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Analysis of the Impact of ESG Performance on the Valuation and Profitability of Corporates in Comparison to Financial Institutions

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Working Paper 23/01

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List of Abbreviations

ASEAN	Association of Southeast Asian Nations
CM	Community Score
CNF	Commission on Non-Financials
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive
DVFA	Deutsche Vereinigung für Finanzanalyse und Asset Management
EBA	European Banking Authority
EFFAS	European Federation of Financial Analysts Societies
EM	Emission Score
ENV	Environment Score
ESG	Environmental, Social, Governance
ESG_T	ESG Combined Score
ETFs	Exchange Traded Funds
EU	European Union
GOV	Governance Score
GRI	Global Reporting Initiative
HR	Human Rights Score
IIRC	International Integrated Reporting Council
IN	Innovation Score
IQR	Interquartile Range
KPIs	Key Performance Indicators
LE	Leverage
LTA	Natural Logarithm of Total Assets
LTR	Natural Logarithm of Total Revenue
MG	Management Score
NGFS	Network for Greening the Financial System
OLS	Ordinary Least Squares
PR	Product Responsibility Score
PRI	Principles for Responsible Investment
ROA	Return on Assets

ROE	Return on Equity
RU	Resource Use Score
SASB	Sustainability Accounting Standards Board
SFDR	Sustainable Finance Disclosure Regulation
SH	Shareholders Score
SOC	Social Score
TCFD	Task Force on Climate-related Financial Disclosures
TQ	Tobin's Q
TRBC	The Refinitiv Business Classifications
UNEP	United Nations Environment Program
VIF	Variance Inflation Factor
VRF	Value Reporting Foundation
WF	Workforce Score

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Abstract

Corporates and financial institutions are increasingly prioritizing and enhancing their focus on ESG factors, driven by the growing attention from shareholders, stakeholders, and regulators. After conducting an extensive analysis of the theoretical and empirical frameworks in this field, this study evaluates the individual effects of ESG dimensions and sub-dimensions on the profitability and valuation of corporates and financial institutions. The study results indicate a positive and statistically significant impact of ESG dimensions and sub-dimensions on the valuation of corporates, as evidenced by Tobin's Q. However, the financial industry shows that only the Environment pillar exhibited statistical significance with minor influence. Similarly, no overall impact on both sectors´ profitability (ROE and ROA) is observed. Despite being statistically significant, the impact of three sub-dimensions on corporates' ROA and the impact of the Environment pillar on financial institutions' ROA is relatively small.

Keywords: ESG Performance, ESG Ratings, ESG, Environment, Social, Governance, CSR, ROE, ROA, Tobin's Q, Corporates, Financial Institutions, Disclosure

1. Introduction

The growing attention from investors and increasing global consciousness of risks, especially related to the environment and other non-financial aspects like social responsibility and governance, are driving businesses to prioritize and enhance their focus on these aspects. Stakeholders and shareholders such as investors, employees, suppliers, customers, and the government now have higher expectations for firms to actively address these areas, implement necessary risk mitigation measures, and provide transparent reporting. Businesses typically disclose their performance in these areas under three main categories: Environment, Social, and Governance (ESG) (Aydoğmuş et al., 2022, p. 119). Nevertheless, from the standpoint of the company, acting in these areas requires investments; therefore, a crucial question arises regarding the financial viability of such investments and resource allocation. The first goal of this paper is to address the fundamental question of whether there is a positive and significant impact of ESG dimensions and sub-dimensions on the profitability and valuation of corporates.

Furthermore, in the wake of the financial crisis in 2008, it was observed that the financial industry did not align with the social aspiration for a sustainable outlook. The crisis highlighted the insufficient corporate social responsibility practices within the financial sector and emphasized the necessity for ethically responsible financing and investing approaches. As a result, there was a significant surge in external pressure for greater transparency and accountability, driven by mounting alarms over the environmental and social influences of banks' operations (Manes-Rossi et al., 2018, p. 2). Given their significant role in facilitating financial and economic development, banks carry a substantial responsibility toward society. With their ability to mobilize capital across borders, facilitate savings to investments, and allocate risks efficiently, banks are widely acknowledged as pivotal agents for promoting sustainable development and fostering a low-carbon, inclusive, and efficient economy (Chiu, 2014; Lentner et al., 2015; UNEP, 2017). Hence, given the relevance of financial institutions in this topic, the second goal of this paper is to investigate the influence of ESG performance on the profitability and valuation of the financial sector and finally compare these findings to the results obtained within corporates.

There are divergent perspectives on the profitability and valuation impact of investing in ESG activities for corporates and financial institutions. The Stakeholder

Theory posits that businesses should consider not only the profit-maximizing interests of shareholders but also the impact on various stakeholders (Freeman, 2010). On the other hand, the Shareholder Theory states that businesses should only use their resources in activities that improve their profits (Friedman, 1962). ESG performance and business financial outcomes have received considerable attention among researchers investigating how they are interrelated. Several empirical analyses have resulted in divergent conclusions. While some demonstrate correlations linking better financial outcomes to strong ESG practices, others note associations indicating negative effects for businesses that implement them. These conflicting outcomes continue filling debates involving Shareholder and Stakeholder Theories.

This research aims to provide comprehensive insights into how ESG dimensions and sub-dimensions impact the valuation and profitability of both corporate and financial institutions. Prior studies have focused on a more general approach by not examining the interconnectedness among sub-dimensions. This study selects the sample by filtering the largest 500 global companies according to market capitalization. After eliminating incomplete data points, it compiles a panel dataset made up of 307 corporations as well as 37 financial institutions. Furthermore, to ensure a granular analysis, the selected approach isolates each independent variable associated with ESG dimensions and sub-dimensions while using Tobin's Q, Returns on Assets, and Return on Equity as dependent variables and size, leverage, and business activity as the control variables.

By isolating the independent variables corresponding to ESG performance, this paper aims to obtain detailed results. This approach enables us to understand the individual impact of each sub-dimension, determine how they interact with each other, and how they influence the overall scores. After analysing several tests to identify the best regression model, the fixed effect model is selected to perform a total of 42 individual regressions for corporates and 42 individual regressions for financial institutions. Finally, the application of the Huber/White approach is used to control heteroskedasticity, while cross-sectional dependence and serial correlation are controlled using macro panels with a large number of cross-sectional units and short time series (2015-2021) (Torres-Reyna, 2007).

In addition to the empirical analysis, this paper makes a valuable contribution to academia by offering an exhaustive academic review of this study area. Chapter 2 starts by providing an overview of the evolution of ESG definitions and the regulatory framework in place. Furthermore, it explores the theoretical foundations surrounding this

subject by delving deeper into Normative and Instrumental theories, offering a comprehensive explanation of these frameworks. Additionally, this chapter offers a thorough exploration of the diverse findings regarding the influence of ESG performance and disclosure on the profitability and valuation of both corporate and financial institutions. Moreover, it addresses inconsistencies in ESG performance and highlights emerging issues, such as the concept of Greenwashing, presenting them as potential limitations to be considered. Finally, Chapter 3 presents the complete methodology employed in this research, Chapter 4 then proceeds to present the detailed results obtained from the analysis, and Chapter 5 serves as a comprehensive summary of the paper, encapsulating the key findings and insights obtained throughout the research.

2. Impact and Development of ESG Performance (Literature Review)

The forthcoming chapter will delve into an in-depth exploration of the research conducted on the impact of ESG within both the corporate and the financial sectors. This comprehensive literature review will show the progression of this topic over time, encompassing theoretical frameworks, empirical findings, and the limitations associated with this body of research. By providing a thorough analysis, this chapter aims to offer a comprehensive understanding of the existing knowledge on the subject matter.

2.1. Definition of ESG and Development of Regulation

ESG is a general term used in the markets. Repeatedly, ESG is paired with concepts like Corporate Responsibility or Sustainability. Throughout time, the academic literature has used various terms to define the investment approach that includes ESG factors (Eccles & Viviers, 2011, p. 389). These terms have been quite numerous and diverse, with the most popular being: *Socially Responsible Investment* (e.g., Rosen & Sandler, 1991; Abramson & Chung, 2000; Statman, 2008), *Ethical investment* (e.g., Irvine, 1987; Mackenzie, 1998; Schwartz et al., 2007) and *Social Investment* (e.g., Dunfee, 2003; Cox et al., 2007). Newer terms that have appeared lately are, for example, *Responsible Investment* (e.g., Dembinski et al., 2003; Thamotheram & Wildsmith, 2007; Viviers et al., 2009), *Sustainability/Sustainable Investment* (e.g., Weber 2005; Koellner et al., 2007), and *Impact Investing* (Global Impact Investing Network, 2009).

However, upon analysing the definition of corporate social responsibility (CSR), according to Carroll (1991, p. 39), CSR incorporates the economic, legal, ethical, and philanthropic obligations that enterprises are expected to fulfil based on societal

expectations. Furthermore, it can be determined that CSR refers to a company's capacity to effectively handle the impacts of societal and environmental opportunities and risks while also contributing voluntarily towards sustainable development beyond what is legally mandated (Gamerschlag et al., 2011, p. 234). Notably, these definitions connect the concepts of CSR and sustainability (Löw et al., 2019, p. 4). On the other hand, the Sustainability Accounting Standards Board (SASB) indicated that sustainability pertains to a company's environmental, social, and governance measurements and their management of these to generate value over the long run (SASB, 2013). Consequently, even though CSR and sustainability may have different conceptual meanings, they are closely linked and frequently used interchangeably in corporate communication and policy (Lock & Seele, 2015, p. 24). Therefore, after a thorough analysis of the various connotations of the terms, it can be concluded that ESG, CSR, and sustainability hold distinct definitions. However, in the realm of corporate and policy communication, these terms can be used synonymously to some extent and will therefore be used interchangeably in this paper.

It is worth mentioning that imprecise terminology does not necessarily has to be perceived as something negative. Researchers (Pokorn, 2007; Snell-Hornby, 2007; van Vaerenbergh, 2007) have identified that the presence of unnormalized definitions may be imminent in some areas. The presence of unnormalized concepts could become "a sign of progress and dynamism" (van Vaerenbergh, 2007, p. 236). Nevertheless, the lack of clarity when an author uses a specific term can create significant confusion and hinder the possibility of a unified academic debate on a topic (Snell-Hornby, 2007, p. 315). Therefore, to avoid any potential misperception, ESG will be defined in this paper as the framework comprising environmental (E), social (S), and governance (G) factors (see Figure 1 adapted from the European Banking Authority Report (EBA) on Management and Supervision of ESG Risks for Credit Institutions and Investment Firms, 2021).

As the EBA states, according to Figure 1, ESG factors are "environmental, social or governance matters that may have a positive or negative impact on the financial performance or solvency of an entity, sovereign or individual" (EBA, 2021, p. 6). Hence, ESG is an investment approach that values sustainable and coordinated progress by considering the economic, environmental, social, and governance benefits. It is a comprehensive, practical, and grounded governance method that aims for long-term value growth. Moreover, it is significant to point out that responsible investment is the foundation of ESG, and this kind of investment can be defined as "a strategy and practice to incorporate ESG factors in investment decisions and active ownership" (Principles for

Responsible Investment, 2021, p. 4). Hence, ESG is an approach used by investors to assess corporate conduct and future financial outcomes. When evaluating the sustainable development of enterprises as an investment concept, the three fundamental elements of ESG are crucial aspects to be considered during the investment analysis and decision-making process. Additionally, ESG factors assist in quantifying the sustainability and social influence of business operations (Li et al., 2021, p. 3).

Figure 1 ESG Framework

Dimension	Factors	Definition
Environmental (E)	• GHG emissions • Energy consumption and efficiency • Air pollutants • Water usage and recycling • Waste production and management • Impact and dependence on biodiversity • Impact and dependence on ecosystems • Innovation in environmentally friendly products and services	Environmental matters that may have a positive or negative impact on the financial performance or solvency of an entity, sovereign, or individual.
Social (S)	• Workforce freedom of association • Child labour • Forced and compulsory labor • Workplace health and safety • Customer health and safety • Discrimination, diversity, and equal Opportunity • Poverty and community impact • Supply chain management • Training and education • Customer privacy • Community impacts	Social matters that may have a positive or negative impact on the financial performance or solvency of an entity, sovereign, or individual.
Governance (G)	• Codes of conduct and business principles • Accountability • Transparency and disclosure • Executive pay • Board diversity and structure • Bribery and corruption • Stakeholder engagement • Shareholder rights	Governance matters that may have a positive or negative impact on the financial performance or solvency of an entity, sovereign, or individual.

Source: From "Report on Management and Supervision of ESG Risks for Credit Institutions and Investment Firms," by the European Banking Authority (2021), p. 26. In the public domain.

Certainly, it needs to be considered that the European Federation of Financial Analysts Societies (EFFAS), the Deutsche Vereinigung für Finanzanalyse und Asset Management (DVFA), and the Commission on Non-Financials (CNF) recognize that ESG addresses and impacts several stakeholder groups besides just investors and financial analysts (EFFAS, 2008). The upcoming section will delve deeper into the expanding discourse regarding the consideration of stakeholders and the evaluation of ESG from this viewpoint, commonly referred to as stakeholder theory. Moreover, EFFAS and CNF also recognized in 2008 that ESG has two substantial aspects: the risks associated with poor ESG performance and the business opportunities arising from ESG. Thus, essential criteria have been established within this framework to create usable ESG

parameters, with the following delineations considered in this research (EFFAS, 2008, p. 6):

ESG parameters should:

- Depict a correlation to risk or success factors of corporate business
- Be significant and relevant for investment decisions
- Be firmly anchored in the corporate management system
- Be quantified, comparable, and benchmarkable from peer to peer
- Depict dynamics, i.e., from reporting period to reporting period
- Be manageable in dimension

Finally, it can be observed that with its advent over a decade ago, the ESG principle found increasing adoption across regions, including Europe and America. Consequently, ESG evaluation systems became more elaborate, with transparent disclosure standards initiated along with index systems that fostered sustainable practices; This worldwide implementation of ESG concepts helped stimulate scholarly interest as well as promote practical applications (Li et al., 2021, p. 2). Notably, the expansion of these practices has also increased the participation of investors and regulators.

Regarding investors, according to the CFA Society United Kingdom (2021), the Principles for Responsible Investment (PRI) is an international network of investors supported by the United Nations that offers a wide range of resources and reports that promote best practices in responsible investing for various stakeholders and shareholders, including asset owners, asset managers, consultants, and data suppliers. These tools help facilitate the integration of ESG considerations across different asset classes and provide valuable insights into ESG issues. Additionally, the PRI collaborates with other organizations to develop initiatives such as reviewing fiduciary duty globally and establishing the Sustainable Stock Exchanges Initiative. Remarkably, the growth of the ESG market has been strongly correlated with the growth of the PRI membership, which has experienced a 30% yearly growth since 2006. The increasing growth rate reflects the significant market potential for investors who choose to invest in ESG (CFA Society of the UK, 2021).

It is worth noting that the surge in ESG involvement is not solely due to its impact but also stems from growing regulations in this area. In response to the mounting urgency, policymakers have turned their attention towards corporate disclosure, stewardship (a new mandatory regulation in Europe), and asset owners, as highlighted by the CFA

Society United Kingdom (2021). Most of this movement has been led by Europe after the establishment of the EU Action Plan on Financing Sustainable Growth and Asia, where reporting demands have been revamped alongside increased expectations for corporate governance in markets. Although voluntary policies still dominate North America, stricter ESG requirements are expected to be adopted as regulations continue to expand (CFA Society of the UK, 2021).

As mentioned, the European Union (EU) has been leading the way in its commitment to becoming the world's first climate-neutral continent. To achieve this, the continent implemented the EU Taxonomy, which is part of a comprehensive set of regulations aimed at market participants. These regulations include the Sustainable Finance Disclosure Regulation (SFDR) and the Corporate Sustainability Reporting Directive (CSRD) (Pettingale et al., 2022). The insertion of the EU Taxonomy denotes a significant advancement in the area of compulsory sustainability reporting. Its purpose is to direct capital towards activities that are unequivocally environmentally sustainable. By serving as a vital instrument in the shift toward a low-carbon economy, the Taxonomy establishes a dynamic framework that promotes transparency and facilitates market comparability (Pettingale et al., 2022).

Furthermore, the implementation of CSRD allows organizations that fall outside the scope of the EU Taxonomy to disclose additional details regarding the sustainability of their activities and investments. While the Taxonomy establishes the foundation for guiding investments towards supporting Europe's goal of becoming the first "climate neutral continent," the CSRD ensures transparency regarding sustainability risks and opportunities for the broader economy and various sectors not included within the EU Taxonomy (Pettingale et al., 2022). Finally, the main objective of SFDR is to enhance transparency regarding sustainability for financial market participants and advisors operating within the EU, ultimately benefiting end investors. The SFDR mandates that firms disclose information about their incorporation of sustainability risks and objectives into their policies, as well as their integration of sustainability considerations into financial products (Pettingale et al., 2022).

2.2 Theoretical Concepts: Normative and Instrumental Perspectives

Following the clarification of the concept of ESG and the definition and framework used in this paper, it will be examined the normative and instrumental perspectives and their impact on corporate behaviour. It is noteworthy that society's expectations and demands for socially responsible actions by businesses are ever evolving

and can be approached from different angles. First, it must be mentioned that authors usually distinguish between normative and instrumental theories. While instrumental theories explain CSR using empirical data and considering different angles, normative theories explain the foundation of CSR and offer justifications as to why businesses ought to accept obligations to their stakeholders that go beyond simply generating profits (Melé, 2006, p. 8). In other words, the instrumental perspective examines how firms conduct their CSR initiatives, what drives executives to engage in socially responsible behaviour, and whether or not there are measurable links between good CSR outcomes and financial success for the firm (Melé, 2006, p. 11). On the other hand, normative theories offer a structure to comprehend a company's wider responsibilities towards stakeholders that go beyond the sole objective of profit maximization (Melé, 2006, p. 13).

2.2.1 Normative and Legitimacy Theory

Regarding the normative approach in CSR research, there are proper justifications to support the idea that companies have obligations beyond their profit motive. Three primary arguments have been identified in this ongoing debate: externalities, power, and dependency (Crane et al., 2019). To begin with, the concept of externalities recognizes that businesses can create outcomes – both good and bad – beyond their direct actions and influence various stakeholders in different ways. Hence, there is an argument for companies to acknowledge and proactively handle any harmful externalities they generate as part of their ethical obligation (Crane et al., 2019, p. 49). Another perspective known as the power argument argues that corporations wield significant control over resources and consequently hold massive social sway. This viewpoint stresses that such authority bears responsibility, as reflected in the popular quote: "With great power comes great responsibility" (Crane et al., 2019, p. 50). A third argument in support of the normative theory is the dependency argument, which highlights the interdependent relationship between societies and businesses. Since corporations depend on resources and capabilities contributed by multiple stakeholders, they have a responsibility to consider the interests and goals of these parties in addition to those of shareholders (Crane et al., 2019, p. 50).

