

CAPITAL UNIVERSITY OF SCIENCE AND  
TECHNOLOGY, ISLAMABAD



# The Impact of ESG Factors on the Financial Performance and Efficiency: Moderating Role of Ownership

by

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degree of Master of Science

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*This work is lovingly dedicated to my late mother, whose guiding light still shines within me, to my father and sisters for their unwavering support, and to my dearest friend, whose belief in me made this journey possible.*



## CERTIFICATE OF APPROVAL

**The Impact of ESG Factors on the Financial Performance  
and Efficiency: Moderating Role of Ownership**

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(Ayesha Karam Din)

## *Abstract*

This study examines the impact of Environmental, Social, and Governance (ESG) factors on the Financial Performance and Financial Efficiency of companies listed on the Pakistan Stock Exchange from 2017 to 2023, with a particular focus on the moderating roles of Family and Foreign Ownership. Utilizing Pooled Least Squares (PLS) regression, the study assesses the relationships between ESG factors and financial outcomes, with Financial Performance measured by Tobin's Q and Financial Efficiency evaluated using Data Envelopment Analysis (DEA). The findings reveal that overall ESG practices have a positive impact on Financial Performance, indicating that companies with higher ESG scores generally perform better financially. However, the effect of ESG on Financial Efficiency is significantly negative, suggesting that increased ESG scores reduce Financial Efficiency. Among the individual ESG components, the Social factor stands out with a significant positive effect on Financial Performance, whereas the Environmental and Governance factors do not exhibit a statistically significant impact. For Financial Efficiency, only the Social factor shows negative significance. The study also highlights the role of ownership in moderating the impact of ESG practices. Family Ownership is found to positively moderate the relationship between ESG factors and both Financial Performance and Financial Efficiency, while Foreign Ownership positively moderates the relationship between ESG and Financial Performance, but does not significantly influence the relationship between ESG and Financial Efficiency. These results underscore the importance of ownership dynamics in shaping the effectiveness of ESG practices. For investors and risk professionals, understanding how ownership influences ESG outcomes is crucial for making informed investment decisions. Policymakers are encouraged to incentivize ESG adoption to improve corporate financial performance, while investors should factor ESG considerations into their investment strategies to enhance returns.

**Keywords:** ESG, Financial Performance, Financial Efficiency, Family Ownership, Foreign Ownership, PLS Regression.

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# Abbreviations

<b>DEA</b>	Data Envelopment Analysis
<b>ESG</b>	Environmental, Social, and Governance
<b>FP</b>	Financial Performance
<b>UNPRI</b>	United Nations Principles for Responsible Investment

# Chapter 1

## Introduction

### 1.1 Background of the Study

Sustainability is increasingly recognized as a crucial aspect of modern business operations. This development is particularly notable in the context of "the fourth industrial revolution," a period characterized by rapid technological advancements and digital transformation ([Roblek et al., 2020](#)).

John Elkington's introduction of the "Triple Bottom Line" theoretical framework in 1994 greatly influenced the advancement of sustainability in firms. Furthermore, this concept introduces two additional aspects, namely social and environmental effects, to the traditional paradigm of corporate success, which largely emphasizes financial outcomes. [Mendes et al. \(2023\)](#) claim that with the adoption of the Triple Bottom Line approach, companies are expected to oversee and manage not just their financial outcomes but also the effects they have on global environmental and social aspects. The core idea behind this method is that organizations should strive for economic success as well as social and environmental influence, in addition to favorable social outcomes ([Eyo-Udo et al., 2024](#)).

The push towards Sustainability has been gaining momentum due to several pressing global issues. Climate change poses significant risks to the planet, necessitating urgent action to overcome environmental issues ([Alabdullah et al., 2023](#)). Environmental pollution, including air, water, and soil contamination, continues to harm ecosystems and human health ([Manisalidis et al., 2020](#)). The depletion of

natural resources, such as water, fossil fuels, and minerals, threatens the long-term viability of various industries (Wang and Azam, 2024). Social injustice, manifesting in income inequality, poor working conditions, and lack of access to basic services, calls for more equitable business practices. Business ethics, encompassing fair trade, transparency, and anti-corruption measures, is crucial for building trust with stakeholders (Weerasinghe, 2024). Social injustice, manifesting in income inequality, poor working conditions, and lack of access to basic services, calls for more equitable business practices. Business ethics, encompassing fair trade, transparency, and anti-corruption measures, is crucial for building trust with stakeholders (Weerasinghe, 2024).

