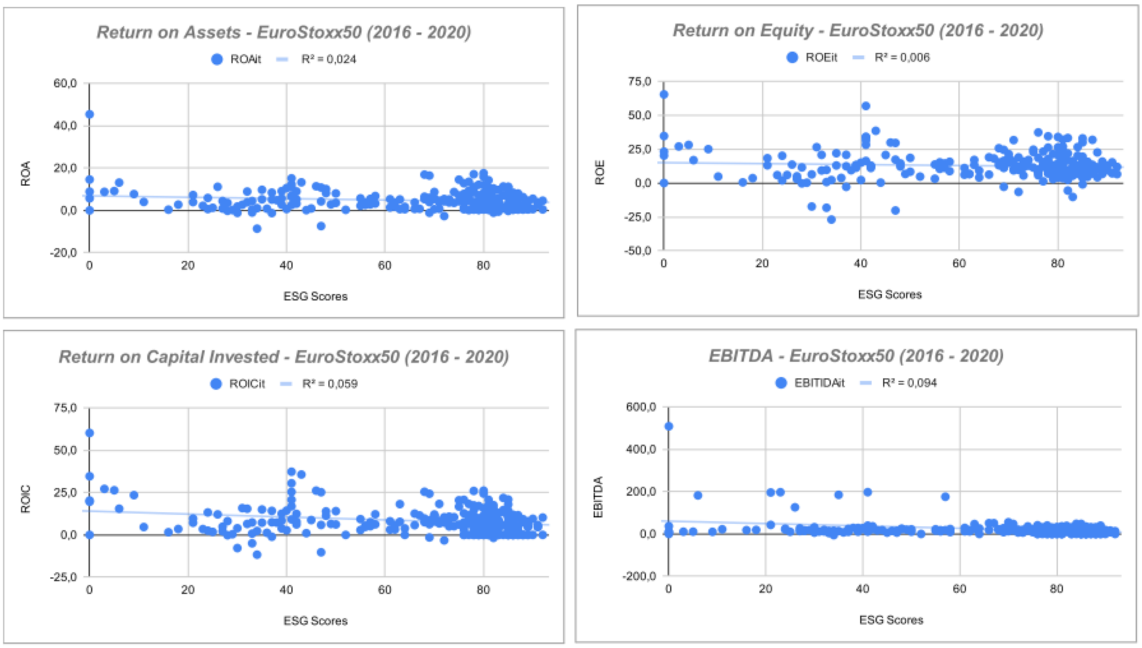
The p-value > 0 for each one of the dependent variables which represent a positive correlation whereas F statistics which is a numerical representation of the F distribution and it is generated by a variety of statistics tests. The higher F value means more significance between variables.

Table 6 - Ordinary Least Squares on Financial Performance

	Financial Performance											
	Dependent Variable ROAit			Dependent Variable ROEit			Dependent Variable ROICit			Dependent Variable EBITIDAit		
Independent & Control Variables	***β0***	***t***	***p-value***	***β0***	***t***	***p-value***	***β0***	***t***	***p-value***	***β0***	***t***	***p-value***
Intercept	8,9504	7,7993	0,0000	19,7834	7,6888	0,0000	17,8085	8,9795	0,0000	76,9379	7,6133	0,0000
ESGit	-0,0151	-1,1227	0,2626	-0,0012	-0,0385	0,9693	-0,0580	0,0582	0,0132	-0,4360	-3,6835	0,0003
MCapSizeit	-1,0301	-1,5728	0,1171	-3,6715	-2,5002	0,0131	-2,4740	-0,7791	0,0298	-12,6512	-2,1935	0,0292
Levit	-0,2788	-5,8834	0,0000	-0,1648	-1,5510	0,1222	-0,2798	0,0445	0,0007	-0,6839	-1,6388	0,1025
****ANOVA (F Statistic p-value <t)***	*R Square = 0,02375174 F = 0,01472*			*R Square = 0,00633 F = 6,0337*			*R Square = 0,0589427 F = 15,533387*			*R Square = 0,0937436 F = 25,653255*		

The table 7 scatter plot illustrates the correlation between the two variables and it reinforces the F statistic for distribution presented above, or the stronger the association, The variables are considered to have a positive correlation if the data points form a straight line from near the origin to high y-values. Therefore, it turns out that the variables ROA, ROE, ROIC and EBITDA have a higher concentration of data points in direction to a higher ESG score. In other words, the higher financial results tend to have more concentration on the companies which have a higher score.