Concerning the Legitimacy Theory, it is interesting to see that numerous studies have employed it when analysing social and environmental disclosures (Ghozali & Chariri, 2007). This theory highlights the importance for organizations to maintain the perception that they function by societal norms and values (Deegan, 2009). This concept indicates that there exists a "social contract" between society and organizations that require them to follow certain expectations and norms (Deegan, 2006; Deegan & Samkin,

2009). These expectations and rules comprise both explicit legal requirements and implicit community expectations (Deegan et al., 2000). Furthermore, it is stated that the continued existence of an organization depends on how well they uphold the end of this social contract as they rely on ongoing relationships with society (Stewart & Susith, 2014). Consequently, according to the legitimacy theory, CSR can be used as a tool that legitimizes a company's behaviour and "as the embodiment of fundamental principles of business Ethics" (Lentner et al., 2015, p. 97).

2.2.2 Shareholder vs. Stakeholder Theory

When comparing Stakeholder and Shareholder Theories to determine whether companies should focus on maximizing shareholder value or balance the needs of all stakeholders, it is crucial to examine each theory's propositions. These two theories are normative in nature and therefore define the corporation's social responsibility. On the one hand, the shareholders' approach asserts that shareholders provide capital to a company's manager, who is expected to spend businesses' resources only on investments that benefit shareholders and in ways that have been authorized by them (Smith, 2003). In 1962, Milton Friedman stated that "There is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it […] engages in open and free competition, without deception or fraud" (p. 133).

Therefore, any actions that go beyond the exclusive economic objective of the business and the corresponding distribution of resources towards them may be considered an "illegitimate misuse of resources" (Schreck, 2009, p. 2). Interestingly, Barnea and Rubin (2010) found that CSR spending typically exceeds its positive impact on firm value. However, CSR initiatives have been shown to promote greater alignment between social and corporate performance objectives. This can lead to increased shareholder value by reducing the risk of overinvestment by managers for their benefit. The creation of shareholder value through CSR activities, in addition to core business activities, is the main driver of the shareholder-focused perspective of CSR theory (Barnea & Rubin, 2010). Nevertheless, according to Smith (2003, p. 86), several business scandals, concerns about the independence of accountants, and questions about the incentive scheme and investor suggestions at large businesses could assist as an argument for the failure of this theory.

Contrarily, the normative approach of the Stakeholder Theory introduced by Edward Freeman in 1984 declares that managers have an obligation to the corporation's shareholders and "individual and constituencies that contribute, either voluntarily or

involuntarily, to (a company) wealth-creating capacity and activities, and who are therefore its potential beneficiaries and/or risk bearers" (Post et al., 2022, p. 8). Therefore, according to the Stakeholder theory, managers act as intermediaries for every party involved in their firms' activities and possess dual obligations. Their foremost duty is to preserve each party's ethical rights by adhering to codes of conduct within their sphere of influence. As well as this, they should exercise discretion over balancing each party's merited benefits whenever reaching judgments that will serve maximization of profit while ensuring long-lasting sustainability (Smith, 2003, p. 87). According to Nikolova and Arsić (2017, p. 28), as per the Stakeholder theory, engaging in CSR activities can enhance the overall appeal of a company. Moreover, fulfilling stakeholder expectations can result in long-term economic gains (Löw et al., 2021, p. 27).

In conclusion, it can be stated that companies have responsibilities towards a society that can be approached from various perspectives. Legitimacy theory views CSR primarily as an instrumental tool, while Stakeholder and Shareholder theories derive CSR from intrinsic responsibilities based on the company's business models. Therefore, although these concepts share similarities, their differing justifications for CSR could lead to varying opinions regarding a company's behaviour toward society (Löw et al., 2021, p. 27).

2.3 The Impact of ESG Performance and Disclosure

This subchapter examines the existing literature on the influence of ESG performance and disclosure on the profitability and valuation of corporates and financial institutions. It is noteworthy to mention that this study primarily examines the influence of ESG performance on valuation and profitability. However, since the disclosure of ESG activities is of significant importance to this matter, a comprehensive and separate analysis of the impact of ESG disclosure will also be included. This section will also introduce unique hypotheses that distinguish this research from others and add value by offering comprehensive and multi-perspective interpretations.

2.3.1 Reporting Frameworks

According to Bose (2020, p. 14), sustainability reporting frameworks play a crucial role in categorizing and standardizing non-financial information. These frameworks help establish consensus-based typologies, definitions, controlled vocabularies, and measurement methods to enhance precision, validity, consistency, and interoperability in reporting. While most definitions and rules within these frameworks

are voluntary rather than mandated by government regulations, they share similarities with two familiar voluntary processes: the development of standards and the regulation of languages. Both standards and language regulations aim to regulate and mediate the meaning of concepts, taking into account the diverse interests of multiple stakeholders. They strive to create compromises and commonalities that can be widely accepted and upheld by most stakeholders. Similarly, sustainability frameworks seek to bring together different perspectives and ensure a shared understanding of non-financial information, fostering transparency and accountability in sustainability reporting. Furthermore, the transition towards non-financial reporting has accelerated in recent years, with firms increasingly using nontraditional methods such as websites and social media to make ESG disclosures alongside conventional methods (Serafeim, 2014, p. 91).

However, these elements have created a significant amount of diversity within the ESG framework, which has made scholars and professionals question whether such diversity is good or bad. Certain individuals within the ESG investing community have expressed their discontent with the abundance of diverse and conflicting sustainability accounting frameworks. One notable figure, Robert Eccles, a prominent academic and the former chairman of the SASB, has voiced his concerns, suggesting that "With SASB, Global Reporting Initiative (GRI), and Task Force on Climate-related Financial Disclosures (TCFD), all offering different reporting standards, companies and investors have felt overwhelmed by the 'alphabet soup' of arbiters in the ESG industry" (Temple-West, 2019). Also, according to Pavoni (2020), the diversity of frameworks tends to impose higher costs on corporate issuers who are responsible for providing information compared to the investors who utilize that information. Corporate issuers often experience "reporting fatigue" as they are burdened with meeting multiple information demands stemming from different frameworks.

On the other hand, there are arguments in favour of diversity and the risks associated with analytical monocultures when evaluating ESG performance. In his bestselling book, Surowiecki (2004) observes that: "If one of the benefits of a decentralized economy is the dispersion of decision-making power (at least to some extent) throughout the system, that advantage becomes insignificant if all the powerful individuals are alike... or if they become alike through imitation" (p. 73). Considering this, it could be argued that many of the differences observed when looking at ESG performance come from this diversity. Undoubtedly, the expansion of frameworks is a continuing process that is evolving.

Interestingly, a comprehensive examination of the major frameworks demonstrates a significant level of collaboration among them, with minimal duplication or contradiction. All of these frameworks share a common reliance on the “Triple Bottom Line” as a fundamental conceptual framework, which serves as a basis for incorporating non-financial performance measures when evaluating corporate activities (Bose, 2020, p. 23). John Elkington, a renowned expert on corporate responsibility and sustainable development, was responsible for introducing the concept of the Triple Bottom Line, in which he stated that corporations should measure their impact by considering the financial Profit and Loss account, the social account, and the environmental account (Elkington, 1998, p. 51).

Regarding the frameworks that were previously mentioned in this research, the GRI represents the most commonly used manifestation of the Triple Bottom Line framework for corporate reporting, and it is widely recognized as the most adopted standard within this field (Bose, 2020, p. 28). The GRI standard was developed to guide companies in preparing voluntary sustainability reports and cover a wide range of specific disclosures that are not mutually exclusive with other frameworks. In practice, companies can formulate their sustainability reports using other frameworks and still disclose key performance indicators using the GRI standard (GRI, n.d.).

Moreover, the International Integrated Reporting Council (IIRC) (2013) established the integrated reporting framework to enhance the quality of information accessible to financial capital providers to facilitate a more efficient and effective allocation of capital resources. The IIRC aims explicitly to engage providers of financial capital while recognizing the existence of numerous forms of capital. Its objective is to improve accountability and stewardship for a wide range of capitals, including financial, manufactured, intellectual, human, social and relationship, and natural capital. Furthermore, the IIRC seeks to foster an understanding of the interconnectedness and interdependencies among these various forms of capital. The application of the IIRC framework is notably more challenging than the GRI guidelines. The Integrated Reporting system operates on a set of principles and needs a thorough reassessment of the organization's business model. This includes evaluating how the organization creates value using its different forms of capital (Bose, 2020, p. 30)

In contrast to GRI and alignment with IIRC, the SASB in the United States has directed its attention to investors as the key audience. The foundation's mission is to create disclosure standards on sustainability matters that assist effective communication by

companies to investors, providing decision-useful information. SASB places a strong emphasis on the concept of financial materiality, meaning that its standards concentrate on sustainability issues that are expected to have a significant influence on financial performance. Through its inclusive process of standards creation involving multiple stakeholders, SASB has identified the sustainability matters that are material to each of the eleven areas for which it has released standards (SASB, 2018). Since this research focuses only on big corporations, frameworks developed for smaller companies will not be considered in the analysis. Lately, the Value Reporting Foundation (VRF) was created after the merger of IIRC and SASB to create a comprehensive reporting framework that captures the full spectrum of enterprise value drivers and standards (CFA Society of the UK, 2021).

2.3.2 The Impact of ESG Performance on Corporates

Concerning the influence of ESG on a corporate's valuation and profitability, there are various arguments from a theoretical perspective that could suggest that these indicators have a favourable financial effect. As previously stated, CSR activities are no longer viewed as just another item on a company's to-do list but are increasingly recognized as having significant potential for improving economic performance and even providing prospects for profit progress (Armstrong & Green, 2013, p. 1922). For example, one of the first thoughts that emerge is that the pursuit of cost savings and competitive edge could serve as a driving force for companies to adopt CSR practices (Kurucz et al., 2008). This idea is supported and further strengthened by Radhakrishnan et al. (2014, p. 69), who assert that CSR could potentially decrease expenditure costs, resulting in cost savings while also leading to increased company profits from sales. In addition, Kurucz et al. (2008, p. 84) identify the creation of synergistic value as another method to build a compelling business case for CSR, which adopts a broader societal perspective outside of the scope of this research. Nevertheless, it is essential to consider that the relationship between CSR and financial performance has also been called into question since companies with strong and consistent financial performance often have more resources available for investment (Scholtens, 2009, p. 162).

In addition, involvement in CSR could result in reduced capital constraints, decreased cost of capital, and improved access to new capital. This is mainly because favourable CSR performance is linked to more effective management of stakeholders, which is regarded as a way to lower opportunistic behaviour, increase transparency, and reduce information asymmetries (Cheng et al., 2014, p. 2). Scholtens (2009) also supports the idea of CSR lowers the cost of capital by emphasizing the positive impact of CSR on

the "marginal social productivity of capital" (p. 163). Moreover, El Ghoul et al. (2011) found a similar trend with a reduction in the cost of equity. These findings present a significant implication from a valuation standpoint, for example, when considering valuation models that use the weighted cost of capital as the discount rate for all future cash flows. Although there are numerous risk and return models within finance, they all have some shared assumptions about risk. As a result, a lower cost of equity and capital positively impacts the company's valuation.

Elaborating further on the concept of the decreased cost of equity, Damodaran (2020) provides a comprehensive explanation of how the cost of equity is directly linked with the risk and the valuation of a company. According to Damodaran (p. 5), equity risk represents the fundamental assessments of an investor regarding the level of risk present in a company and the corresponding value an investor assigns to that risk. As a result, it impacts the anticipated returns of all risky investments and influences the valuation that investors assign to those investments. To better understand this concept, Damodaran (2020) illustrates a hypothetical world where the value of an asset would be the present value of estimated future cash flows, discounted at a risk-free rate (p. 6). These cash flows would then take all the positive and negative future scenarios, and there would not be an adjustment for risk. In reality, however, investors have different levels of risk aversion and will pay lower prices for cash flows that have more risk with the same expected values as riskless cash flows.

The degree to which such prices will get affected is directly related to the equity risk premium. Therefore, the equity risk premium is the additional “payment” that investors request for a risky investment and, consequently, the discount rate they use on expected cash flows with average risk. For this reason, the moment that equity risk premiums increase, investors demand a higher price for the risk they are taking and will, subsequently, pay less for an identical set of estimated cash flows. These anticipated returns serve as a crucial factor in determining the cost of equity and the cost of capital, which are vital components used in corporate financial analysis and valuation (Damodaran, 2020, p. 8). Undoubtedly, this risk analysis extends to the cost of acquiring debt as well, wherein companies with higher levels of risk will inevitably face higher interest rates compared to less risky companies. Therefore, when both effects are combined (equity and debt), and the total cost of capital decreases, the valuation of a company increases. Hence, by comprehending the influence of risk on the expenses associated with acquiring resources through equity or debt, one can grasp the theoretical significance of CSR in terms of its direct impact on valuation.

Expanding on the idea of competitive advantages provided by CSR, profit maximization is arguably one of the most relevant aspects in this regard. As noted by several researchers, such as Margarisová et al. (2012, p. 160), firms that engage in CSR activities could potentially increase their revenues due to an enhanced relationship with their stakeholders. CSR activities can have a significant impact on the growth and efficiency of companies, leading to improved operational performance, such as increased sales and higher market value. Furthermore, as Scholtens (2009) and Malik (2015) asserted, more effective use of resources resulting from stronger CSR performance can then have a positive impact on financial performance. Additionally, another potential motivator for CSR engagement is the desire to improve or avoid negative impacts (Arvidsson, 2010).

On top of this, while analysing the potential competitive advantages of engaging in CSR activities, it is essential to note that the reputational improvements and enhanced legitimacy that companies gain can also be compelling reasons for them to pursue CSR initiatives (Kurucz et al., 2008, p. 96). Therefore, it can be concluded that businesses of all types have an impact on various stakeholders, including the environment, society, and regulators within their industry, and are also influenced by them in return (Voiculet et al., 2010). As summarized by Löw et al. (2021, p. 27), the business case for CSR can be observed in four main categories of benefits:

1) Cost and risk reduction

2) Profit maximization and competitive advantage

3) Reputation and Image improvement

4) Synergistic value creation (not analysed in the scope of this research)

Interestingly, Friede et al. (2015) observed that research exploring the connection between ESG performance and businesses' financial performance could be traced back to work done in 1970, producing an extensive research body on this topic. After analysing over 2,200 papers addressing this issue, researchers found compelling reasons for investing in ESG initiatives, and roughly nine out of ten articles demonstrated a favourable correlation between utilizing an environmentally –or socially– conscious approach to business operations with improved firm financial performance. Another meta-analysis that scrutinized 132 papers published in respected journals observed that the vast majority (78%) of research showed a positive connection between sustainability

and firms' financial performance (Alshehhi et al., 2018). Moreover, in a more recent meta-analysis, Whelan et al. (2021) from Rockefeller Asset Management and the NYU Stern Center for Sustainable Business reviewed over a thousand papers published during the period from 2015 to 2020. The analysis showed that most of these papers (58%) support a positive relationship between ESG and financial performance, whereas only (8%) depict a negative association. In contrast, around one-fifth of these studies report mixed results, while others indicate no connection at all (13%). Therefore, although most studies suggest there is some truth in ESG's role in enhancing financial returns for companies, opinions remain divided (Aydoğmuş et al., 2022, p. 120).

What's more, it is relevant to consider that studies conducted in different countries consistently show that companies with sound ESG practices tend to perform better financially. In Germany, Velte (2017) revealed that firms with good governance structures and solid ESG frameworks had higher firm value (Tobin's Q) and a greater ROA. According to Yoon et al. (2018), the positive impact on financial performance was also evident in Korea, where their research linked CSR initiatives to substantially improved market value of companies. This research also asserted that individual factors of companies influenced this effect. Moreover, Zhao et al. (2018) supported these findings after observing that higher ESG standards potentially enhanced the financial indicators of China's listed energy enterprises. Dalal and Thaker (2019) found that the ESG score positively influences the financial success of 65 Indian enterprises studied between 2015 and 2017. Similarly, Fatemi et al. (2018) examined US companies from 2006 to 2011 and discovered that strong ESG activities contribute to improved firm value.

Expanding on these results, Xie et al. (2019) conducted an extensive research study that analysed multiple companies worldwide. Their findings indicate that businesses implementing specific ESG initiatives have better financial performance results. Research conducted by Bhaskaran et al. (2020) revealed similar outcomes indicating that companies excelling in environmental protection along with strong social responsibility had better market values over several years of observation for nearly five thousand global firms. Moreover, De Lucia et al. (2020) research focused mainly on public companies located across Europe indicates that conscientious efforts toward ESG initiatives provided better ROE and ROA. Furthermore, Naeem et al. (2022), in their investigation using data from firms operating within emerging economies, showed a positive correlation between having higher ESG scores and improved firm value and profitability outcomes. Chairani and Siregars (2021), in their recent study, focused solely on businesses listed in the Association of Southeast Asian Nations (ASEAN) countries, demonstrated that

successful implementation of ESG practices positively impacted enterprise risk management while driving stronger firm value and profitability measures.

Nevertheless, it is relevant to acknowledge that several analyses show not only a positive but a mixed connection between ESG performance, profitability, and valuation. For instance, Han et al. (2016) analysed listed companies from the Korea Stock Exchange from 2008 to 2014 and found that their ESG scores had a negative impact on their financial return. Nevertheless, they also discovered that the governance score exhibited a positive relationship with financial outcomes, while no significant impact was observed from the social score. Additionally, another analysis directed by Lopez-de-Silanes et al. (2020) examined this correlation in several countries and found that financial performance was not significantly affected by ESG performance.

One of the latest studies in this field asses with a comprehensive approach the impact that ESG performance from the Refinitiv database has on firm profitability and firm valuation (Aydoğmuş et al., 2022). They gained an in-depth understanding of this relationship by analysing more than 1700 companies across the world. The results demonstrate that there is a positive and substantial association between overall ESG scores and firm value. Furthermore, individual Social and Governance scores also have positive and meaningful relationships with firm value, whereas the Environment score does not demonstrate any significant relationship. Ultimately, the researchers conclude that investing in companies with high ESG performance may present financial returns regarding both value and profitability.

On the flip side, alongside the positive and mixed findings regarding the influence of ESG scores on corporates' financial profitability and firm value, several scholars have also identified negative influences. Some recent papers have found that companies that report their involvement in environmentally friendly activities or win green awards tend to experience a decrease in their abnormal returns. This indicates that investors may penalize the company for what they perceive as expensive investments (Fatemi et al., 2018, pp. 55-58). Moreover, Barnett (2007) argues that investing in CSR may potentially have a negative influence on a firm financial outcome. This is because resources are being redirected from shareholders to other stakeholders, leading to a reallocation of funds. Several country-based studies have provided evidence supporting a negative relationship between ESG performance and business value, for example, Brammer et al. (2006) analysed corporate social performance in UK firms using market returns and found that firms with lower social scores outperformed their competitors. Similarly, Landi and

Sciarelli (2018) examined 54 listed Italian businesses from 2007 to 2015 and reported a negative association between their ESG scores and financial performance. Likewise, in their analysis, Folger-Laronde et al. (2022) inspects the relationship between ESG performance and financial returns of Exchange Traded Funds (ETFs) in Canada through the Covid-19 pandemic. Their findings suggest that despite high ESG performance, ETFs with high scores do not guarantee protection during a severe market downturn.