In response to these challenges, businesses are increasingly expected to integrate Sustainability into every aspect of their operations. This means that companies must adopt sustainable practices that align with the broader goals of sustainable development, addressing environmental, social, and economic issues in a balanced manner (Pellegrini, 2022).

ESG emerges as the extension of Sustainable business practices. The Environmental component of ESG evaluates a company's role as a steward of nature, focusing on its environmental impact and mitigation efforts. It includes climate change mitigation and adaptation, which involve strategies to reduce the impact of firms on its environment, assessed through carbon footprints and renewable energy usage (Akala, 2022). It also includes resource management, which measures how efficiently a company utilizes natural resources (water and minerals), reflecting its sustainability commitment (Domanovi, 2022).

Pollution and waste management are evaluated through waste disposal practices, pollution levels, and recycling efforts (Lanza et al., 2020). Biodiversity and ecosystem conservation practices are reviewed to ensure minimal impact on natural habitats (Li et al., 2021). Today, investors and stakeholders prioritize a company's environmental responsibility as part of ESG criteria. They focus on how well a company mitigates climate change, manages resources like water and minerals efficiently, and handles pollution and waste. Biodiversity and ecosystem conservation are also key considerations, ensuring that businesses minimize their impact on natural habitats.

The Social aspect of ESG (Environmental, Social, and Governance) criteria is focused on examining how a company interacts and manages its relationships with various stakeholders. This component is vital for evaluating the company's impact on society and its interest in social responsibility. It covers a broad array of factors that indicate the effectiveness of the company's management of its social obligations, as well as the quality of its engagement with both its workforce and the community at large. Key factors within the Social component include fair labor practices, which assess how a company treats its employees, ensuring fair wages, reasonable working hours, and equitable treatment.

This includes compliance with labor laws and the prohibition of practices such as child labor and forced labor (Serafeim, 2023). Additionally, worker health and safety is a significant aspect, where companies are evaluated on their implementation of health and safety policies, maintaining safe working conditions, and minimizing workplace hazards to protect their workforce (Serafeim, 2023).

Adherence to human rights and attempts to prevent abuses are also fundamental aspects of the social component. Companies are assessed based on their dedication to upholding human rights in their commercial activities and supplier networks, guaranteeing that they refrain from participating in or endorsing activities that infringe against human rights. This include the surveillance and resolution of matters such as coerced labour, illicit trade of human labour, and unjust treatment of workers.

Community engagement is a crucial dimension for evaluating corporate social responsibility, encompassing various aspects such as philanthropy, volunteer work, and initiatives designed to boost the well-being of communities. Companies are judged on their active participation in these activities, which are seen as indicators of their commitment to supporting and enhancing the social and economic development of their operating regions.

This evaluation includes examining how businesses contribute to local development and build positive relationships within the communities they serve (Jia et al., 2020). Effective community engagement not only aids in societal betterment but also strengthens a companys reputation and fosters goodwill among stakeholders. In contrast, the Governance component of ESG criteria specifically addresses the

internal processes by which the organisation is governed. This domain evaluates the efficiency of a company's managerial strategies and supervision mechanisms. Within the scope of this evaluation, the effectiveness of a company's governance mechanisms in ensuring ethical behavior, accountability, and transparency is evaluated. An integral component of this assessment is the board of directors, which has the potential to greatly impact a company's decision-making procedures and overall level of governance excellence. The objective of this component of ESG criteria is to guarantee that firms are governed in a way that is both efficient and in line with the most well-established principles of corporate governance. This entails examining if the board consists of a well-balanced combination of talents, experiences, and viewpoints, which is crucial for making informed decisions. Diversity within the board extends beyond gender or race to include diversity in knowledge and skills, which can greatly improve the decision-making process by introducing different viewpoints (Velte, 2021).

Another critical area of evaluation within Governance is executive compensation. Companies are assessed on how they structure and disclose the remuneration packages for their top executives. This factor is vital because executive compensation must be closely aligned with the company's performance and its long-term strategic objectives. Proper alignment ensures that executives are incentivized to make decisions that benefit the company and its shareholders in the long run, rather than focusing on short-term gains (Settembre-Blundo et al., 2021). This aspect of governance is crucial for maintaining investor confidence and ensuring that the company's leadership is working in the best interests of all stakeholders.