Table 7 - Scatter Plot for 4 of the dependent variables in function to the ESG Score



4.2.2 Stock Return Regression

As discussed in the prior chapter, the stock market is prone to be more sensible to the ESG variations above (La Torre et al, 2020; Fried e at 2015; Latino et al,), argues that, In theory, better ESG factor management should result in higher stock returns: Companies are viewed as having the ability to strengthen their market position by avoiding shortsighted ESG decisions. (Cornell, 2020) argues that Investor preferences and risk are the two key elements that influence predicted returns for companies with strong ESG ratings. However, to the degree that ESG is a risk factor, it also indicates that investments in highly rated companies will provide lower expected returns. Though ESG investment has societal benefits, it does not provide investors with higher projected returns.

The tables 8 to 11 present the regression results for dependent variables EPS, PE, DVY, YTDReturn, which are the measures to assess the stock return of a company . The sample has 250 observations for each variable which represents hypothesis 2 as determined in chapter 3.

Table 8 represent the Descriptive Statistic for Stock Return Performance,

Regarding the ESG score results, the same database and scores is employed for return stock correlation

Table 8 - Descriptive Statistics for Stock Return Performance

Discriptive Statistics (Stock Return Perfomance Variables) No. of Observation: 250 - Period 2016 - 2020					
Variable	*Mean*	*Median*	*St. Dev.*	*Maximum*	*Minimum*
EPS	3,82995	2,49000	4,74331	29,49000	-2,90000
PE	26,55400	20,60000	31,57006	294,10000	0,00000
DVY	2,92340	2,33500	3,83723	45,71000	-9,90000
YTDReturn	14,10924	10,48500	26,91141	180,87000	-40,87000
ESG	65,60000	76,50000	23,41472	92,00000	0,00000
MarkCap(ln)	1,65639	1,74071	0,47846	2,50057	0,00000
Leverage	5,51780	2,94000	6,16176	36,55000	0,00000

Table 9, the correlation matrix, shows a positive coefficient of correlation for EPS 7,56%, DVY 19,33% and YTDReturn 1,83% by meaning therefore, a correlation value of 1 indicates that for every positive increase in one variable. Whereas it shows a negative coefficient of correlation for PE -19,94% in function of ESG score,

Table 9 - Correlation Matrix for Stock Return Performance

Correlation (Stock Return Perfomance Variables)							
	EPS	*PE*	*DVY*	*YTDReturn*	*ESG SCORES*	*Market Cap (ln)*	*Leverage*
EPS	1						
PE	0,07589668118	1					
DVY	0,09266220378	-0,1523689957	1				
YTDReturn	0,1961395096	0,4063355862	-0,07115146058	1			
ESG SCORES	0,07561865659	-0,1994367829	0,1932965669	0,0183029443	1		
Market Cap (ln)	0,2149147113	0,02963874543	0,1857624452	0,1731331679	0,3818012789	1	
Leverage	-0,009005339016	-0,1467499609	0,1628228892	-0,1043358136	0,1275053261	0,08866520949	1

The table 10 the regression results has shown the R Square for EPS 0,57%, PE 3,98% DVY 3,74%, YTDReturn 0,03% percentages the explains the level of the linear relationship between these dependent variables and ESG score,

The result for p-value has shown > 0,5 for variables EPS, DVY and YTDReturn. High p-value indicates that there is insufficient to show a population effect. There may be an effect, but the effect size is too tiny, the sample size is too small, or the variability is too great for the hypothesis test to detect it. However it shows a relationship with PE.