In addition, Nollet et al. (2016) recently studied how social performance impacts financial performance in S&P 500 companies throughout the years spanning from 2007 to 2011. An exhaustive analysis utilizing accounting and market metrics found that although linear models suggest a relationship that leans towards negativity, non-linear ones hint at positivity instead. In contrast with these findings are those of Marsat and Williams (2011), which uncovered clear evidence indicating that CSR ratings from MSCI are negatively tied with firm value across numerous nations. Some studies that cover several countries also highlight a negative association between ESG scores and financial performance. For instance, Duque-Grisales and Aguilera-Caracue (2021) investigated 104 multinational businesses in Latin America from 2011 to 2015 and observed a negative connection between ESG scores and financial outcomes. Similarly, Garcia and Orsato (2020) examined emerging and developed countries using data from 2165 firms between 2007 and 2014. Their findings denote a negative association between ESG scores and financial performance in emerging markets.

In sum, the relationship between businesses' financial performance and their corresponding ESG performance has been widely debated among scholars over time, giving different views on whether it enhances or reduces profitability and value. One of the reasons why research may have resulted in divergent findings is due to the overlook of granular approaches in assessing single sub-dimensions. The resulting inconclusive outcomes stemming from general analyses raise further questions as to how accurate they are. In this regard, this study seeks to improve upon existing gaps by delving deeper into all aspects (sub-dimensions) of the main pillars gaining meaningful clarity amidst an intricate landscape.

2.3.3 The Impact of ESG Disclosure on Corporates

After discussing the possible implications of CSR, disclosure is needed to communicate these activities through legal or voluntary means. This section will focus on the question of how the value and profitability of corporates are affected by different levels of ESG disclosure.

According to the voluntary disclosure theory based on research conducted by Verrecchia (1983) and Dye (1985), a company's level of engagement when it comes to ESG concerns could offer insights into its reporting of those aspects. Companies demonstrating stronger ESG policies and practices usually tend to share more detailed information about them compared to businesses with less robust intentions. Firms can use their higher ESG performance levels as a signal to differentiate themselves from weaker performers while simultaneously averting any possible negative outcomes linked with adverse selection. Additionally, Cahan et al. (2015, pp. 419-422) support this argument by stating that favourable media coverage resulting from sound ESG performance levels could result in lower capital costs for companies.

Firms can employ ESG reporting as an effective mechanism for managing public perception by offering reasons and insight into any changes that they make concerning ESG issues. As an example, companies may increase disclosure levels to mitigate the harmful impacts of sudden natural occurrences on their reputation and market value or regain lost legitimacy (Brown & Deegan 1998; Cho & Patten 2007; Deegan 2002). Nevertheless, some businesses may misuse this process by disclosing minimal information about actual ESG activities while simultaneously trying to appear ESG-conscious which is also known as “greenwashing.” Moreover, business managers could abstain from releasing data related to costly ESG activities to avoid discouraging investors (Fatemi et al., 2018, pg. 48). As a result, businesses with favourable ESG performance might choose to divulge only a small amount of information about their activities in this area or even understate their real performance.

Remarkably, the current body of empirical research has generated conflicting results regarding the correlation between ESG performance and ESG disclosure. For example, past studies found a negative impact between environmental performance and environmental disclosure (Hughes et al., 2001), while Freedman and Wasley (1990), as well as Ingram and Frazier (1980), have reported that there is no notable association between a company's ESG performance and the extent to which it discloses information related to ESG. In recent times, on the other hand, research studies have documented affirmative connections (Gelb & Strawser, 2001); Al-Tuwaijri et al., 2004; Vasari, 2011; Gao et al., 2016). The indeterminate outcomes could be ascribed to issues with the methodology used, difficulties with measurement (specifically in gauging the scope of ESG disclosure), selective sampling, or the absence of proper control over other pertinent variables (Patten, 2002, p. 769). As a result, the adverse association identified in certain studies between ESG performance and the level of ESG disclosure may be rationalized

by the increased obligations to disclose information due to the emergence of environmental concerns and associated regulations (Fatemi et al., 2018, p. 58).

As mentioned before, empirical studies have not provided a definitive answer concerning the influence of ESG disclosure on a company's valuation and profitability. Although some research studies indicate a positive correlation between ESG disclosure and firms' valuation and profitability (Middleton, 2015; Clarkson et al., 2013; Gamerschlag et al., 2011), others suggest a negative relationship (Ho & Taylor, 2007; de Villiers & van Staden, 2011). Interestingly, Brammer et al. (2006) discovered that the impact of ESG disclosure on a company's value might vary depending on the type of information revealed, such as "soft" versus "hard" information, and the underlying reasons for the disclosure.

For example, the relationship between ESG disclosure and the cost of equity capital was analysed by Dhaliwal et al. (2011) in a study that covered 31 countries in an international context. These nations were classified into two categories based on their level of stakeholder orientation. The results showed a negative correlation between ESG disclosure and the cost of equity capital with higher significance in countries with a higher emphasis on stakeholders. Nevertheless, the researchers observed that after adjusting for ESG performance and distinguishing between the types (soft, hard) and nature (positive, negative, neutral) of ESG disclosures, high-quality soft disclosures exhibited a meaningful correlation with both the cash flows and cost of capital components of a firm's value. Finally, the study conducted by Fatemi et al. (2018, p. 58) revealed that the effects of disclosure vary depending on the nature of ESG issues, strengths, and weaknesses. Specifically, companies with ESG weaknesses benefit from ESG-related disclosures, whereas those with ESG strengths experience reduced valuation impacts when they increase their level of disclosure.

Moreover, Atan et al. (2018) examined listed businesses in Malaysia and showed no link between ESG reporting and results on profitability. Similarly, while researching Turkish-listed corporations' ESG disclosure activity from 2007 to 2017, Saygili et al. (2022) reported that the inclusion of stakeholders in managerial decisions has a positive influence on financial performance. They also reported a positive correlation between the governance pillar disclosure and financial performance and a negative impact of the environmental pillar disclosure on financial performance.

Furthermore, Giannopoulos et al. (2022) analysed Norwegian-listed firms' ESG reporting scores and their impact on financial performance between 2010 and 2019. These

studies revealed varied outcomes regarding the connection between ESG reporting scores and firm value. While Tobin's Q (TQ) shows a positive relationship with ESG, profitability (measured by ROA) displays a negative connection instead. Expanding on this, Behl et al. (2022) evaluated in their research how ESG reporting impacted the value of companies within the energy sector in India. Similarly, their findings failed to provide conclusive evidence due to mixed results.

2.3.4 The Impact of ESG Performance on Financial Institutions

About banks and the financial industry, it is worth noting that the real estate bubble of 2008, followed by the contamination from subprime mortgages related to toxic assets, increased the interest in the global banking industry. Particularly, two main issues that emerged were the erosion of customers' faith and the implication and consequences of bank bailouts. Consequently, there has been an intensified concentration on banks regarding how they manage their operations. The problems related to the last financial crisis caused a reassessment of the impact of banks' activities on the sustainable progress of countries (Gangi et al., 2018). According to Scholtens (2009, p. 164), socially responsible banking has evolved into a firmly established concept that links a bank's license to operate with its capacity to provide returns to investors while also meeting the expectations of the community. As noted by Pérez and del Bosque (2015, p. 155), because of the union that exists between reputation and CSR, there has been a rising interest in how CSR impacts the financial performance of financial institutions. Therefore, while this topic has been a focal point of discussion for many years in the non-financial sector, it is reasonable to say that the debate around the pros and cons and the impact of CSR activities on the banking sector is relatively new. Similar to the ambiguous findings from broader research on the connection between CSR or ESG and financial performance, previous studies in the banking sector have not reached a consensus regarding whether CSR is a driver of increased profitability and value for banks (Renneboog et al., 2008, p. 1726).

As noted by Scholten (2009, p. 161), even though banks may not be directly involved in environmentally harmful businesses, their decisions, and investments, along with those of their lenders, can greatly affect society. Illustrations range from implementing policies aimed at reducing water consumption to incorporating sustainability criteria as covenants in project finance, which link lending to specific sustainability benchmarks. Through these actions, banks can make contributions to the welfare of their stakeholders, considering not only environmental factors but also social and ethical aspects. This approach is often called "ESG investing", as Thompson and

Cowton (2004, p. 200) noted. Therefore, while incorporating CSR activities into their operations, banks typically focus on two distinct dimensions: internal and external (Löw et al., 2021, p. 35).

The external dimension involves the incorporation of CSR into a bank's day-to-day functions, specifically in financial mediation and investment actions (Gambetta et al., 2016, p. 520). This integration entails incorporating CSR criteria directly into project investment decision-making processes. By evaluating and analysing the present and future societal and environmental impact of investments, CSR considerations become intrinsic to the operations and activities of financial institutions (de la Cuesta-Gonzalez et al., 2006, p. 290). One example of this integration is the inclusion of covenants that link funds to specific sustainability metrics and key performance indicators (KPIs). These covenants compel lenders to adhere to certain standards or defined targets, promoting responsible actions toward stakeholders.

On the other hand, the internal dimension entails executing projects within the organization toward sustainable goals (Gambetta et al., 2016, p. 522). This comprises actions by bank management concerning both social and environmental concerns. It also encompasses management's accountability in verifying that bank operations adhere to ethical standards and global norms. This dimension aims to make a positive contribution to society and nature. Unlike indirect methods considered in the external part of CSR activities, banks use direct measures in their internal dimensions, like reducing their overall carbon footprint or contributing to social projects (de la Cuesta Gonzalez et al., 2006, p. 292).

Banking systems are widely recognized as key contributors to a country's economic development. Since banks rely on community resources for funding ventures for both businesses and individuals alike, their adherence to ethical standards is of great importance. A significant number of investors exclusively allocate their funds to financial institutions that demonstrate transparent and robust ESG activities, along with sustainable product offerings. This preference is driven by the fact that such institutions not only deliver strong financial performance but also create long-term positive impacts (ElAlfy & Weber, 2019). This focus has contributed significantly towards fostering more interest in comprehensively understanding how CSR impacts banking performance.

One might assume that the positive impacts of CSR on a Bank’s performance and valuation are comparable to those observed in companies across different sectors. However, banks possess distinct risk profiles compared to other industries, operate with

a less transparent business model, and thus, have a unique position in building a strong corporate image concerning CSR. Consequently, the positive effects of CSR on financial performance, for instance, cannot be directly extrapolated from general research and require a more comprehensive investigation (Löw et al., 2021, p. 47). However, previous research in this area has yielded incomplete and conflicting results (Wu & Shen, 2013); therefore, CSR's effect on financial institutions' financial performance has sparked an intense debate about its impact. The critical inquiry is whether there is any profitability from being ethical and socially responsible. Barnett and Salomon (2012) outline that empirical studies have returned contradictory responses, endorsing divergent theoretical frameworks arguing for both positive as well as negative relations between CSR and financial performance.

According to Gangi et al. (2018, p. 5), CSR significantly enhances a bank's competitiveness through various avenues. Adopting a relational perspective, a bank's legitimacy is not solely based on its financial performance but also its positive reputation among stakeholders. Furthermore, reputation serves as a crucial link between CSR commitment and a bank's social and financial legitimacy. As stated by Fombrun (1996, p. 53), reputation encompasses stakeholders' overall perception of an organization's characteristics, values, and behaviours, formed through observations or direct interactions. In the same direction, the Basel Committee (2009) states that reputational risk depends on the "negative perception on the part of customers, counterparties, shareholders, investors or regulators that can adversely affect a bank's ability to maintain existing, establish new, business relationships and continue access to sources of funding [...]" (p.19). Therefore, managing reputational risk is crucial in the banking sector, as it involves the potential loss of trust from the community.

Expanding on the idea of reputation, Aramburu and Pescador (2017) assert that banks with strong reputations have higher consumer retention rates, while Wu and Shen (2013) affirm that a positive reputation can enhance the performance of banks. Furthermore, Barnett and Salomon (2006) asseverate that CSR acts as a driver of reputation, enhancing the societal impact and citizenship rights of organizations. Banks can accumulate reputational capital by recognizing their broader role in society beyond profit generation (Bushman & Wittenberg-Moerman, 2012). Therefore, reputation in banks has a dual role since it is both a driver of competitiveness and a barrier against unfavourable situations (Cabral, 2012). Since banks primarily offer intangible and easily reproducible products and work in a sector that has experienced significant status setbacks

(such as during financial crises), reputation is a valuable strategic resource. This is because it is challenging for competitors to replicate (Löw et al., 2019, p. 12).

In addition, Porter & Kramer (2007, p. 78) state that complying with CSR from a strategic perspective maintains banks' economic role and helps them differentiate from competitors while enhancing customer perceptions of quality. This is particularly significant when socially conscious and engaged customers evaluate banks' CSR initiatives (Pérez & del Bosque, 2015, p. 15). Building upon the social impact approach (Freeman, 2010) and good management theory (Waddock & Graves, 1997), businesses thrive when they establish trust relationships with stakeholders. Surroca et al. (2010, p. 464) acknowledge that the connection between CSR and ideal financial performance lies in accumulating intangible resources tied to external and internal stakeholders.

Another critical aspect deserving attention when gauging a financial institution is the degree of motivation present among employees as well as whether the business has successfully attracted skilled individuals. Therefore, in addition to the favourable financial outcomes and the expansion of customer and investor networks, the reputation capital that banks accumulate by actively participating in CSR efforts empowers them to secure improved contracts, restore public trust, and attract top-tier employees (Dorasamy, 2013). CSR holds great sway here, impacting both employee engagement levels and recruitment outcomes for top talent. Empirical data indicates that companies dedicated to demonstrating a true commitment toward societal issues such as environmental sustainability reap benefits including heightened workforce inspiration and superior ability in attracting sought-after candidates who share their values on meaningful causes like environmentalism or ethical business practices (Asrar-ul-Haq et al., 2017).

Consequently, recruitment and employee retention now place greater emphasis on sustainable business practices and CSR. When it comes to attracting millennial job seekers, employers who neglect CSR initiatives or fail to integrate them into their employer branding strategy often face rejection of their employment offers (Klimkiewicz & Oltra, 2017). Notably, several studies highlight how CSR endeavours can enhance banks' financial outcomes. Particularly, effective management of personnel relationships holds substantial weight in achieving these benefits (Eren et al., 2013).

The connection between CSR engagement and financial performance is multifaceted, as evidenced by the divergent theoretical viewpoints and varied empirical findings observed in past studies. Friedman's perspective, which was further developed by Jensen and Meckling (1976), posits that managers act as agents with the primary duty

of safeguarding the interests of shareholders. From this viewpoint, if a manager chooses to allocate resources towards social expenditures, it can be seen as imposing a method of taxation on shareholders, hence deviating from its obligation. Additionally, as CSR initiatives can be costly, engaging in CSR can put a bank at a competitive disadvantage compared to contestants that do not prioritize these practices (Barnett & Salomon, 2006; McWilliams & Siegel, 1997). Jensen (2001, p. 297) affirms that having an excessive number of goals alongside profit is equivalent to lacking a clear objective altogether. The challenge of quantifying non-financial outcomes can lead to opaqueness in managers' decision-making authority, creating a potential environment for increased discretion and inefficiencies in allocating capital. Consequently, the problem arises from the complexity of monitoring and evaluating a manager's performance, which can inadvertently promote opportunistic behaviours (Gangi et al., 2018, p. 2).

Expanding on this argument, Barnea and Rubin (2010, p. 74) explain that institutions' commitment toward CSR suffers from an agency problem. One reason is that managers might leverage CSR activities primarily for personal gain - building their image as "good citizens" - rather than enhancing shareholders' well-being. This misplaced focus could adversely compromise the overall health of shareholders because they incur residual losses due to the manager's choice to allocate assets towards CSR instead of investing in alternative business prospects. Nevertheless, managers' incentives for addressing social and environmental issues may extend beyond personal gain. According to Carroll (1991, p. 42), individuals with strong moral values may participate in CSR initiatives for purely altruistic reasons. According to Wu and Shen (2013, p. 3529), such actions may have an unfavourable influence on a business's financial performance.

Moreover, scholars have contended that investing in CSR does not guarantee an immediate strategic lead (Gangi & Varrone, 2018). Scholtens and Dam (2007, p. 1307) detect that banks adhering to the Equator Principles experience a considerably lower average ROA, suggesting the presence of tangible costs associated with implementing these principles. Additionally, Wright and Rwabizambuga (2006, p. 89) argue that CSR screening is both challenging and expensive. These supplementary expenses may prove unsustainable for banks facing financial constraints. Lastly, even if a financial institution does not face financial constraints without a robust capacity for stakeholder influence (Barnett, 2007), the investment in CSR may not yield sufficient returns. In such cases, the more a bank spends on corporate CSR, the more it stands to lose (Barnett & Salomon, 2006). Moreover, Porter and Kramer (2007, p. 87) assert that realizing financial benefits that outweigh the expenses of socially responsible practices depends on the effective

strategic integration of CSR. Supporting this perspective, Zimmerman and Fliess (2017) discovered that banks exclusively involved in altruistic endeavours do not incorporate CSR into their business models. On top of this, Jensen (2001, p. 301) asserts that investing in CSR is a risk a manager shouldn't take, as associated costs may far outweigh any potential economic benefits. Therefore, these results highlight how there is a delicate balance between CSR and financial institutions' financial results.

In a recent empirical research study, 235 banks were evaluated to assess their performance, and it is one of the first analyses to include a market-based variable to measure the impact of ESG on valuation. These empirical results show that ESG has a noteworthy positive influence on performance. However, the impact of ESG varies when examined individually. The environmental dimension has a positive effect on both ROA and TQ. On the other hand, corporate social responsibility negatively affects all three models. Furthermore, corporate governance has a negative impact on ROA and ROE, but it positively affects TQ (Buallay, 2019).

Buallay, et al. (2020, pp. 213-214) expanded this analysis in 2020 to 59 banks listed on the stock exchanges of MENA countries (Middle East and North Africa) from 2008 to 2017. The empirical results reveal a notable positive influence of ESG on performance, yielding economic benefits to shareholders. However, when analysing ESG separately, there is a deviation from the conclusions of previous research. The authors found that social performance has a detrimental effect on bank profitability and value. Additionally, the authors provide evidence supporting the significance of bank- and country-specific aspects in defining overall bank performance.

In sum, engaging in CSR activities comes with inherent risks. Inefficient allocation of resources could negatively affect financial institutions´ competitive advantage and overall performance. On the other hand, several studies assert that CSR plays a relevant role in bolstering competitiveness through various means, such as effective risk management, solid reputation, improved client fidelity, differentiation, and the attraction of top-quality employees. Notably, most of the research in these studies relies on accounting measures for measuring financial institutions´ profitability.

2.3.5 The Impact of ESG Disclosure on Financial Institutions

The stakeholder and legitimacy theories, as well as in the previous case of corporates, provide strong justifications for the disclosure of CSR information. As mentioned before, these theories posit that such reports are created to meet the requests

of all stakeholders, surpass their expectations, and assist banks in gaining moral validity in front of the public (Lock & Seele, 2015; Wang et al., 2017). Therefore, as noted by Martínez-Ferrero et al. (2016), both theories emphasize the importance of CSR disclosure in decreasing information imbalances between a bank's administration and its stakeholders, as well as in bolstering the validity of the bank's operation. In other words, CSR reports can be used as strategic tools to initiate or progress stakeholder communication, establish and strengthen associations, and administer internal and external perceptions (Fonseca, 2010; Miska et al., 2013). Consequently, one can reasonably argue that more significant and effective CSR disclosure can result in improved financial outcomes.