Business ethics form a core part of the Governance component, including the implementation of anti-corruption measures, ensuring transparency, and compliance with laws. Companies are evaluated on their ethical standards and practices, such as having robust anti-corruption policies, transparent reporting mechanisms, and adherence to legal and regulatory requirements (Eccles et al., 2020). This also involves evaluating the company's commitment to ethical conduct and integrity in its business dealings. Risk management practices are another crucial aspect of governance. Businesses are evaluated based on how well they are able to recognize, evaluate, and handle a variety of risks, such as those related to their finances,

operations, and reputation ([Settembre-Blundo et al., 2021](#)). Shareholder rights are a key consideration in the Governance component which includes the protection of shareholder interests, ensuring equitable treatment of all shareholders, and providing mechanisms for engagement and voting. Companies are evaluated on their practices for safeguarding shareholder rights, facilitating transparent and fair communication, and allowing shareholders to participate in key decisions through voting processes ([Virtanen, 2023](#)). This ensures that shareholders have a voice in the company's governance and can hold management accountable.

Scholars posit that the roots of the ESG framework can be traced back to the early 21st century when the concept gained prominence as investors and stakeholders increasingly recognized the need for a holistic evaluation of companies beyond financial metrics ([Wu et al., 2022](#)). Since last few years, there has been a shift in how businesses and investors perceive their roles beyond financial performance, recognizing the valuable relation between sustainable practices, societal well-being, and long-term economic success. The shift is seen from traditional shareholder centric management as advocated by Friedman in 1970, to stakeholder-oriented management approach proposed by [Freeman and McVea \(2001\)](#).

The main idea of shareholders centric management revolves around improving financial performance and maximization of benefits for shareholders. The primary obligation of a corporation is to its shareholders, and that the company ought to concentrate on increasing its profits to the greatest extent possible. This approach states that a manager should work in the best interests of the shareholder and take decisions that maximize the shareholders wealth. This approach has its roots in the idea that the businesses are the most efficient and beneficial to the society when they concentrate on their economic objectives, leaving the social and environmental concerns to be addressed through individual and government actions ([Friedman, 1970](#); [Parmar et al., 2021](#)).

According to [Freeman and McVea \(2001\)](#), stakeholder management places an emphasis on the fact that firms must take into account and strike a balance between the interests of all stakeholders. This strategy acknowledges that the successful running of a business over the long term is inextricably tied to the well-being of a variety of groups that are impacted by the company's operations.

These stakeholders include employees, customers, suppliers, communities, and the environment. Advocates of stakeholder management argue that companies should adopt a holistic view of their responsibilities rather than focusing solely on maximizing shareholder value (Freeman, 2023). By integrating the needs and expectations of all relevant stakeholders into decision-making processes, companies can foster more sustainable and equitable practices. The principle of stakeholder management aligns with the notion that sustainable business practices are essential for a company's enduring success. According to Rathobei et al. (2024), it is recommended that enterprises should implement strategies that contribute to the health and prosperity of both society and the environment. This would, in turn, contribute to the firms' own long-term existence. This broader perspective on corporate responsibility ensures that companies do not merely seek short-term financial gains but also contribute positively to the wider community and ecological systems in which they operate.

ESG is a significant aspect in influencing firm performance has become a prominent subject within the academic literature, reflecting a growing acknowledgment of the multifaceted impact these considerations can have on businesses. Investors are increasingly focused on sustainable and resilient investments. They believe that companies that excel in Environmental, Social, and Governance (ESG) standards may better manage risks, operate effectively, and build meaningful stakeholder relationships. ESG considerations usually boost financial performance and value for these companies (Kong et al., 2023). Regulators are also playing a key role by encouraging businesses to adopt responsible and sustainable practices that align with global standards. This regulatory push aims to ensure that companies operate in a way that is beneficial for society and the environment (Costantiello and Leogrande, 2023). Consumers are also becoming more aware of the environmental and social consequences of their purchases. As a result, they tend to favor companies that adhere to ESG principles, demonstrating a commitment to sustainable and ethical practices (Nugroho et al., 2024). This shift in consumer behavior further drives the importance of ESG in business strategies.