Table 10 - Ordinary Least Squares on Stock Return Performance

Independent & Control Variables	Stock Return Performance											
	Dependent Variable EPSit			Dependent Variable PEYit			Dependent Variable DVYit			Dependent Variable YTDReturnit		
	β0	*t*	*p-value*	*β0*	*t*	*p-value*	*β0*	*t*	*p-value*	*β0*	*t*	*p-value*
Intercept	0,4101	0,3502	0,7265	36,5722	4,7482	0,0000	-0,5793	-0,6191	0,5364	1,5450	0,2324	0,8164
ESGit	-0,0009	-0,0662	0,9473	-0,3136	-3,4769	0,0006	0,0210	1,9203	0,0560	-0,0496	-0,6375	0,5244
MCapSizeit	2,1720	3,2503	0,0013	8,5682	1,9492	0,0524	1,0003	1,8732	0,0622	11,2465	2,9648	0,0033
Levit	-0,0214	-0,4435	0,6578	-0,6589	-2,0716	0,0393	0,0843	2,1820	0,0301	-0,5091	-1,8547	0,0648
**ANOVA (F Statistic p-value <t)*	*R Square = 0,0057181 F = 1,426264583*			*R Square = 0,0397750 F = 10,2728*			*R Square = 0,037363562 F = 9,62581844*			*R Square = 0,0003349977 F = 0,083107287755*		

The scatter plot illustrates the data point of the dependent variable towards the independent variable. It turns out that the variables.

Table 11 - Scatter Plot for 4 of the dependent variables in function to the ESG Score.

4.3 Discussion

More than 2,000 academic studies have been published on Sustainable Finance and ESG finding a positive correlation between ESG scores and financial returns, whether measured by equity returns, profitability, or valuation multiples. The cost of capital is becoming increasingly important. Evidence is accumulating that a higher ESG score leads to cheaper cost of capital because the risks that your organization faces in terms of its operating license are mitigated if you have a strong ESG offer.

A study conducted by (La Torre et al, 2020) aimed to investigate the effects of ESG score and stock returns for the same sample with the listed companies in the Eurostoxx50 but different period from 2010 to 2018 dataset on a monthly basis of ESG indicators (quantitative evaluations, scores, and qualitative opinions), resulted in findings that contradict earlier research, indicating that the performance of the Eurostoxx50 companies is unaffected by their ESG commitments.

(Serafeim, 2020a) argues that he has found through his research, companies that have successfully implemented an ESG strategy, have seen evidence that they tend to go through three stages: reducing risk and ensuring compliance with environmental rules and other laws, improving operational efficiency, and innovating and growing. However, there is still a barrier among investors that ESG data are enough for investors to incorporate ESG factors into their company research, valuation, and modeling as they find it difficult to incorporate the scores into financial models because it is unclear what they signify or how they affect the numbers.

Further, Serafeim suggests the development of an impact-weighted accounting system that measures a company's positive and negative environmental and social consequences, converts them to monetary terms, and then reflects them in financial statements. it would translate impacts into units of measurement that business managers and investors understand; it would allow for the use of financial and business analysis tools to consider those impacts; and it would allow for the aggregation and comparison of analyses across types of impact that would be useful to business managers and investors.

Corporates must embrace sustainable business strategies and solid governance processes in order to gain investor preference. This study emphasises the importance of implementing sustainability reporting, which includes ESG Score disclosure. Regulators must widen the scope of mandated disclosures, which currently focus mostly on the company's financial elements, to include the societal and environmental impact of the company's operations. This would aid in the refinement of long-term company operations and shareholder wealth viability.

(Serafeim, 2020a) Investors are now asking a different question: if a firm has the strategic vision and ability to achieve and maintain excellent ESG performance, rather than whether it has good intentions. As a result, businesses must begin evaluating and reporting the outcomes of their programs. Rather than communicating their policies for improving data privacy, water management, climate change mitigation, diversity, and other issues, they must communicate outcome metrics such as the number of customer accounts hacked, liters of water consumed per unit of product produced, carbon emissions saved, and the percentage of women and people of color promoted to management positions internally.