Although this is still a current discussion, and there has not been a consensus in this regard, several studies assert that better ESG disclosures lead companies to higher profitability and valuation. Remarkably, Shen et al. (2016, p. 207) proved that this correlation could also be observed in the financial industry after they detected that financial institutions that participated in and communicated their CSR activities achieved better financial outcomes when comparing their ROA and ROE ratios. Most studies suggest a positive connection between profitability and disclosure. Graves and Waddock (2000), Van de Velde et al. (2005), and McWilliams et al. (2006) have found evidence supporting this relationship. However, some studies contradict these findings. Gamerschlag et al. (2011), Bonson and Bednárová (2015) discovered no significant connection between the level of CSR reporting and an institution’s profitability. In addition, as noted by Löw et al. (2019, p. 42), the variable ROE does not have a significant impact on the disclosure scores achieved by the banks.

Existing literature and studies provide compelling evidence that investors take advantage of the diminished information asymmetries. This enables them to perform precise due diligence and evaluate a business’ future profitability more accurately (Carnevale et al., 2012; Luo & Bhattacharya, 2006). Additionally, investors are showing an increasing inclination to seek ample ESG information (Manes-Rossi et al., 2018) and value CSR performance based on their personal preferences (Moser & Martin, 2012). Interestingly an Ernst and Young study conducted in 2017 exemplifies this trend, revealing that approximately 70% of investors integrate non-financial reports into their investment decisions, underscoring the significant relevance placed on CSR data by investors.

Despite the impact of CSR activities by banks on society and the increasing interest of stakeholders and shareholders, empirical research on CSR disclosures within financial institutions has been relatively limited and emerged later compared to other sectors. Previous literature indicates that a majority of studies examining CSR disclosure have largely overlooked the banking sector. As explained by Kiliç et al. (2015, pp. 367-369), the limited research on CSR disclosures in the banking sector may be accredited to the perception that banks have a minimal direct influence on the natural environment, product safety, or employee safety. Nevertheless, although not as visibly evident as in the industrial sector, financial institutions, including banks, consume significant resources such as paper and energy and generate waste, highlighting that their impact in these areas should not be underestimated (Branco & Rodrigues, 2006, p. 233). Another explanation asserts that disclosing the indirect effects on society and the environment resulting from banks' fund channelling activities is not as straightforward as disclosing direct effects, as noted by ElAlfy and Weber (2019, p. 3).

Nevertheless, over time, researchers have recognized the significance of CSR disclosure in the financial industry, leading to an increase in the number of studies conducted. This growing research area can be categorized into various streams of research (Różańska, 2016). On the one hand, scholars who have acknowledged the social and environmental role of banks have examined the type and scope of CSR disclosures in the banking sector (Khan et al., 2009), as well as the quality, diversity, and changes over time (Krasodomska, 2015). This research has primarily been descriptive in nature. On the other hand, researchers like Soana (2011), Wu & Shen (2013), and Shen et al. (2016) focus on the second stream of study. This stream centres on understanding how disclosing a bank's practices can impact its financial performance measured by ROA and ROE.

Additionally, Semenescu and Curmei (2015) look into if disclosing CSR can reduce information asymmetry in the banking industry, while Suto & Takeharas (2018) examine whether it impacts banks' cost of capital. Scholars are also keen to understand what drives banks to disclose their corporate social responsibility practices; some factors include enterprise size, profitability, and financial leverage (Menassa, 2010; Khan et al., 2009). Finally, intrigued by the political perspective of CSR disclosure, researchers also study the motivation of companies to participate in such reporting (Uddin et al., 2018). Notably, only limited research exists on the influence of proprietorship and board structure on CSR disclosures in the banking sector (Kiliç et al., 2015).

As evident from the increasing body of research, the study of ESG disclosures in the banking sector has seen advances. Nevertheless, despite claims of increased transparency and improved reporting standards by stakeholders, financial institutions continue to face criticism from investors and other stakeholders regarding their reporting practices (Lock & Seele, 2015; ElAlfy & Weber, 2019). Moreover, further research indicates that banks primarily focus their reporting efforts on the influences of their business. These include areas such as energy consumption, material usage, and philanthropic initiatives like charitable donations and employee volunteering (Lock & Seele, 2015; ElAlfy & Weber, 2019). Supporting this observation, according to Lock and Seele (2015), over half of the information included in the CSR reports of banks does not adequately address the social and environmental risks associated with their investment activities.

2.4 ESG Performance: Limitations

Over the past decade, academic research conducted by finance and management scholars has focused heavily on ESG topics. Regarding ESG quality measurement, one of the main dilemmas for researchers and investment professionals is how best to gauge a firm's performance concerning ESG criteria. Empirical studies tend to rely comprehensively on ratings primarily provided by reliable vendors such as MSCI, Sustainalytics (now merged with Morningstar), S&P Global, Vigeo-Eiris (acquired by Moody's), and Thomson Reuters Refinitiv. However, it is important to acknowledge that certain issues have arisen in this regard. Inconsistencies in ratings among different data providers have proven to be quite significant, presenting a challenge in obtaining accurate and reliable information. Additionally, there are associated problems, such as companies utilizing ratings deceptively and engaging in what is commonly known as greenwashing practices.

2.4.1 Inconsistencies

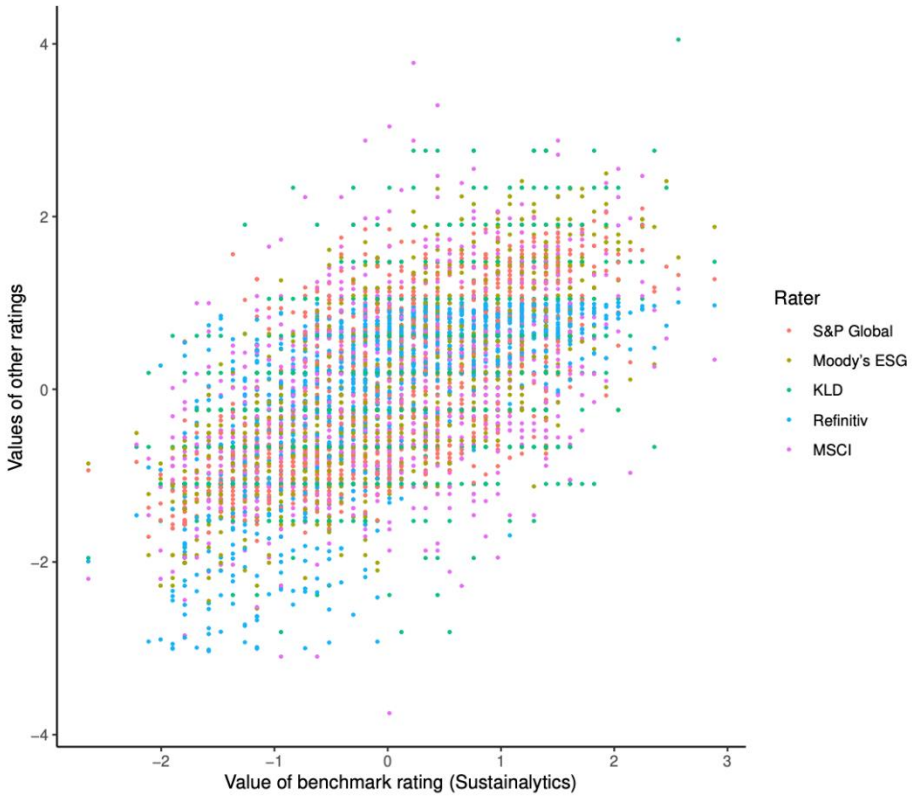
The growing utilization of several data vendors' scorings has raised questions over their authenticity, equivalence, and complementarity among stakeholders, investors, policymakers, and scholars (Berg et al., 2021). According to Gibson et al. (2019, p. 5), there is significant disagreement among main ESG performance providers in their assessments of firms' ESG performance. Meanwhile, survey evidence by Amel-Zadeh and Serafeim (2018, p. 91) indicates that 82% of investment professionals use ESG data in their investment approaches, but 26.4% express concerns about the reliability of ESG performance. Furthermore, expanding on these inconsistencies, Berg et al. (2020, p. 26)

also found substantial disparity among major ESG performance providers. Table 2 depicts the disparity in ESG performance.

Figure 2 Disparity in ESG performance among providers

Source: From "Aggregate confusion: The divergence of ESG ratings," by Berg, F., J. Kölbel & R. Rigobon (2020). *Review of Finance,* 26(6) p. 26. In the public domain.

The benchmark for each firm (n=924) is represented by the value of the Sustainalytics rating on the horizontal axis, while the rating values of the other five raters are displayed on the vertical axis. In their research, the authors confirm that ESG performance from six different raters, including KLD, Sustainalytics, Moody's ESG, S&P Global, Refinitiv, and MSCI, exhibit significant divergence, with correlations ranging from 0.38 to 0.71. This divergence creates several relevant consequences, such as difficulty in evaluating ESG performance, decreased incentives for companies to improve their ESG performance, difficulty in linking CEO compensation to ESG performance, and challenges for empirical research. Lastly, the authors decomposed the divergence into scope (what ESG intends to measure), weight, and measurement and found that measurement discrepancy is the primary driver of ESG performance deviation.



As previously mentioned, there are respectable vendors with varying degrees of reliability when it comes to ESG performance data. As a reputed ESG performance provider, Refinitiv (formerly known as ASSET4) offers an extensive ESG database acknowledged for its comprehensiveness (Refinitiv, 2020). In the preceding 15 years,

researchers have cited or alluded to Refinitiv ESG scores in over 1,200 academic articles. On top of this, prominent asset management companies like BlackRock trust Refinitiv's scores to manage investment risks posed by ESG factors (Refinitiv, 2020). Finally, Refinitiv ESG data are also used at the World Economic Forum (WEF, 2019), and it is considered one of the three principal providers in the OECD report (Boffo & Patalano, 2020). However, even with its high reputation and reliability, Refinitiv data has been found to be continuously rewritten. This ongoing rewriting of historical data raises important concerns about the accuracy of ESG data for research and investment management purposes (Berg et al., 2021, p. 1).

2.4.2 Greenwashing

With the rise of environmental concerns and public consciousness, it's clear that many stakeholders recognize the importance of prioritizing environmental considerations (Chen & Chang, 2012). The demand for accountability from companies regarding their environmental practices has surged in recent years. Investors, consumers, and government regulators are all calling for more detailed reporting about the impact businesses have on the environment. In response to this trend toward sustainability awareness and responsibility amongst stakeholders, companies are expected to offer greener products that meet these new standards (Kim & Lyon, 2015). In the eyes of consumers around the world, there is growing value placed on environmentally sustainable products. Nielsen Media's study in 2015 revealed that nearly two-thirds (66%) would pay a higher price for such items. Furthermore, it is highlighted that socially responsible businesses could leverage this demand trend even if they offer goods at a premium compared to their competitors (Guo et al., 2014). As expected, this has created new opportunities for businesses to increase their sales.

With the increasing emphasis on prioritizing environmental and social considerations, a term commonly referred to as "greenwashing" has emerged in the business and financial world. According to Lyon and Montgomery (2015, p. 706), there is no strict definition of greenwashing due to its multilayered environment. However, some popular definitions are "the act of misleading consumers regarding the environmental practices of a company or the environmental performance and positive communication about environmental performance" (TerraChoice, 2010, p. 14), "Poor environmental performance and positive communication about environmental performance" (Delmas & Burbano, 2011, p. 4); "The act of disseminating disinformation to consumers regarding the environmental practices of a company or the environmental benefits of a product or service" (Baum, 2012, p. 426). However, scholars have varying

views on the scope of greenwashing, with some restricting it to environmental issues and labelling social issues as bluewashing. Conversely, other researchers do not make such a distinction and view greenwashing as a phenomenon that encompasses both environmental and social aspects (de Freitas Netto et al., 2020, p.12).

How greenwashing is perceived and accused by the observer can vary significantly. This phenomenon can take many forms, ranging from environmental labelling on individual products to the use of nature-evoked elements in sustainability reports at the firm level. As such, greenwashing can be classified into a complex array of categories (de Freitas Netto et al., 2020, p. 3). Some authors even use the term "ESG washing" to address this phenomenon; therefore, for simplicity, the concept "greenwashing" in this research will be characterized by two core comportments occurring simultaneously: withholding the disclosure of adverse information concerning a company's environmental and social performance while emphasizing positive information related to its environmental and social performance (Lyon & Maxwell, 2011, p. 5).

According to Nyilasy et al. (2014, p. 697), certain firms engage in green marketing communications as a means of enhancing their image as environmentally responsible and socially engaged. They employ advertising and CSR initiatives to improve brand attitudes and purchase intentions. Nevertheless, according to TerraChoice (2010), corporate environmentalism may only sometimes live up to its promises. In Canada and the USA, for example, 95% of products that claimed to be environmentally friendly were found to commit at least one of the "sins of greenwashing," such as hiding important trade-offs or using misleading labels. Moreover, as Thomsen (2023) stated, "For example, a study (and our preliminary results) shows that companies with higher ESG performance emit more (not less) CO2". Thomsen (2023) expanded on this and mentioned that "If one invests in the 25% highest ESG-rated companies, one will – contrary to what most would believe – invest in companies with higher CO2 emissions and thereby ensure a slower reduction of emissions. But one can tell the board that they are investing in ESG and be on-trend".

Consequently, as the green market has expanded, so has the problem of greenwashing, which has led to a lack of trust among customers who struggle to distinguish between genuine and false green claims (Nyilasy et al., 2014). Thomsen (2023) even suggests a straightforward solution: shifting focus from ESG and concentrating on more objective sustainability goals such as CO2, water consumption, phosphorus, staff turnover, average salary, work accidents, and diversity, among others.

Moreover, in light of the importance of the banking industry as one of the most significant actors in the economy, it is crucial to examine its role in addressing this topic. Banks play a dual role in the economy; as corporations, they maximize profits for their shareholders; however, as financial intermediaries, banks create liquidity for public financing through deposits or other liabilities (Diamond & Dybvig, 1983). Due to their informational advantage in acquiring a firm's financial statements when making lending decisions, banks are regarded as an allocator of the economy's resources and delegated monitors of loan borrowers (Diamond, 1984). This advantage allows banks to screen potential lenders, monitor borrowers, and ensure timely repayments (Scholtens, 2009, p. 159).

According to Chava (2014, p. 2223), empirical evidence shows that more and more banks worldwide have incorporated ESG performance in their lending decisions. For example, many banks have signed the United Nations Environment Program's Statement by Banks on the Environment and Sustainable Development and have committed to integrating ESG information into their risk assessment and management procedures. Furthermore, the Network for Greening the Financial System (NGFS), which includes 83 central banks and financial supervisors, aims to "mobilize capital for green and low-carbon investments in the broader context of environmentally sustainable development." Meanwhile, according to Thompson & Cowton (2004, p. 203), a significant percentage (60%) of banks in the UK had established formal corporate lending policies that consider ESG factors. Finally, Kim et al. (2021, p. 12) found that ESG-linked loans comprised 90% ($289 billion) of ESG lending in 2021, highlighting the increasing importance of ESG in the allocation of economic resources and the adjustment of firms' funding costs.

In their extensive research, Huang et al. (2022) investigate whether banks engage in practices like ESG washing during lending decisions and how such activities are interpreted by markets. Specifically, they examined whether poorly rated banks grant loans to companies who have high ESG performance to improve their own ESG performance. Through extensive investigation, they observe that financial institutions struggling with suboptimal ESG scores offer more favourable credit terms like reduced credit spreads, extended maturity periods, or reduced covenants/collateral to firms with above-average scores on ESG indicators. Moreover, their findings reveal that the impact of ESG washing is notably greater for companies in high-polluting industries and during the post-Kyoto Protocol period. Additionally, the analysis indicates that investors generally respond positively when lending institutions adopt such practices, which

explains why some entities engage in such activities. In sum, these outcomes suggest that banks with poorer ESG performance tend to deflect the market's attention from their ESG-washing lending practices, which in turn enhances their ESG reputations (pp. 27-28).

To summarize this section, it's crucial to state that this research seeks to understand how ESG performance impacts the valuation and profitability of corporates and financial institutions. Nonetheless, it's worth highlighting that earning a higher score on these ratings doesn't automatically translate into a more substantial and positive ESG influence. As discussed earlier, numerous limitations, such as greenwashing practices or discrepancies in how different organizations carry out their evaluations, could significantly taint results in this field of study.

2.5 Hypotheses Development

The previously analysed literature review demonstrates that several studies have examined the correlation between ESG performance and different aspects of corporates´ and financial institutions' financial impact. However, discrepancies in the results and unanswered questions suggest that further exploration is needed to address these research gaps to gain a better understanding of the relationship between ESG performance and its impact on corporates´ and financial institutions´ profitability and valuation. In this final section, this study will present the hypotheses and discuss their significance to the field. Additionally, chapter 3 will thoroughly explain each variable and parameter that has been introduced, ensuring a comprehensive understanding of their meaning and role.

One of the fundamental objectives of this analysis is to expand the granularity of ESG performance. Therefore, as depicted in Figure 3, this study distinguishes and categorizes ESG performance into three distinct levels to provide a comprehensive framework:

Level 1: ESG score (ESG combined score).

Level 2: Three main dimensions (Environmental, Social, and Governance).

Level 3: A total of 10 sub-dimensions corresponding to the main dimensions.

Figure 3 ESG Dimensions and Sub-dimensions

Source: Adapted from Environmental, Social and Governance (ESG) Scores from Refinitiv by Refinitiv, 2020 (www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf). In the public domain.

Impact of ESG Performance on Corporates

Previous empirical research has investigated the relationship between ESG performance and financial performance and valuation. However, most of these studies have primarily focused on examining a single dimension or selected sub-dimensions of ESG (Smith et al., 2007; Ponnu, 2008). It is essential to observe that ESG dimensions and sub-dimensions are interconnected, and solely concentrating on a single dimension may pose challenges (Galbreath, 2013). Therefore, this study distinguishes itself from previous research in 2 aspects: i) The granularity of analysis, and ii) The robustness of the analysis.

i) The Granularity of the Analysis

Building upon the existing literature, this study aims to enhance the granularity of the research. It delves deeper into specific ESG sub-dimensions, dissecting their contributions and understanding their interplay within the broader context of profitability and valuation. By conducting a total of 28-panel regressions for profitability and 14-panel regressions for valuation, this study meticulously analyses the impact of each dimension and sub-dimension independently. This approach effectively addresses any potential issues arising from interconnections among ESG performance. Examining each extent in

isolation ensures that each dimension's unique effects and contributions are accurately captured and assessed.

This methodological approach enhances the reliability of the study by providing a detailed examination of the individual dimensions while controlling for potential confounding factors. For instance, a study conducted by Aydoğmuş et al. (2022) investigates the association between ESG performance and a firm's valuation and profitability. Their findings indicate that Social and Governance scores exhibit a positive and significant relationship, while the Environment score does not demonstrate a significant relationship with firm value.

To have a comprehensive understanding, we must recognize that the Environmental dimension comprises three sub-dimensions, as illustrated in Figure 3. Disregarding this fact may suggest that there is no correlation with valuation. Yet, one or more of these variables may indeed impact firm value without us realizing it because these sub-dimensions are mutually influencing each other. Neglecting each separate variable might lead us towards a partial and insufficient conclusion about how different factors within environmental aspects relate to firm value and profitability.

ii) The Robustness of the Analysis

This study acknowledges the extensive research conducted on the relationship between firm size and non-financial reporting. Several studies, such as Bonson and Bednárová (2015), have highlighted a positive correlation between firm size and the extent of CSR disclosure. Bonson and Bednárová (2015) specifically emphasize that larger institutions face greater public scrutiny and possess higher social visibility due to their size. By acknowledging the impact of firm size on ESG performance, this study focuses specifically on the largest companies across multiple continents. The selection criterion for these companies is based on market capitalization, ensuring that organizations of significant size and influence are included in the analysis.

Moreover, assessing the impact of independent variables within this area of study could be influenced by external factors such as firm size, business activity, and leverage. Therefore, three control variables were incorporated to measure how much impact ESG performance may have on overall financial results. The introduction of two different profitability measures (ROE and ROA) and one market-based variable (TQ) aim to provide a complete analysis of the relationship between ESG performance and financial performance. Additionally, included in this paper is an exhaustive analysis of relevant literature that thoroughly explores both theoretical debates as well as previous empirical

research while taking into account possible limitations. Understanding such limits produces equitable conclusions, which improves the veracity and credibility of the study. Through meticulous scrutiny of earlier investigations, this research offers relevant viewpoints crucial for comprehending complex issues while shedding light on areas that need more exploration.

H1: The dimensions and sub-dimensions of ESG performance have a significant and positive impact on corporates' profitability.

H2: The dimensions and sub-dimensions of ESG performance have a significant and positive impact on corporates' valuation.

The Impact of ESG Performance on Financial Institutions

This research further distinguishes itself by extending its scope to examine the specific implications of ESG performance within the financial sector, particularly regarding banks and their impact on banks' valuation and profitability. As mentioned previously, banks play a crucial role in society, not only due to their direct influence but also because of their indirect impact through resource allocation. While previous studies have explored this issue to some extent, this research sets itself apart in two significant ways: i) the Introduction of a market-based variable that has not been extensively studied and ii) the granularity and robustness of the analysis.

i) Introduction of a new Variable that has not been extensively studied.

As noted by Gangi et al. (2018, p. 8), prior studies (e.g., Shukla, 2016; Wu et al., 2017) have predominantly utilized accounting measures as proxies for assessing banks' financial performance. Therefore, by incorporating market-based measures such as TQ, this study not only complements but also enhances the validity of the findings regarding the relationship between CSR and financial performance within the financial industry. By including market-based indicators, the study provides a more comprehensive perspective and strengthens the understanding of how CSR practices impact the financial performance of banks. To the best knowledge, only a few previous research has focused on measuring the impact of ESG performance on TQ within the financial sector.

ii) The Granularity and Robustness of the Analysis

As explained earlier, this paper focuses on analysing results comprehensively by integrating all ESG sub-dimensions individually to account for their impact both on profitability and valuation. Therefore, the arguments stated before applying to this section

as well. By delving into finer details across various dimensions and sub-dimensions, this study offers a unique level of insight into the topic at hand. It also incorporates a comprehensive literature review that synthesizes both empirical and theoretical perspectives to provide an exhaustive view of current knowledge. This approach ensures that any resulting analyses are well-informed, encompassing multiple viewpoints for greater accuracy and depth.

H3: The dimensions and sub-dimensions of ESG performance have a significant and positive impact on a financial institution's profitability.

H4: The dimensions and sub-dimensions of ESG performance have a positive and significant impact on a financial institution's valuation.

3. Data and Methodology

As aforementioned, this research uses ESG scores retrieved from Refinitiv's database. Henceforth this chapter will provide a complete definition of the database. This entails detailing its data construction method as well as laying out applicable parameters and score generation mechanisms utilized therein. Furthermore, explanations of data collection methods alongside definitions, methodology, and descriptive statistics will be described.

3.1 Refinitiv Overview

Refinitiv (2020) boasts an extensive ESG database that holds wide recognition in the industry, encapsulating a substantial portion of global market capitalization and comprising over 630 diverse ESG metrics with historical data spanning back to 2002. By leveraging Refinitiv's platform, users can integrate their analytical tasks with valuable insights related to portfolio analysis, equity research screening, and quantitative analysis. Through its state-of-the-art applications-, this platform allows for the combination and examination of ESG data in great detail, thus providing insightful interpretation capabilities. Furthermore, Refinitiv has a database featuring ratings for over 12,500 public and private companies worldwide that offer percentile rank scores that are simple to interpret, presented as both percentages and letter grades spanning D- through A+.

The Refinitiv Business Classifications (TRBC) provide benchmarks for environmental & social categories along with controversies scores, while governance categories also draw evaluation from the country of incorporation. The scoring

methodology employed by Refinitiv is comprehensive concerning robust data-driven methodologies that minimize biases associated with company size or transparency issues. Moreover, Refinitive does not impose a predefined notion of "good" ESG performance - the scoring methodology relies on industry-based relative performance based on model data and criteria. The scoring methodology follows a set of crucial calculation principles that are explained by Refinitiv (2020) as follows:

1. **Unique ESG magnitude (materiality) weightings have been included:** Refinitiv recognizes ESG factors differ across industries. Therefore, they mapped the materiality of each metric within different industries and assigned a score ranging from 1 to 10.
2. **Transparency stimulation:** Disclosure is a key metric for building the metrics. Through the application of weighting, the omission of "immaterial" data points has minimal impact on a company's score. However, failure to report on "highly material" data points will result in a negative impact on the company's score.
3. **Industry and country benchmark at the data point scoring level:** The methodology promotes the ability to conduct meaningful and comparable analysis among peer groups.
4. **Percentile rank scoring methodology:** The methodology eliminates any hidden layers of calculations. This approach empowers Refinitiv to generate scores ranging from 0 to 100, accompanied by easily comprehensible letter grades.

Refinitiv employs a methodology that captures ESG-comparable subsets within industries to assess a company's ESG performance. Out of the 360 measures captured, Refinitiv creates a subgroup of 186 measures with the most comparable criteria to ensure equivalent standards. These subsets are further categorized into 10 subdivisions, as depicted in Figure 3, which are the root for building the three dimensions (ESG) and the combined ESG score. Finally, the ESG dimension score is calculated as a relative sum of category weights, which vary by industry for the environmental and social divisions.

In addition, the underlying measures used in the analysis have sufficient granularity to effectively differentiate between companies that have limited reporting and lack transparency, as well as those that demonstrate minimal implementation and execution of ESG practices, and companies that truly exemplify their commitment to ESG

principles and emerge as industry or regional leaders. Figure 4 presents an overview of the score ranges provided by Refinitiv, along with corresponding descriptions.

Figure 4 Refinitiv´s Score Description

Score Range	Description
From 0-25 From D- to D+	Scores within this range indicate poor relative ESG performance and an insufficient degree of transparency in reporting material ESG data publicly.
From 26-50 From C- to C+	Scores within this range indicate satisfactory relative ESG performance and a moderate degree of transparency in reporting material ESG data publicly.
From 51-75 From B- to B+	Scores within this range indicate good relative ESG performance and above average degree of transparency in reporting material ESG data publicly.
From 76-100 From A- to A+	Scores within this range indicate excellent relative ESG performance and a high degree of transparency in reporting material ESG data publicly.

Source: Adapted from Environmental, Social and Governance (ESG) Scores from Refinitiv by Refinitiv, 2020 (www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf). In the public domain.

Furthermore, with a team of over 700 content research analysts trained in ESG data collection, Refinitiv has one of the largest ESG content collection operations globally. Operating from various locations around the world (Gdynia, Beijing, Banglore, Mauritius, and Manila), these analysts possess local language expertise and process numerous publicly available information sources. This approach aims to provide objective, comprehensive, and up-to-date coverage. It is noteworthy that Refinitiv obtains all the data from 6 different sources to achieve accuracy and equivalence: annual reports, company websites, NGO websites, CSR reports, Stock Exchange Fillings, and new sources (Refinitiv 2020).

3.2 Sample Data and Variables

This study commenced by selecting 500 companies from America, Europe, and Asia. The primary criterion for selection was market capitalization, resulting in the inclusion of the top 500 largest companies from 2015 to 2021. It is important to note that

market capitalization served as the primary filter, thereby encompassing companies from various sectors such as agriculture & forestry, mining & construction, Manufacturing, transportation & utilities, Wholesale & retail, Financial Services, and technology. Subsequently, the research applied a filtering process to the original dataset, including only companies with complete ESG performance and the necessary financial information throughout the specified time frame. This filtering resulted in a refined database consisting of 307 companies. Moreover, on top of the original dataset of 307 companies, a subset of 37 banks and financial institutions have been selected for a separate analysis. Figure 5 provides a summary of the data.

Figure 5 Segmentation of Data by Continent

	Corporates with ESG Scores.	**Financial Institutions with ESG Scores.**
Sample Period	2015-2021	2015-2021
Number of Companies	307	37
Total Observations	2149	259
Number of Observations by Region		
Latin America	34	5
North America	100	7
Asia	76	12
Europe and UK	97	13

Source: Refinitiv and CapitalIQ

This section presents a detailed description of the variables used in this study. These variables capture important aspects of firms' ESG performance, valuation, and profitability. They were carefully selected based on their relevance to the research objectives and the availability of data. Regarding the dependent variable, TQ is the selected market-based variable to measure a firm’s value. TQ is a measure that serves as a proxy for the value of a firm from an investor's perspective (Wolfe & Sauaia, 2005, p. 238). Furthermore, ROE and Return on Assets are selected for measuring profitability. According to Damodaran (2017, p. 11), ROE represents the earnings available to equity investors once the costs of servicing debt have been accounted for, relative to the equity invested in the asset. Adopting this definition, ROA can be defined as earnings available to equity investors once the costs of servicing debt have been accounted for, relative to total assets. Additionally, a total of 14 independent variables are designated, which include ESG Total Combined Score, the three main dimensions (ESG), and the 10 sub-dimension that were presented in Figure 3. Finally, to control size, business activity, and

leverage effects, three control variables are included in the regressions: Total Assets, Total Revenue, and Leverage ratio. Figure 6 presents an overview and the formulation and abbreviations of all the selected variables. The weight assigned to each sub-dimension depends on the industry.

Figure 6 Dependent, Independent and Control Variables

Dependent Variables	**Description/Formula**
TQ - Tobin's Q	(Equity Market Value + Liabilities Market Value)/ (Equity Book Value + Liabilities Book Value)
ROA – Return on Assets	Net Income/Total Assets
ROE – Return on Equity	Net Income/Total Shareholder'
Independent Variables	**Description/Formula**
ESG_T - ESG Combined Score	E * Weight + S * Weight + G * Weight
ENV - Environment Score	Emission * Weight + Resource Use * Weight + Innovation * Weight
SOC - Social Score	Community * Weight + Human Rights * Weight + Product Resp. * Weight
GOV - Governance Score	Corp. Gov. * Weight + CSR * Weight + Management * Weight
RU-Resource Use Score	Performance to reduce the use of materials, energy, or water, and to find more eco-efficient solutions.
EM-Emissions Score	Commitment and effectiveness toward reducing environmental emissions in production.
IN-Innovation Score	Capacity to reduce environmental costs and for customers, thereby creating new market opportunities.
WF-Workforce Score	Effectiveness in terms of providing job satisfaction, a healthy and safe workplace, and s maintaining diversity and equal opportunities.
HR-Human rights Score	Effectiveness in terms of respecting fundamental human rights conventions.
CM-Community Score	Commitment to being a good citizen, protecting public health and respecting business ethics.
PR-Product Responsibility Score	Capacity to produce quality goods and services, integrating the customer's health and safety, integrity and data privacy.
MG-Management Score	Commitment and effectiveness towards following best practice corporate governance principles.
SH-Shareholders Score	Effectiveness towards equal treatment of shareholders and the use of anti-takeover devices.
CSR-CSR Score	Incorporation of economic, social and environmental dimensions into decision-making processes.
Control Variable	**Description/Formula**
LTA - Logarithm Total Assets	Natural Logarithm of Total Assets
LTR - Logarithm Total Revenue	Natural Logarithm of Total Revenue
LE - Leverage	Total Liabilities/ Book Value of Equity

Source: Refinitiv and CapitalIQ

3.3 Descriptive Statistics

The datasets consist of 307 firms from 2015 to 2021, with a total of 2149 firm-year observations. The dependent and control variables were obtained from CapitalIQ (Total Assets, Total Revenue, Leverage, ROA, ROE, and TQ), and the independent variables (ESG Combined, ESG dimensions, 10 additional sub-dimensions) from Refinitiv. Figure

7 provides a summary of the descriptive statistics of corporates, and Figure 8 provides a summary of the descriptive statistics of financial institutions.

Figure 7 Summary Descriptive Statistics (Corporates)

	N	Mean	St. Dev	Min	Max	Skewness	Kurtosis
Dependent Variables							
TQ	2149	2.175	1.883	0.600	18.500	3.015	15.595
ROA	2149	.058	.069	-.223	1.062	2.899	31.275
ROE	2149	.182	.912	-17.146	25.512	9.359	391.774
Independent Variables							
ESG_T	2149	60.571	16.510	6.020	93.900	-.274	2.569
ENV	2149	70.539	21.227	0.000	98.260	-1.289	4.459
SOC	2149	73.408	18.164	2.750	99.560	-1.068	3.951
GOV	2149	65.713	19.887	8.180	98.200	-0.607	2.506
RU	2149	78.534	22.617	0.000	99.940	-1.639	5.424
EM	2149	76.959	23.301	0.000	99.94	-1.627	5.409
IN	2149	51.057	32.771	0.000	99.890	-.323	1.801
WF	2149	80.647	19.109	0.760	99.940	-1.618	5.885
HR	2149	63.684	29.819	0.000	98.990	-.833	2.549
CM	2149	75.379	25.112	0.630	99.940	-1.176	3.369
PR	2149	70.576	25.956	0.000	99.850	-.869	2.653
MG	2149	67.518	25.702	1.540	99.940	-.643	2.302
SH	2149	57.803	27.057	0.140	99.880	-.301	1.9578
CSR	2149	68.558	27.386	0.000	99.940	-1.020	3.168
Control Variable							
LTA	2149	237228.700	547781.100	1215	5536534	4.576	28.002
LTR	2149	46427.380	62504.570	513	571962	3.516	20.012
LE	2149	3.993	9.812	-61.100	285.200	14.638	367.282

Source: Refinitiv and CapitalIQ

Figure 8 Summary Descriptive Statistics (Financial Institutions)

	N	Mean	St. Dev	Min	Max	Skewness	Kurtosis
Dependent Variables							
TQ	259	1.004	.048	.940	1.210	1.001	4.020
ROA	259	0.007	.005	-.007	.002	-.024	3.010
ROE	259	0.087	.057	-.105	.226	-.720	3.220

Independent Variables							
ESG_T	259	58.227	15.524	30.540	90.210	.399	1.927
ENV	259	78.604	19.783	11.110	98.260	-1.659	5.103
SOC	259	76.082	14.785	36.220	97.670	-.817	2.754
GOV	259	70.617	16.659	18.290	96.240	-.686	2.753
RU	259	79.663	19.692	14.020	99.940	-1.259	3.906
EM	259	77.087	22.332	.000	99.940	-1.264	4.136
IN	259	71.531	26.499	.000	98.700	-1.468	4.432
WF	259	83.499	13.083	37.100	99.910	-1.126	3.932
HR	259	64.407	30.900	.000	97.350	-.945	2.597
CM	259	73.873	26.226	7.550	99.870	-1.114	2.952
PR	259	73.129	23.356	26.060	99.540	-.781	2.206
MG	259	71.832	24.306	4.470	99.710	-.766	2.546
SH	259	63.718	25.854	5.300	98.910	-.576	2.191
CSR	259	74.892	26.614	.000	99.760	-1.451	4.445
Control Variable							
Total Assets	259	1248882	1086755	44169	5536534	1.073	4.336
Total Revenue	259	34964.580	31595.180	1757	143769	1.082	3.867
Leverage	259	12.583	3.467	6.800	23.500	.969	3.451

Source: Refinitiv and CapitalIQ

Regarding Figure 7, it can be observed that TQ has an average value of 2.175. Given that the value of TQ is greater than one, it indicates that, on average, the companies in the dataset have a higher market value than their book value. One possible explanation for this disparity is the potential underestimation of intangible assets in the book value calculation, such as brand value or patents. These intangible assets may contribute significantly to the overall value of the companies. Additionally, the average ROA is 5.8%, which means that the average corporate seems efficient in generating favourable profitability relative to its total assets. Similar reasoning can be applied to the average ROE of 18.2%, which shows high profitability concerning equity.

Nevertheless, after analysing the data's Skewness, Kurtosis, and Standard Deviation, it is observed that several outliers distort the distribution. Similar observations hold when examining the three control variables that are presented in the study. For example, Leverage shows an average value of approximately four with a high degree of peakedness and heavy tails in the distribution compared to a normal distribution. The independent variables are concerning values with averages ranging from 50 to 80. Furthermore, most of the independent variables exhibit a minimum value near zero and a maximum value around 100, with a distribution relatively close to a normal distribution.

Concerning Figure 8, we can observe a TQ of around 1, demonstrating that banks and financial institutions have equivalent market and book values. Furthermore, we observe a ROA of 0.7%, showing that businesses operating outside the financial industry have, on average, higher profitability than financial institutions concerning assets. On the other hand, ROE is, on average, 8.7% suggesting higher profitability than ROA but still lower equity profitability than the average ROE of corporates. Nevertheless, when Skewness and Kurtosis are observed, we can see more normally distributed dependent variables. Although these metrics suggest that the distribution of these variables has a moderate degree of peakedness and tail behaviour, they are within an acceptable range of Kurtosis while presenting Skewness which ranges from -1 to 1. After a visual inspection of symmetry, the variables are close to a normal distribution.

When analysing the control variables, we observe similar behaviour in terms of normal distribution except for total assets, which presents some degree of peakedness and tail behaviour. Furthermore, an average Leverage of 12.583 is considerably higher than the Leverage of four observed in the general businesses' dataset. This difference is expected considering banks' business models that directly influence the amount of leverage they hold in their balance sheets. Finally, the standardized independent variables do not change significantly concerning the previous analysis. These variables exhibit average values ranging from 58 to 85 and demonstrate distributions that are relatively close to a normal distribution.