4.4 Conclusion

The companies selected for this study are classified as the Europe leading blue chip, by meaning are stocks of very large, well-known corporations that have a long track record of good financial success. These stocks are regarded for their ability to withstand difficult market situations while also providing strong returns in favorable market conditions. Therefore, it is unlikely to see significant variations in their financial performance and stock return due to the significance of the companies in the market.

Based on the results, it turns out that the null hypothesis is rejected. The statistical regression analysis evidenced a relative level of correlation between the dependent and independent variables as seen in the scatter plot. However no significance evidence was found in order to conclude that the higher the ESG Score the higher would be the financial performance or stock return.

5 Concluding Thoughts on the Contribution of this Research, its Limitations and Suggestions for Further Research

5.1 Implications of Findings for the Research Questions

Through updated data, this thesis attempted to understand the correlation between financial and stock return performance for selected companies from Euro Stoxx 50. This entails examining measures that are well-defined and, in most cases, mature, and are based on reliable data sources. Any quantitative data should be supplemented with qualitative data and compared to industry peers. Furthermore Data on ESG is an indirect factor that has grown in financial importance for businesses in recent years. ESG aspects are being included in investment processes as well as decision-making, in order to promote what is now known as responsible investing. These aspects are not currently included in financial analysis and reporting, but they are useful in determining whether or not a company has appropriate health and safety rules for employees, how its supply chains are managed, and how it responds to climate change. All of these inputs are still indirect to financial performance, but they should be considered a non-traditional source of risk for a firm rather than a separate issue.

5.2 Contributions and Limitations of the Research

ESG reporting and indicators are still in their early stages, with a notable lack of consistency across platforms. It's possible that the impact of ESG on corporate financial performance won't be apparent in five years; instead, further research will be required. ESG scores may or may not reflect a company's true ESG practices. It's one thing to collect ESG data and store it in files on your desktop – you clicked the box, and that was it.

It's another thing entirely to collect consistent data over time and quantify it for your stakeholders. Organizational stakeholders require a practical method to assess a company's capacity to connect the dots between ESG concerns and corporate strategy.

Today, sustainability reporting is a growing framework that brings together all stakeholders, from internal employees to external investors. These reports assist in revealing previously unfocused data as actual KPIs and industry standards for assessing a company's value offer. Businesses that collect high-quality qualitative and quantitative data are one step ahead of those who do not, making them the most appealing to investors and clients.

It is crucial to note that there are a number of limitations that may have influenced the outcome of this study, including time constraints, sample size, the variables used, and the macroeconomic situation at the time. The most significant issue with this project is the time constraint, as the research had to be completed in a short amount of time. This has an impact on the sample size and, finally, the study's time frame. All of these factors must be considered when interpreting the findings.

5.3 Recommendations for Practice

The study's final restriction is that other factors such as the business environment or competition may have an impact on corporate financial performance. These topics could be researched in the future. Future research could look into the impact of each weighted subcomponent independently for ESG performance.

5.4 Recommendations for Future Research

The number of frameworks continues to grow and evolve. Knowing the fundamentals of these instruments and how they can offer value. It could also be interesting to compare ESG rankings from different agents, such as Thomson Reuters and Bloomberg, to see whether the results are different. It could also be interesting to look at the elements independently to see if simply the "E" or only the "S" or "G" are connected with financial performance. When the parts of ESG are separated, it may be feasible to assess if one factor has a greater impact on financial measurements than the others, which could be useful for policymakers and managers. If policymakers are aware of which component poses the greatest economic challenge to businesses, it may be easier for them to solve the short-term difficulties described earlier in this thesis. This research might also be undertaken for other combinations of countries, such as those on different continents, in order to obtain a greater scope and understanding of the world as a whole, rather than just Europe and its policies.

5.5 Final Conclusion and Reflections

This study aims to elevate the subject among academic studies so that students, shareholders, bankers, investors, ONG institutions, financial professionals, and anyone else interested in the topics of sustainability, finance, investments, and the common good can gain access to and understand the investment alternatives that have been designed.

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