To secure a robust analysis, this research accounts for the impact of extreme values and distortions in the data presented in Figure 7. Therefore, this study uses two different approaches to improve these limitations. First, the natural logarithm is applied to Total Assets and Total Revenue. Furthermore, for Leverage, TQ, ROE, and ROA, the Interquartile Range Method is applied to identify the first quartile (Q1), the third quartile (Q3), and the interquartile range (IQR). Moreover, outliers were found in all the data points that fall below Q1 - 1.5 * IQR or above Q3 + 1.5 * IQR. Therefore, the original database is divided into separate datasets, each corresponding to a symmetric dependent variable (TQ, ROE, and ROA) with symmetric control variables (Leverage, Natural Logarithm Total Assets, Natural Logarithm Total Revenue) and standardized independent variables.

All the data in this analysis follows a panel data structure. To ensure both normally distributed variables and the integrity of the panel data structure, the data sets are divided into subsets based on each dependent variable. In this process, if any of the seven years

analysed within a company exhibit an outlier, the entire company or financial institution is excluded from the analysis to maintain a well-balanced panel structure. Finally, after introducing these changes and performing visual inspections with histograms, we obtained new normally distributed dependent and control variables with acceptable ranges of Kurtosis, Standard Deviation, and Skewness. Furthermore, the average TQ reduced from 2.175 to 1.550, the average ROA from 5.8% to 4.5%, and the average ROE from 18.2% to 12%. Moreover, the average Leverage declined slightly to 3.88. Although we now observe lower values in general, the overall direction of the analysis presented above for these variables as well as for the independent variables is still valid.

3.4 Methodology

To explore its research objectives, this study employs three distinct models: TQ as a measure of market value and two separate models for assessing profitability - one for ROA and another for ROE. Additionally, this research applies the aforementioned three models to analyse corporate entities and subsequently replicates the same procedure for financial institutions. To mitigate any potential inconsistencies in results arising from high correlations among ratings, this analysis constructs distinct models for each independent variable. A comprehensive analysis of correlations among variables is presented in section 4.1.

1) Tobin's Q:

$$TQ_{it} = \beta_0 + \beta_1 (ESG\_T_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (ENV_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (SOC_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (GOV_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (RU_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (EM_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (IN_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (WF_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (HR_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (CM_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (PR_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (MG_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (SH_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$TQ_{it} = \beta_0 + \beta_1 (CSR_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

2) ROA:

$$ROA_{it} = \beta_0 + \beta_1 (ESG\_T_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (ENV_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (SOC_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (GOV_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (RU_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (EM_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (IN_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (WF_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (HR_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (CM_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (PR_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (MG_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (SH_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROA_{it} = \beta_0 + \beta_1 (CSR_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

3) ROE:

$$ROE_{it} = \beta_0 + \beta_1 (ESG\_T_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (ENV_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (SOC_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (GOV_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (RU_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (EM_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (IN_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (WF_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (HR_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (CM_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (PR_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (MG_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (SH_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 (CSR_{it}) + \beta_2 (LTA_{it}) + \beta_3 (LTR_{it}) + \beta_4 (LE_{it}) + \varepsilon_{it}$$

The dependent variables in this study include TQ, ROA, and ROE, while the control variables consist of the LTA, LTR, and LE. These control variables are incorporated into every individual regression model. Additionally, the 14 independent variables associated with the aforementioned ESG performance are examined individually to isolate and observe their behaviour and impact on the dependent variables. Finally, the error term εit represents the residual or unexplained variation for firm i in period t.

4. Results

This section presents the results of the empirical study, including a correlation analysis between the variables of interest, along with their respective Variance Inflation Factor (VIF), to assess multicollinearity. A complete analysis of various tests and data management techniques specific to panel data will also be conducted to identify the most suitable regression model. Finally, the study will present the regression results.

4.1 Pearson Correlation Analysis

To have a clear structure, separate correlation outcomes are presented for each dependent variable - TQ, ROE, and ROA - in Figure 9, Figure 10, and Figure 11 correspondingly. Additionally, Figure 12 shows the correlation results for the financial sector.

Figure 9 shows the correlation among TQ, 14 independent variables, and three control variables. The results reveal that ESG_T and SOC exhibit a positive correlation with TQ, while GOV shows no significant correlation. Notably, upon further examination of the ESG performance components, we find that IN is the primary factor contributing to the negative correlation between TQ and ENV, while RU and EM do not show a significant relationship. Additionally, the four main components of SOC (WF, HR, CM, PR) exhibit the same direction of correlation with TQ as their main dimension, SOC. In relation to MG, SH, and CSR, similar to the main dimension GOV, there is no statistically significant association observed with TQ. Regarding the three control variables, notably, we can observe a strong negative correlation between TA and TQ. Furthermore, in line with TA, it is worth noting that TR and LE demonstrate a relevant negative relationship with the dependent variable; this suggests that there is an inverse association between leverage, assets, and revenue with market performance.

It is noteworthy that a strong relationship exists between not just ENV, SOC, and GOV factors but also among every single one of their corresponding sub-dimensions when correlated with ESG_T. This association was predictable since all these factors form integral components across each of the three main dimensions and, therefore, ESG_T. Furthermore, we observe a significant negative relationship between ESG_T and both TA and TR, while no significant correlation is found between ESG_T and LE. In contrast, the three main dimensions, ENV, SOC, and GOV exhibit a significant positive relationship with TA, TR, and LE. To avoid any potential inconvenience regarding multicollinearity, this analysis runs one regression model for each independent variable.

The model conducts a thorough examination of the VIF for the control variables, TQ, and the three main dimensions, demonstrating no evidence of multicollinearity. This conclusion is supported by VIF values ranging from 1 to 4 for all variables, indicating a satisfactory level of independence among the predictors. According to general guidelines from prior studies, it is commonly suggested that a suitable threshold for VIFs falls within the range of 5 to 10 (Hair et al, 2013).

Figure 10 depicts the correlation between ROA, 14 independent variables, and three control variables. Interestingly, ROA displays a negative relationship with GOV, and ENV. However, it is worth noting that the strength of this relationship seems to be relatively weak. The relationship between SOC and ESG_T with ROA is not statistically significant. Moreover, when analysing the negative relation between ROA and ENV, we can see that the sub-dimension IN is the main driver of this negative association since RU and EM are not statistically significant. Furthermore, the statistical insignificance in all four sub-dimensions (WF, HR, CM, PR) drives the SOC pillar to an insignificant relationship with ROA. Lastly, the sub-dimensions MG and CSR exhibit a negative relationship with ROA. This indicates that these particular sub-dimensions are driving the negative association between ROA and GOV, as the sub-dimension SH does not show statistical significance.

As explained earlier, there is a strong relationship not only between ENV, SOC, and GOV factors but also among each of their respective sub-dimensions when correlated with ESG_T. This correlation was again expected due to the integral role these factors play within the three main dimensions and, consequently, ESG_T. Moreover, ESG_T exhibits a negative relationship with TA and TR, while no statistically significant relationship is observed with LE. On top of this, we observe a strong association between TA, LE, and TR, meaning that changes in the level of total assets are closely linked to positive variations in leverage and revenue. Once again, individual regressions are performed to isolate the effect of each independent variable. Additionally, the model evaluates the VIF for the control variables, ROA, and the three main dimensions, revealing no indications of multicollinearity. This finding is substantiated by VIF values ranging from 1 to 4 for all variables, suggesting a satisfactory level of independence among the predictors.

In Figure 11, a positive relationship between ROE and ESG_T is observed. Further examination reveals that among the three main pillars comprising ESG_T, only ENV demonstrates a statistically significant negative correlation with ROE. On the other hand,

the association between ROE and SOC, and GOV is not statistically significant. The negative correlation between RU and ROE, as well as the even stronger negative association between IN and ROE, act as the primary drivers for the negative relationship between ROE and ENV since the correlation between EM and ROE is not statistically significant. Interestingly, while there is not a significant association between ROE and SOC, CM is the only sub-dimension that has a positive relationship with ROE. Lastly, even after the correlation between ROE and GOV proves to be statistically insignificant, two main sub-dimension SH and CSR exhibit a negative association with ROE.

In line with previous analyses, we anticipate observing a high degree of correlation among ESG_T, its primary pillars (ENV, SOC, GOV), and 10 sub-dimensions. Additionally, we notice a negative association between ROE and TR alongside ROE and TA. This implies that higher asset levels and higher revenues are linked to lower values of ESG_T. To further evaluate the robustness of the results, we addressed issues related to multicollinearity among variables. Therefore, the model examined the VIF for the control variables, ROA, and the three main dimensions and did not find evidence of multicollinearity.

Finally, Figure 12 analyses the correlations between TQ, ROA, ROE, three pillars, 10 sub-dimensions, and three control variables within the financial sector. Notably, ESG_T shows a relatively strong positive association with ROE, while the association with ROA and TQ is not statistically significant. However, we can still observe a negative association between ROE, TQ, and ROA with the main pillars ENV, SOC, and GOV. This suggests the presence of cancelling effects or compensatory relationships among these variables. It is worth noting that there are instances where the individual effects of these dimensions may counterbalance each other or be compensated for. This can happen when the variables have different magnitudes or weights, as is the case in this study with the use of Refinitiv's database. However, this cancelling effect is not observed among the 10 sub-dimensions and the main pillars. Most of the ten subcomponents also display a negative correlation with ROE ROA and TQ. Thus, it can be inferred that the subcomponents are acting as drivers of the negative effect associated with the respective pillars.

Similarly, we can observe a strong correlation among ESG_T, the core pillars ENV, SOC, GOV, and ten sub-dimensions. Furthermore, a negative correlation is evident between TQ, ROA, and ROE with TA and LE. TR shows only a negative association with TQ. The control variables TA and TR exhibit a strong positive correlation, while TR and

LE show a relatively weaker negative association between them. Further checks reveal that individual variables show no discernible signs of multicollinearity evident from study calculated VIF scores ranging from 1-4 for all considered variables.

In sum, it can be concluded that ESG_T, the three main pillars, and the 10 ESG-sub-dimensions do not always present a positive correlation when measured against TQ, ROA, and ROE. The variables co-move in different directions and with different levels of strength. Therefore, these observations are not in line with the hypotheses presented above. Nevertheless, this analysis shows that sub-dimensions are a relevant aspect of this study since they could act as drivers or even present cancelling effects on the pillars. Section 4.3 will delve deeper into the regression results to complete and assess these interpretations.

Figure 9 Correlation results Tobin´s Q (Corporates)

	TQ	ESG_T	ENV	SOC	GOV	RU	EM	IN	WF	HR	CM	PR	MG	SH	CSR	TA	TR	LE
TQ	1.000																	
ESG_T	.147*	1.000																
ENV	-.090*	.387*	1.000															
SOC	.097*	.489*	.589*	1.000														
GOV	.038	.418*	.295*	.425*	1.000													
RU	-.019	.391*	.745*	.637*	.289*	1.000												
EM	-.045	.393*	.736*	.555*	.264*	.627*	1.000											
IN	-.180*	.179*	.669*	.270*	.207*	.294*	.293*	1.000										
WF	.051*	.482*	.516*	.750*	.385*	.546*	.550*	.216*	1.000									
HR	.049*	.310*	.506*	.774*	.283*	.546*	.452*	.262*	.483*	1.000								
CM	.171*	.272*	.273*	.688*	.304*	.333*	.260*	.096*	.368*	.394*	1.000							
PR	.054*	.360*	.440*	.583*	.242*	.433*	.376*	.267*	.389*	.293*	.152*	1.000						
MG	.045	.375*	.187*	.342*	.941*	.200*	.171*	.145*	.313*	.219*	.246*	.188*	1.000					
SH	.021	.141*	.127*	.122*	.381*	.085*	.098*	.096*	.109*	.051*	.115*	.062*	.099*	1.000				
CSR	-.039	.281*	.531*	.509*	.393*	.501*	.480*	.297*	.449*	.424*	.316*	.335*	.209*	.107*	1.000			
TA	-.453*	-.178*	.286*	.187*	.174*	.181*	.131*	.312*	.113*	.152*	.077*	.126*	.119*	.061*	.290*	1.000		
TR	-.183*	-.143*	.318*	.216*	.139*	.285*	.199*	.240*	.100*	.249*	.117*	.221*	.105*	-.009	.271*	.572*	1.000	
LE	-.290*	-.010	.150*	.070*	.174*	.048*	.057*	.208*	.081*	.019	-.001	.037	.136*	.100*	.149*	.609*	-.034	1.000

∗All Pearson coefficients are statistically significant at 0.01 level.

Figure 10 Correlation results ROA (Corporates)

	ROA	ESG_T	ENV	SOC	GOV	RU	EM	IN	WF	HR	CM	PR	MG	SH	CSR	TA	TR	LE
ROA	1.000																	
ESG_T	.050	1.000																
ENV	-.013*	.426*	1.000															
SOC	-.000	.504*	.626*	1.000														
GOV	-.087*	.452*	.320*	.419*	1.000													
RU	-.059	.428*	.762*	.666*	.319*	1.000												
EM	-.062	.424*	.743*	.574*	.303*	.639*	1.000											
IN	-.155*	.249*	.724*	.365*	.235*	.358*	.359*	1.000										
WF	.046	.493*	.565*	.774*	.403*	.597*	.577*	.305*	1.000									
HR	.031	.325*	.537*	.779*	.272*	.565*	.481*	.333*	.519*	1.000								
CM	.047	.279*	.309*	.673*	.314*	.369*	.275*	.165*	.389*	.389*	1.000							
PR	-.020	.378*	.468*	.576*	.244*	.450*	.386*	.309*	.392*	.311*	.091*	1.000						
MG	-.072*	.430*	.210*	.336*	.941*	.222*	.206*	.174*	.319*	.210*	.261*	.191*	1.000					
SH	-.014	.142*	.130*	.108*	.369*	.094*	.116*	.066*	.126*	.036	.107*	.031	.088*	1.000				
CSR	-.113*	.328*	.543*	.520*	.409*	.537*	.496*	.339*	.485*	.426*	.306*	.372*	.230*	.085*	1.000			
TA	-.454*	-.166*	.299*	.180*	.159*	.209*	.145*	.304*	.139*	.146*	.074*	.109*	.100*	.057*	.298*	1.000		
TR	-.070*	-.139*	.308*	.198*	.099*	.300*	.202*	.219*	.112*	.232*	.119*	.205*	.064*	-.011	.257*	.570*	1.000	
LE	-.499*	-.010	.154*	.075*	.193*	.058*	.069*	.195*	.096*	.03	-.000	.023	.157*	.099*	.157*	.615*	-.042	1.000

∗All Pearson coefficients are statistically significant at 0.01 level.

Figure 11 Correlation results ROE (Corporates)

	ROE	ESG_T	ENV	SOC	GOV	RU	EM	IN	WF	HR	CM	PR	MG	SH	CSR	TA	TR	LE
ROE	1.000																	
ESG_T	.055*	1.000																
ENV	-.013*	.496*	1.000															
SOC	.001	.564*	.648*	1.000														
GOV	.000	.495*	.372*	.465*	1.000													
RU	-.055*	.471*	.765*	.677*	.344*	1.000												
EM	-.039	.473*	.773*	.616*	.333*	.682*	1.000											
IN	-.166*	.319*	.732*	.377*	.277*	.360*	.385*	1.000										
WF	.017	.519*	.579*	.774*	.446*	.612*	.614*	.303*	1.000									
HR	-.005	.379*	.556*	.785*	.316*	.585*	.514*	.355*	.527*	1.000								
CM	.075*	.346*	.356*	.717*	.353*	.408*	.346*	.182*	.456*	.443*	1.000							
PR	-.047	.426*	.475*	.603*	.268*	.441*	.400*	.324*	.387*	.326*	.162*	1.000						
MG	.032	.439*	.261*	.379*	.942*	.259*	.242*	.205*	.371*	.242*	.294*	.191*	1.000					
SH	-.053*	.181*	.151*	.141*	.365*	.077*	.097*	.118*	.119*	.075	.118*	.031	.117*	1.000				
CSR	-.057*	.355*	.571*	.541*	.423*	.539*	.532*	.369*	.504*	.448*	.363*	.372*	.244*	.108*	1.000			
TA	-.244*	-.112*	.336*	.240*	.205*	.231*	.179*	.319*	.154*	.191*	.130*	.109*	.131*	.099*	.352*	1.000		
TR	-.087*	-.072*	.359*	.263*	.155*	.319*	.244*	.264*	.167*	.273*	.164*	.205*	.112*	.012	.300*	.630*	1.000	
LE	-.167*	.016	.189*	.107*	.211*	.0068*	.067*	.230*	.109*	.056*	-.013	.023	.162*	.134*	.186*	.644*	.000	1.000

∗All Pearson coefficients are statistically significant at 0.01 level.

Figure 12 Correlation results Tobin´s Q, ROA and ROE (Financial Institutions)

	TQ	ROA	ROE	ESG_T	ENV	SOC	GOV	RU	EM	IN	WF	HR	CM	PR	MG	SH	CSR	TA	TR	LE
TQ	1.000																			
ROA	.592*	1.000																		
ROE	.555*	.952*	1.000																	
ESG_T	.035	.091	.204*	1.000																
ENV	-.402*	-.337*	-.300*	.261*	1.000															
SOC	-.151*	-.281*	-.226*	.333*	.721*	1.000														
GOV	-.199*	-.274*	-.246*	.321*	.393*	.397*	1.000													
RU	-.319*	-.212*	-.187*	.166*	.761*	.690*	.357*	1.000												
EM	-.267*	-.262*	-.208*	.295*	.756*	.667*	.373*	.690*	1.000											
IN	-.412*	-.329*	-.289*	.262*	.929*	.687*	.366*	.696*	.688*	1.000										
WF	-.257*	-.262*	-.197*	.444*	.667*	.759*	.454*	About	.647*	.661*	1.000									
HR	-.337*	-.351*	-.319*	.185*	.695*	.806*	.430*	.653*	.558*	.692*	.611*	1.000								
CM	.108	-.140*	-.127*	.122	.522*	.785*	.216*	.506*	.522*	.465*	.431*	.474*	1.000							
PR	-.149*	-.014	.033	.320*	.157*	.370*	.080	.187*	.106	.135*	.253*	.153*	-.041	1.000						
MG	-.079	-.214*	-.187	.318*	.250*	.325*	.935*	.285*	.285*	.204*	.346*	.326*	.172*	.118	1.000					
SH	-.149*	-.091	-.094	-.036	.072	-.055	.142*	-.122*	-.037	.144*	.036	-.003	.017	-.244*	-.149*	1.000				
CSR	-.354*	-.177*	-.166*	.105	.600*	.461*	.218*	.551*	.508*	.574*	.498*	.539*	.203*	.192*	.040	-.112	1.000			
TA	-.562*	-.326*	-.345*	-.311*	.309*	.125*	.195*	.311*	.198*	.303*	.071	.301*	.-090	.128*	.075	.091	.438*	1.000		
TR	-.372*	-.085	-.112	-.191*	.374*	.257*	.199*	.403*	.283*	.346*	.140*	.343*	.048	.236*	.097	.039	.436*	.876*	1.000	
LE	-.292*	-.643	-.474*	.134*	.276*	.290*	.251*	.108	.309*	.279*	.333*	.284	.077	.150*	.226*	-.008	.156*	.135*	-.047	1.000

∗All Pearson coefficients are statistically significant at 0.01 level.

4.2 Test Results

This study uses panel data regression to obtain the results. Panel data refers to a dataset that captures the behaviour and observations of entities (i) over a period of time (t). To ensure robust and accurate results, this analysis begins by evaluating which model is most suitable. The three primary models considered are fixed effect models, random effects models, and ordinary least squares (OLS). Through this assessment, the research aims to select the most appropriate model that accounts for individual-specific characteristics and time-specific effects.

First, random, and fixed effect are assessed for each of the models for both industries and financial institutions. A comprehensive understanding of individual characteristics within businesses can greatly impact regression analysis. In such cases where this comprehension is present and apparent, utilizing fixed effect modelling can lead to precision in outcomes. As for situations where there may exist doubt regarding whether these individual traits bear any effect on the predictability of results, implementing random effect models may provide better alternatives for finding more accurate results (Torres-Reyna, 2007, p. 43). This analysis uses the Hausman test to examine the most suitable model and the correlation between individual characteristics and the regressors, where the null hypothesis states that they are not correlated. Hence, if the probability value Prob > chi2 < 0.05, the null hypothesis is rejected, and the fixed effect models are selected (Torres-Reyna, 2007, p. 44). All the models show a Prob > chi2 < 0.05; therefore, fixed effect models are more accurate than random effect models in this study.

Furthermore, this research compares fixed effects models with OLS models using the F test. If the probability value (Prob > F) is less than 0.05, it can be inferred that fixed effects models are necessary (Torres-Reyna, 2007, p. 46). After performing these tests, all the results indicated the need for fixed effects to improve accuracy. Finally, OLS and random effect models are assessed with the Lagrange Multipler test, where the null hypothesis states there are no significant variations across firms. If Prob > chibar2 < 0.05, we reject the null hypothesis and conclude that random effects are needed. After analysing all the results, this study concluded that random effects models are more accurate than OLS. In conclusion, the various tests conducted consistently suggest that fixed effects models are the most appropriate for all the scenarios considered. Moreover, the tests also indicate that random effects models outperform OLS models in terms of reliability. Based on these findings, the fixed effect models are selected as the preferred choice for analysing

the panel dataset, as they offer the best fit and account for individual-specific effects of businesses.

After selecting the most accurate model and analysing the dataset, the application of the Breusch-Pagan LM test and Pesaran CD test reveals the existence of cross-sectional dependence within the error terms. However, this factor does not significantly complicate the research design due to the utilization of a panel dataset with a short time series (2015 – 2021) and a large number of cross-sectional units. Moreover, the implementation of the Breusch-Godfrey/Wooldridge test reveals the presence of serial correlation within the model. However, in the case of micro panels with short time series, serial correlation is not a significant concern, unlike macro panels with longer time series. Lastly, the application of the Breusch-Pagan test indicates the existence of heteroskedasticity within the model, which was corrected and controlled by the implementation of Huber/White (also known as the sandwich estimator) (Torres-Reyna, 2007).

In summary, this study employs fixed effect models. These models are preferred because they account for unique firm-specific characteristics that remain constant over time. Moreover, the utilization of short time series and large cross-sectional units ensures that cross-sectional independence and serial correlation are not significant concerns. Finally, the presence of heteroskedasticity is addressed through the implementation of the sandwich estimator.

4.3 Regression Results and Discussion

This section presents Figures 13, 14, and 15, illustrating the results of TQ, ROA, and ROE, respectively, for corporates. Figures 16, 17, and 18 specifically focus on the results for the financial industry.

Upon analysing the results in Table 13, we observe that the ESG_T variable and one of its main pillars, GOV, are not statistically significant. Furthermore, it is interesting to note that while the overall GOV pillar is not statistically significant, one of its sub-dimensions, CSR, demonstrates statistical significance with a coefficient of 0.003. While most studies would state that governance activities do not have a significant impact on a corporate valuation, this study shows that 1 out of 3 sub-dimensions belonging to this pillar has a positive impact on TQ. Therefore, although the main pillar shows statistical insignificance, the result shows that a sub-dimension belonging to Governance is relevant. Moreover, the fact that the SOC pillar ends up showing statistical significance with a coefficient of 0.004 can be explained by the possibility of driving relationships

among the sub-dimensions WF, HR, and CO, which present significant coefficients of 0.003, 0.002, and 0.003, respectively. Notably, PR is the only sub-dimension within the SOC pillar that shows statistical insignificance.

Furthermore, the sub-dimensions within the ENV pillar exhibit a driving effect rather than a cancelling effect. Specifically, the sub-dimensions RE and EM demonstrate a positive impact on valuation, with coefficients of 0.003 and 0.004, respectively. However, the sub-dimension IN does not exhibit statistical significance in its impact on valuation. Indeed, the findings of this study align with previous results, as indicated by the meta-analysis conducted by Friede et al. (2015) and Alshehhi et al. (2018). Although not examined at the same level of granularity, the results consistently point in the same direction, reinforcing the notion that ESG factors have a significant impact on firm valuation.

Finally, we observe a negative influence of LTA on corporate valuation. This is evidenced by its coefficient of approximately -0.45, indicating a stronger impact in comparison to all ESG performance. This can be attributed to inefficient asset allocation practices within companies. When an organization struggles with generating desirable returns because of its size or demonstrates inefficiencies in allocating assets, valuation and profitability tend to diminish since larger asset bases often entail higher maintenance costs for operations. On the other hand, we see a positive association between LTR and TQ, showing that revenue drives market positions which results in higher valuations by conferring companies with a competitive advantage and an increased market share.

The results indicate that LE has a statistically significant and positive impact on the valuation of corporates. The coefficient for LE is 0.02, which is approximately five times larger than the coefficient of the most relevant ESG dimension, SOC. Notably, debt financing and leverage can lead to substantial development in valuations for businesses when performed efficiently. This can be observed when leverage generates greater profits than the expense incurred from borrowing. Consequently, investors may hold a richer perception of worth towards said entities when leveraging does not increase the risk to unwanted levels. These findings on leverage align with previous research conducted by Bahaaeddin Ahmed Alareeni and Allam Hamdan (2022), while they differ from the results of other studies, such as Aydogmus et al. (2022), which demonstrate a negative impact of leverage on TQ.

Based on the analysis of the results, this study provides support for H2, which suggests a significant and positive impact of ESG dimensions and sub-dimensions on a

corporate's valuation. The findings reveal that performance, both at the overall level and within specific dimensions, demonstrates a positive and significant relationship with corporate valuation.

Moreover, upon analysing the impact of ESG dimensions and sub-dimension on corporate profitability, Figures 14 and 15 depict the results for ROE and ROA, respectively. Upon examining Figure 14, it becomes evident that none of the 14 independent variables exhibits statistical significance when assessing their impact on ROE. Interestingly, besides their statistical insignificance, all the independent variables show very small coefficients, with most of them showing positive impact and only the sub-dimensions MG and IN showing negative coefficients. Furthermore, Figure 15 reveals similar findings regarding the impact of the 14 independent ESG performances on ROA. While sub-dimensions EM, WF, and CSR demonstrate a positive and statistically significant impact, it is important to note that their coefficients are relatively small. The relatively minor coefficients observed for the statistically significant independent variables suggest that the main pillars are not significantly influenced positively by these sub-dimensions.

These statistically insignificant results are consistent with previous research findings, as observed in studies conducted by Atan et al. (2018) and Crisóstomo et al. (2011). This outcome can be attributed to the inclusion of multiple countries or continents, where the development of ESG practices may not be as advanced compared to other continents like Europe. Another possible explanation could be the short time frame selected for the dataset. Prior studies, such as Eccles et al. (2014), have suggested that the connection between sustainability and financial performance may exhibit greater significance over longer-term analyses (pp. 2835-2857). While a 7-year analysis can be considered an appropriate time frame, it is important to acknowledge that the impact of the COVID-19 pandemic could have distorted results related to profitability. Lastly, it can be argued that the use of a larger dataset could the number of statistically relevant variables.

Regarding the control variables, LTA has a negative impact on both ROE and ROA. This shows that inefficient allocation of total assets and more expensive cost structures may affect profitability. Conversely, LTR has a positive impact on both dependent variables, suggesting that revenue has a significant role in driving profitability and competitive advantage. Additionally, LE exhibits a positive impact on ROE, which can

be explained by the efficient management of debt, risk, and tax shields, positively affecting a corporate's return on equity.

Based on the analysis of the results, this study does not provide sufficient evidence to confirm or support H1, which suggests a significant and positive impact of ESG dimensions and sub-dimensions on a corporates' profitability. The findings reveal that ESG performance, both at the overall level and within specific dimensions, demonstrates a statistically insignificant relationship with firm profitability. Although some variables exhibited a positive influence on ROA, their coefficients are not generating a relevant impact.

Finally, Figures 16, 17, and 18 present the results for financial institutions, which differ from the findings obtained for corporates. Upon closer examination of Figure 16, we observe that 13 independent variables, consisting of dimensions and sub-dimensions of ESG performance, are statistically insignificant when assessing their impact on TQ. A closer examination of the TQ results reveals that most of the 37 analysed banks exhibit a TQ ratio close to 1. This suggests that the market perceives these financial institutions to be generating returns that align with the value of their assets. Moreover, the convergence of TQ ratios around one could be attributed to these institutions having similar asset structures, such as a significant portion of bonds or low-risk assets, contributing to the consistent valuation and convergence of the TQ ratio.

Notably, only the ENV independent variable proved to be statistically significant. This finding is consistent with the results reported by Buallay (2019, p. 111), who found that stakeholders in Europe recognize the importance of environmental practices in their investment decisions, considering them as a key factor for enhancing efficiency. Therefore, the findings from TQ reveal a significant positive relationship between environmental practices and both the market value and replacement value of physical assets. However, considering that this research encompasses regions beyond Europe, the coefficient associated with ENV is relatively small, suggesting a minor impact compared to studies specifically focused on Europe. This implies that the influence of environmental factors on firm performance may be more pronounced in European contexts compared to other continents.

Concerning the control variables, LTA has a negative impact on TQ. This impact might be due to burdens caused by large banks' limited ability to manage and use their resources optimally. Specifically, as a bank grows, attempting to generate superior returns on a considerable asset base becomes increasingly challenging. Furthermore, a bank with

a high proportion of low-yielding assets can become vulnerable to specific risks, such as interest rate increases which impact its valuation negatively. These results contradict the findings of Buallay (2019). The main reason for the discrepancy could be attributed to the differences in sample size and composition of banks and financial institutions analysed in this study. Moreover, LTR shows a positive impact on TQ, which might be attributed to revenue and revenue growth having a significant impact on profitability, market position, and competitive advantage, which results in a positive effect on a company's valuation. Conversely to what we observed previously, LE does not have a statistically significant impact on TQ within the financial industry.

Despite the positive influence of the ENV variable on TQ, the coefficient associated with this variable is relatively small. Finally, the remaining 13 variables are not statistically significant, which means that there is no relationship with TQ. Based on the analysis of the results, this study does not provide sufficient evidence to confirm or support H4, which suggests a significant and positive impact of ESG dimensions and sub-dimensions within financial institutions' valuation.

Concerning the impact of the ESG dimensions and sub-dimension on the financial institutions' profitability measured by ROE and ROA, Figures 17 and 18 show that these independent variables are statistically insignificant. These results are consistent with the findings of Buallay, A. et al. (2020, p. 211) in their panel fixed effect research. Similar to what we observed when analysing corporates, there is no evidence of an impact on profitability. However, once again, we note that ENV has a statistically significant positive impact on ROA. Despite having a positive coefficient, it is relatively small in magnitude. Notably, none of the sub-dimensions of ENV shows a significant positive impact on profitability. This could be attributed to the varying impact that different regions of the world have in this regard, as previously explained. Finally, LTA has a negative impact on profitability, while LTR has a positive and significant impact, which follows the same reasoning presented before. Similarly, LE shows statistical insignificance.

Despite the positive impact of the ENV variable on ROA, the coefficient associated with this variable is relatively small and does not show statistical significance on ROE. Similarly, the remaining 13 independent variables are not statistically significant, which means that there is no relevant relationship between ratings and profitability. Given these findings, this study does not provide enough evidence to confirm or support H3, which

asserts a significant and positive impact of ESG dimensions and sub-dimensions on the profitability of financial institutions.

Figure 13 Regression results Tobin´s Q (Corporates)

LTA	-0.442*** (0.129)	-0.474*** (0.130)	-0.455*** (0.131)	-0.497*** (0.133)	-0.478*** (0.131)	-0.498*** (0.129)	-0.441*** (0.131)	-0.482*** (0.130)	-0.482*** (0.131)	-0.479*** (0.131)	-0.439*** (0.130)	-0.443*** (0.131)	-0.439*** (0.130)	-0.506*** (0.126)
LTR	0.514*** (0.098)	0.515*** (0.098)	0.514*** (0.099)	0.514*** (0.096)	0.507*** (0.097)	0.503*** (0.094)	0.518*** (0.099)	0.523*** (0.097)	0.517*** (0.096)	0.512*** (0.097)	0.518*** (0.099)	0.517*** (0.099)	0.518*** (0.099)	0.498*** (0.095)
LE	0.020** (0.009)	0.019** (0.009)	0.020** (0.009)	0.020** (0.009)	0.020** (0.009)	0.021** (0.009)	0.020** (0.010)	0.020** (0.009)	0.019** (0.009)	0.020** (0.009)	0.020** (0.010)	0.020** (0.009)	0.020** (0.010)	0.021** (0.009)
ESG_T	0.001 (0.001)													
ENV		0.003** (0.002)												
GOV			0.001 (0.001)											
SOC				0.004** (0.002)										
RE					0.003** (0.001)									
EM						0.004** (0.002)								
IN							0.000 (0.001)							
WF								0.003** (0.001)						
HR									0.002*** (0.001)					
CO										0.003** (0.001)				
PR											-0.000 (0.001)			
MG												0.000 (0.001)		
SH													-0.000 (0.001)	
CSR														0.003*** (0.001)
Constant	1.207 -1.272	1.424 -1.255	1.313 -1.285	1.593 -1.279	1.536 -1.269	1.736 -1.243	1.204 -1.294	1.361 -1.259	1.575 -1.283	1.497 -1.266	1.191 -1.281	1.217 -1.283	1.192 -1.281	1.908 -1.242
R Squared	0.101	0.091	0.094	0.111	0.098	0.099	0,112	0.103	0.098	0.099	0.101	0.103	0.100	0.098

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; Number of Observations = 1743; Companies = 249; R Squared = 0.108

Figure 14 Regression results ROE (Corporates)

LTA	-0.106*** (0.019)	-0.107*** (0.019)	-0.105*** (0.019)	-0.107*** (0.020)	-0.104*** (0.020)	-0.106*** (0.020)	-0.105*** (0.019)	-0.109*** (0.020)	-0.107*** (0.020)	-0.107*** (0.019)	-0.105*** (0.019)	-0.105*** (0.019)	-0.106*** (0.019)	-0.107*** (0.020)
LTR	0.158*** (0.017)	0.158*** (0.017)	0.158*** (0.017)	0.158*** (0.017)	0.158*** (0.017)	0.158*** (0.017)	0.158*** (0.017)	0.158*** (0.017)	0.158*** (0.017)	0.158*** (0.017)	0.159*** (0.017)	0.158*** (0.017)	0.158*** (0.017)	0.158*** (0.017)
LE	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)
ESG_T	0.000 (0.000)													
ENV		0.000 (0.000)												
GOV			0.000 (0.000)											
SOC				0.000 (0.000)										
RE					0.000 (0.000)									
EM						0.000 (0.000)								
IN							-0.000 (0.000)							
WF								0.000 (0.000)						
HR									0.000 (0.000)					
CO										0.000 (0.000)				
PR											0.000 (0.000)			
MG												-0.000 (0.000)		
SH													0.000 (0.000)	
CSR														0.000 (0.000)
Constant	-0.294** (0.144)	-0.286* (0.145)	-0.302** (0.147)	-0.285* (0.149)	-0.309** (0.151)	-0.289* (0.154)	-0.302** (0.144)	-0.282* (0.145)	-0.281* (0.154)	-0.289** (0.144)	-0.303** (0.143)	-0.301** (0.145)	-0.291** (0.143)	-0.286* (0.153)
R Squared	0.172	0.172	0.172	0.172	0.173	0.172	0.172	0.173	0.172	0.172	0.173	0.173	0.172	0.172

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; Number of Observations = 1568; Companies = 224

Figure 15 Regression results ROA (Corporates)

LTA	-0.044*** (0.007)	-0.045*** (0.007)	-0.045*** (0.007)	-0.045*** (0.007)	-0.045*** (0.007)	-0.046*** (0.007)	-0.044*** (0.007)	-0.047*** (0.007)	-0.045*** (0.007)	-0.045*** (0.007)	-0.044*** (0.007)	-0.044*** (0.007)	-0.047*** (0.007)	-0.045*** (0.007)
LTR	0.052*** (0.007)	0.052*** (0.007)	0.052*** (0.007)	0.052*** (0.007)	0.052*** (0.007)	0.051*** (0.007)	0.052*** (0.007)	0.052*** (0.007)	0.052*** (0.007)	0.052*** (0.007)	0.052*** (0.007)	0.052*** (0.007)	0.051*** (0.007)	concerning (0.007)
LE	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
ESG_T	0.000 (0.000)													
ENV		0.000 (0.000)												
GOV			0.000 (0.000)											
SOC				0.000 (0.000)										
RE					0.000 (0.000)									
EM						0.000** (0.000)								
IN							-0.000 (0.000)							
WF								0.000*** (0.000)						
HR									0.000 (0.000)					
CO										0.000 (0.000)				
PR											-0.000 (0.000)			
MG												-0.000 (0.000)		
SH													0.000*** (0.000)	
CSR														0.000 (0.000)
Constant	0.025 (0.057)	0.032 (0.056)	0.032 (0.057)	0.030 (0.058)	0.032 (0.057)	0.045 (0.055)	0.022 (0.058)	0.034 (0.056)	0.029 (0.058)	0.027 (0.058)	0.023 (0.056)	0.024 (0.057)	0.052 (0.057)	0.027 (0.057)
R Squared	0.136	0.137	0.137	0.137	0.137	0.139	0.136	0.144	0.136	0.136	0.136	0.136	0.141	0.136

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; Number of Observations = 1743; Companies = 209

Figure 16 Regression results Tobin´s Q (Financial Institutions)

LTA	-0.056*** (0.016)	-0.056*** (0.017)	-0.057*** (0.015)	-0.059*** (0.018)	-0.049*** (0.017)	-0.052*** (0.017)	-0.056*** (0.016)	-0.056*** (0.016)	-0.060*** (0.016)	-0.054*** (0.016)	-0.056*** (0.017)	-0.058*** (0.017)	-0.056*** (0.017)	-0.055*** (0.017)
LTR	0.048*** (0.017)	0.048*** (0.017)	0.048*** (0.017)	0.049*** (0.017)	0.047*** (0.016)	0.048*** (0.016)	0.048*** (0.017)	0.048*** (0.016)	0.048*** (0.016)	0.049*** (0.016)	0.049*** (0.017)	0.049*** (0.016)	0.048*** (0.016)	0.048*** (0.017)
LE	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)
ESG_T	0.000 (0.000)													
ENV		0.000* (0.000)												
GOV			0.000 (0.000)											
SOC				0.000 (0.000)										
RE					-0.000 (0.000)									
EM						-0.000 (0.000)								
IN							0.000 (0.000)							
WF								-0.000 (0.000)						
HR									0.000 (0.000)					
CO										-0.000 (0.000)				
PR											-0.000 (0.000)			
MG												0.000 (0.000)		
SH													0.000 (0.000)	
CSR														-0.000 (0.000)
Constant	1.265*** (0.170)	1.262*** (0.172)	1.275*** (0.160)	1.284*** (0.175)	1.207*** (0.176)	1.232*** (0.180)	1.272*** (0.171)	1.268*** (0.166)	1.308*** (0.162)	1.256*** (0.168)	1.269*** (0.168)	1.280*** (0.173)	1.270*** (0.169)	1.264*** (0.171)
R Squared	0.094	0.094	0.094	0.098	0.107	0.103	0.093	0.093	0.108	0.103	0.094	0.098	0.094	0.093

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; Number of Observations = 259; Companies = 37

Figure 17 Regression results ROE (Financial Institutions)

LTA	-0.093*** (0.020)	-0.092*** (0.019)	-0.094*** (0.019)	-0.090*** (0.020)	-0.095*** (0.019)	-0.097*** (0.021)	-0.091*** (0.021)	-0.094*** (0.019)	-0.089*** (0.020)	-0.093*** (0.019)	-0.091*** (0.019)	-0.092*** (0.019)	-0.093*** (0.019)	-0.093*** (0.019)
LTR	0.096*** (0.025)	0.096*** (0.025)	0.097*** (0.025)	0.096*** (0.025)	0.097*** (0.025)	0.096*** (0.026)	0.095*** (0.025)	0.095*** (0.025)	0.095*** (0.025)	0.096*** (0.025)	0.096*** (0.025)	0.096*** (0.025)	0.096*** (0.025)	0.095*** (0.026)
LE	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)	0.006 (0.003)
ESG_T	-0.000 (0.000)													
ENV		-0.000 (0.000)												
GOV			-0.000 (0.000)											
SOC				0.000 (0.000)										
RE					0.000 (0.000)									
EM						-0.000 (0.000)								
IN							0.000 (0.000)							
WF								-0.000 (0.000)						
HR									0.000 (0.000)					
CO										-0.000 (0.000)				
PR											-0.000 (0.000)			
MG												0.000 (0.000)		
SH													0.000 (0.000)	
CSR														0.000 (0.000)
Constant	0.315* (0.159)	0.308** (0.152)	0.338** (0.152)	0.290* (0.152)	0.326** (0.148)	0.356** (0.170)	0.295* (0.163)	0.336* (0.167)	0.290* (0.151)	0.319** (0.154)	0.300* (0.152)	0.308** (0.151)	0.316** (0.148)	0.315** (0.154)
R Squared	0.135	0.135	0.141	0.136	0.138	0.139	0.135	0.137	0.136	0.136	0.137	0.136	0.136	0.140

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; Number of Observations = 259; Companies = 37

Figure 18 Regression results ROA (Financial Institutions)

LTA	-0.007*** (0.001)	-0.007*** (0.001)	-7*** (0.001)	-0.007*** (0.002)	-0.007*** (0.002)	-0.007*** (0.001)	-0.007*** (0.001)	-0.007*** (0.002)	-0.007*** (0.001)	-0.007*** (0.001)	-0.007*** (0.001)	-0.007*** (0.002)	-0.007*** (0.001)	-0.007*** (0.001)
LTR	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)
LE	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
ESG_T	-0.000 (0.000)													
ENV		0.000* (0.000)												
GOV			-0.000 (0.000)											
SOC				0.000 (0.000)										
RE					0.000 (0.000)									
EM						-0.000 (0.000)								
IN							-0.000 (0.000)							
WF								-0.000 (0.000)						
HR									0.000 (0.000)					
CO										-0.000 (0.000)				
PR											-0.000 (0.000)			
MG												0.000 (0.000)		
SH													0.000 (0.000)	
CSR														-0.000 (0.000)
Constant	0.024** (0.011)	0.027** (0.011)	0.022* (0.011)	0.025** (0.011)	0.024** (0.012)	0.021* (0.011)	0.022* (0.012)	0.021* (0.011)	0.025** (0.011)	0.023** (0.011)	0.024** (0.011)	0.024** (0.011)	0.024** (0.011)	0.024** (0.011)
R Squared	0.180	0.192	0.182	0.183	0.180	0.183	0.180	0.183	0.181	0.184	0.180	0.181	0.185	0.179

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; Number of Observations = 259; Companies = 37

5. Summary and Conclusion

This paper seeks to examine the influence of ESG performance on both corporate and financial institutions in light of the growing significance of this subject within society, academia, and investment sectors. The research begins by providing an overview of the evolving definitions associated with this field, including Sustainable Investment, Responsible Investment, Impact Investment, Sustainability, CSR, and others. Through a comprehensive analysis of these terms, ESG factors are identified as environmental, social, or governance aspects that can impact the financial performance or solvency of entities, sovereigns, or individuals, either positively or negatively (EBA, 2021, p. 6). It is evident that ESG, CSR, and sustainability carry distinct meanings. However, within corporate and policy communications, these terms are often used interchangeably and therefore are used as synonyms in this study.

Additionally, this analysis acknowledges the growing significance of regulations and regulators worldwide, with a particular focus on Europe, as a pivotal factor in the advancement of ESG considerations. These regulatory developments, including the implementation of the EU Taxonomy, play a relevant role in shaping the ESG landscape by influencing ESG practices and decision-making processes. The EU Taxonomy is a significant component of a comprehensive set of regulations targeting market participants. These regulations encompass SFDR and the CSRD. Together, they contribute to establishing a more transparent and standardized approach to sustainability reporting and disclosure (CFA Society of the UK, 2021).

One crucial aspect of this research concerns theoretical impacts like normative and instrumental perspectives pertinent to organizational management practices. Furthermore, this paper analyses the Shareholders versus Stakeholders theory. While the Shareholder theory asserts that managers are responsible for prioritizing shareholder interests to secure the proper allocation of resources, the Stakeholder theory states that managers must prioritize shareholders' welfare alongside that of the stakeholders to ensure long-term prosperity for all parties.

Regarding the impact of ESG and ESG disclosure on valuation and profitability, this study separates corporates and financial institutions and provides a full review of the different results that researchers have found throughout the years. Despite varying results leading to a lack of consensus, multiple meta-analyses have indicated that most studies support the notion of a positive association between ESG performance, ESG disclosure,

and the profitability and valuation of corporates. Distinctively, this review acknowledges that the current body of empirical research has generated conflicting results regarding the correlation between ESG performance and ESG disclosure; therefore, both areas are reviewed separately. The study focuses on prominent disclosure frameworks such as the SASB, GRI, IIRC, and VRF. These frameworks introduce the concept of the "Triple Bottom Line," which forms the foundation for incorporating non-financial performance measures in the evaluation of business activities (Bose, 2020, p. 23).

It cannot be presumed that the positive effects of CSR on performance and valuation in the financial sector are equivalent to those observed in companies in other industries. Financial institutions have different risk profiles, operate with less clearness, and occupy a particular position in terms of building a strong corporate image related to CSR (Löw et al., 2021, p.47). The findings concerning financial institutions also reveal mixed outcomes but mostly suggest that ESG performance tends to correlate with profitability positively based on the stakeholder theory and the relevance that reputation has on their business models. Accounting criteria such as ROE and ROA are predominantly evaluated in the research area, with minimal use of market measures Gangi et al. (2018). Over the last few years, there has been some development in ESG disclosure among financial establishments, where results have also been inconclusive. However, because of their external impact, stakeholders and shareholders have expressed elevated requests for larger transparency and improved disclosure practices.

Nevertheless, these results should be carefully analysed, and it has to be considered that there are existing limitations that could deteriorate the quality of the outcomes. The increasing use of scores from various data vendors, such as KLD, tics, Moody's ESG, S&P Global, Refinitiv, and MSCI, has raised concerns regarding their authenticity, comparability, and complementarity among stakeholders, investors, policymakers, and scholars. Several comparisons of these data vendors show substantial divergence in their assessments, leading to challenges in evaluating ESG performance.

Furthermore, as ESG considerations gain greater importance, the term "greenwashing" has become prevalent in the business and financial realm. Among several definitions, this paper defines this term as the act of withholding the disclosure of negative data concerning a company's environmental and social performance while highlighting positive information related to it. Hence, as the green market has grown, the issue of greenwashing has also increased, resulting in a lack of trust among stakeholders who find it challenging to differentiate between authentic and misleading green claims.

To assess the impact of ESG performance on profitability and valuation, this paper selects the largest corporate and financial institutions around the world. After conducting several tests to identify the best model, the study employs fixed effect models to measure ESG impact. From the initial database of the 500 largest companies worldwide, filtered by market capitalization, a subset of 307 companies is selected based on the availability of complete information spanning the period from 2015 to 2021. This selection is made using data from Capital IQ. These corporates are divided into three separate databases based on the dependent variables (TQ, ROA, and ROE), with each database exhibiting normal distributions of the dependent variables while maintaining a strongly balanced structure. Furthermore, the analysis incorporates 14 independent variables that correspond to the combined ESG performance, as well as the three main pillars of ESG. Additionally, 10 sub-dimensions scores contribute to these pillars, namely Resource Use (RU), Emissions (EM), Innovation (IN), Workforce (WF), Human Rights (HR), Community (CM), Product Responsibility (PR), Management (MG), Shareholders (SH), and CSR Strategy (CSR). Additionally, three control variables are selected to control the effect of size, leverage, and business activity.

After conducting correlation analyses, a strong and expected correlation was observed among the main pillars and their respective components. Consequently, this research employs separate regressions for each independent variable, ensuring a thorough examination and isolation of each variable's impact. Furthermore, a multicollinearity analysis is conducted on the remaining variables to guarantee the robustness of the analysis. The results of this analysis indicate that there is no multicollinearity present in the data. Finally, heteroskedasticity was corrected and controlled by the application of Huber/White (also known as sandwich estimator).

Based on the results of the 14 models for corporates where TQ was the dependent variable, this paper found that the variable ESG_T and one of its main pillars, GOV, do not display statistical significance. However, it is noteworthy that within the GOV pillar, the sub-dimension CSR exhibits statistical significance with a coefficient of 0.003. While previous studies, after observing this, would generally indicate that governance activities do not significantly impact corporate valuation, this study reveals that one out of three sub-dimensions within the GOV pillar has a positive effect on TQ. This outcome highlights the need for more detailed and granular studies in this area, as valuable insights can be gained by analysing these components more closely.

Additionally, the statistical significance of the SOC pillar, with a coefficient of 0.004, can be attributed to the driving effect of its sub-dimensions WF, HR, and CO, which exhibit significant coefficients of 0.003, 0.002, and 0.003, respectively. It is important to note that only the sub-dimension PR within the SOC pillar does not demonstrate statistical significance. A similar driving effect is evident in the sub-dimensions RE and EM within the ENV pillar, as both exhibit positive and statistically significant coefficients of 0.003 and 0.004, respectively. These results contribute to the overall strength of the ENV dimension. Therefore, the outcomes of the analysis confirm H2, which states that the ESG performance, both at the overall level and within specific dimensions, demonstrate a positive and statistically significant relationship with firm valuation. The findings of this study align with previous research, as indicated by the meta-analyses conducted in this study area.

A different outcome was observed when assessing profitability since none of the 14 independent variables demonstrated statistical significance regarding their influence on ROE. On top of this, there were only three sub-dimensions (EM, WF, and CSR) that exhibited a positive and significant effect on ROA, although with small coefficients. Thus, despite contributing positively to ROA, they were unable to exert substantial influence on profitability; therefore, H1 is rejected. A possible explanation for these findings could be the different continents considered, especially those without strong ESG conventions. Furthermore, the different weights of different sectors of the economy could also distort in the overall direction of the ratings' impact.

Additionally, the relatively short duration of the research period could have limited the ability to observe significant relationships. Previous studies have indicated that the link between sustainability and financial performance may become more apparent over longer-term analyses. Although a 7-year analysis is considered reasonable, it is important to acknowledge that the potential impact of the COVID-19 pandemic could have potentially distorted the profitability results. Based on the analysis of the results, this study does not provide sufficient evidence to confirm a significant and positive impact of ESG dimensions and sub-dimensions on a corporates' profitability. These outcomes are consistent with previous research findings, as observed in studies conducted by Atan et al. (2018) and Crisóstomo et al. (2011).

This research finds that corporates experience negative effects from LTA on their profitability as well as on their value due to inefficient allocation of resources resulting in higher maintenance costs related to substantial asset bases. In contrast, this paper

identifies that LTR generates positive influences by increasing competitiveness; therefore, contributing towards improving businesses' positions within given markets and positively affecting profitability and valuation. Finally, we can observe that efficient debt financing and LE can positively contribute to ROE and TQ for corporates. When executed effectively, LE enables companies to generate tax shields as well as higher benefits than the costs associated with borrowing. Typically, investors assign a high degree of value to these entities on the condition that reasonable measures are taken to control excessive levels of debt and prevent undesirable risks from emerging.

Regarding the results in financial institutions, we observe that 13 independent variables, consisting of dimensions and sub-dimensions of ESG performance, are statistically insignificant when assessing their impact on TQ. Upon closer analysis, it is evident that the majority of the 37 financial institutions that were examined have TQ ratios close to 1. This indicates that the market views these institutions' market value as in line with their book value. Furthermore, the convergence of TQ ratios around one can be attributed to these institutions having similar asset compositions, such as a substantial allocation to bonds or low-risk assets. This similarity in asset structures contributes to the consistent valuation and convergence of the TQ ratio among these institutions. Hence, due to the limited variation in TQ and the absence of significant changes, no substantial impact is observed.

Importantly, only the ENV independent variable exhibited statistical significance, which aligns with the findings of other studies, which found that stakeholders in Europe recognize the importance of environmental practices in their investment decisions, Thus, these results demonstrate a meaningful and positive relationship between environmental practices and market value. However, it is important to acknowledge that this study encompasses regions beyond Europe, and therefore, the coefficient associated with ENV is relatively small, suggesting a lesser impact compared to studies specifically focused on Europe. This implies that the influence of environmental factors on firm performance may be more pronounced in European contexts compared to other continents. Hence, this study does not provide sufficient evidence to confirm H4, which suggests a significant and positive impact of ESG dimensions and sub-dimensions on financial institutions' valuation.

Concerning the impact of the ESG dimensions and sub-dimensions on financial institutions' profitability, we observe 13 statistically insignificant independent variables. Once more, it is evident that the variable ENV has a statistically significant positive

influence on ROA. However, it is important to note that the magnitude of this impact is relatively small. It is noteworthy that none of the sub-dimensions within the ENV variable exhibits a significant positive effect on profitability. This could be attributed to the regional variations in the impact of environmental factors on profitability across different parts of the world. Moreover, the absence of statistical significance in the other variables can be attributed to similar reasons, as discussed earlier in the analysis of corporates. Additionally, it is worth considering the limited number of financial institutions included in the database, which may have impacted the statistical power and precision of the results. Hence, this study does not provide sufficient evidence to confirm H3, which proposes a significant and positive impact of ESG dimensions and sub-dimensions on the financial industry profitability. These results are consistent with the findings of Buallay, A. et al. (2020, p. 211) in their panel fixed effect research.

Finally, similar to the findings in the corporate analyses, LTA and LTR exhibit a positive impact on profitability and firm value within the financial industry. This aligns with the reasoning presented earlier, suggesting that efficient asset allocation and revenue growth potential contribute to improved financial performance. Interestingly, LE is not statistically significant. While liabilities are indeed crucial for banks and play a significant role in their operations, other variables such as asset quality, interest rate risk, capital adequacy, and regulatory requirements may have a more dominant effect on these dependent variables. Moreover, the insignificance of leverage could also be attributed to the specific context of the dataset, or the sample of financial institutions being analysed.

In sum, this paper finds a positive and relevant impact of ESG dimensions and sub-dimensions on corporates' value. From a theoretical perspective, these findings align with the Stakeholder Theory, which is consistent with the conclusions of various researchers in the existing literature. One of the key factors that can significantly explain these results is the comprehensive explanation provided regarding the cost of capital. As discussed, CSR practices have the potential to lower the cost of capital, which in turn positively impacts the valuation of corporates. Shareholders, investors, creditors, governments, and other stakeholders have heightened expectations for companies to prioritize and address ESG issues. When companies meet and surpass these expectations, they are likely to receive positive recognition from the market. In addition, these results serve as evidence for corporate managers to validate the allocation of additional resources toward ESG initiatives. Finally, they provide support for policymakers to implement and develop further policy measures that promote and integrate ESG practices.

The absence of statistical significance noted among ESG performance and profitability and valuation in the financial industry seems traceable to a small dataset (37 financial institutions) and a divergent set of approaches to ESG practices across nations worldwide. Had this research used information from a particular region, such as Europe, it would have possibly spotted substantial patterns toward significant findings. Additionally, the constant rewriting of data and lack of uniformity are key limitations when evaluating results; hence these irregularities can expose us to potential biases when studying ESG's effects on different financial measures.

It is relevant to acknowledge that in specific situations, the impacts of various ESG dimensions and sub-dimensions can counteract each other or act as drivers. An essential factor that leads to such an occurrence involves varying magnitudes or weights affecting these variables, resulting in dynamic interactions among them. Therefore, it is critical to carry out an extensive examination before establishing conclusive outcomes on any particular ESG parameter's impact since multiple underlying factors affect it. The interconnections featured here demonstrate how scrutinizing each sub-dimension adds substantial value. Therefore, having just one category with positive/negative influence would be insufficient since other sub-categories might disagree with this finding, emphasizing the need for granular evaluations.

The research highlights the importance of considering the effect of various geographical locations and industrial sectors while examining ESG performance. It emphasizes how differences in these areas reflect variations in rating scores; therefore, careful segmentation and detailed scrutiny are essential for drawing meaningful conclusions. Therefore, the study and the literature review reveal that context-specific factors particular to different industrial sectors and locations significantly impact the overall evaluation of ESG performance-effect on businesses; hence, understanding the unique variables at play is essential.

With the comprehensive and granular approach outlined in this paper, researchers can gain valuable insights into the impact of ESG dimensions and sub-dimensions on businesses' profitability and valuation. Using large databases segmented by regions and industries is recommended for future studies to expand the results obtained in this study. Analysing larger datasets with this approach would allow scholars to analyse the individual effects of ESG dimensions and sub-dimensions thoroughly while probably increasing the statistical significance of the outcomes. By analysing each component's unique influence on results, researchers will gain a better comprehension of how these

individual ESG variables impact various aspects related to businesses. Finally, one possible approach to address the limitation of lack of uniformity is to create an ESG performance database that incorporates the results from data providers such as KLD, Sustainalytics, Moody's ESG, S&P Global, Refinitiv, and MSCI. By obtaining the average score and removing extreme values, we can enhance the reliability of the ratings and control strong biases.

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