The acceleration of ESG growth in recent years can be attributed to three main factors. Firstly, the emergence of new global challenges, that includes climate risk,

high regulatory pressures, concerns related to data security and shifts in social and demographic environment created high level of risks for businesses, investors and for the society. The second reason is that the new generation who are going to do investment are inclined towards the companies which have strong ESG capabilities, aligning their investment decision with their values. Lastly, the introduction of artificial intelligence and other data extraction methods has played significant role in reducing dependence on voluntary ESG disclosures by the companies. It contributed toward the expansion of ESG landscape by enhancing the precision and timeliness of ESG data collection ([Moskovics et al., 2023](#)).

## 1.2 Theoretical Background

### 1.2.1 Stakeholder Theory

The integration of the Environmental, Social, and Governance (ESG) conceptual framework with stakeholder theory has gained importance in understanding the relationships between sustainability practices, Financial Performance, Financial Efficiency, and the moderating influences of Family and Foreign Ownership. The Environmental, Social, and Governance (ESG) principles are inherently compatible with stakeholder theory. Stakeholder theory emphasizes the necessity of taking into consideration the interests of all stakeholders whose interests are influenced by the operations of a firm ([Freeman et al., 2010](#)).

The conceptual framework underpinned by stakeholder theory posits that organizations have both external and internal stakeholders, creating a reciprocal relationship where the firms performance influences stakeholder well-being, and stakeholders, in turn, contribute to the firms value creation.

This dynamic is articulated through theories such as Stakeholder Theory ([Friedman, 1984](#)) and Enlightened Value Maximization Theory ([Jensen, 2001](#)), which emphasize that enhancing firm performance and long-term value aligns with stakeholders interests. These theories suggest that ESG practices, as a form of non-financial sustainability activities, are integral to aligning stakeholder interests and enhancing firm value. The incorporation of moderating impacts of Family and

Foreign Ownership results of generational thinking, family-owned businesses frequently place a higher priority on long-term sustainability. Foreign ownership, on the other hand, may bring diverse perspectives and global standards, potentially strengthening governance practices and expanding the firm's commitment to sustainability. This is consistent with the broader focus seen in European boards of directors, who prioritize stakeholder welfare beyond mere wealth maximization for shareholders (Denis and McConnell, 2003). German companies exemplify this commitment by requiring equal representation of employees and shareholders on the supervisory board, thereby protecting the interests of all stakeholders (Schmidt, 2003). This governance structure supports the integration of ESG practices that align with stakeholder interests, ultimately enhancing financial performance. Despite potential resource allocation conflicts, ESG initiatives compel management to invest in sustainable practices that support long-term goals (Chang et al., 2021). According to latest researches, including environmental, social, and governance (ESG) factors into company strategy improves Financial Performance and Efficiency. This is achieved by cultivating a favorable reputation, fulfilling environmental and social responsibilities (Mu et al., 2024; Meng et al., 2023). This strategy demonstrates the management's ability to address the concerns and welfare of stakeholders, in line with the focus of stakeholder theory on generating value through both financial and non-financial aspects of sustainability (Ges et al., 2023).

Environmental responsibility, a core component of ESG, highlights the interests of non-human stakeholders like the natural environment. Firms engaging in environmentally responsible activities have better financial outcomes and are attractive for investments, reflecting a competitive advantage and resilience (Khalil and Nimanunta, 2023; Gomez-Trujillo et al., 2024). Similarly, social equity aligns with stakeholder theory by promoting employee well-being, community engagement, and consumer satisfaction, which enhances corporate reputation, trust, and loyalty. Effective governance practices ensure that decision-making processes consider the interests of all stakeholders, thereby enhancing risk management and sustainable performance (Alkaraan et al., 2024). Integrating stakeholder theory into ESG strategies involves adopting a holistic approach to stakeholder engagement

and sustainability, recognizing the interconnectedness of ESG factors. This comprehensive strategy is essential for addressing these areas collectively and fostering sustainable and inclusive business practices (Freeman et al., 2010; Grewatsch and Kleindienst, 2023).

### 1.3 Gap Analysis

In order to investigate the relationship between Environmental, Social, and Governance (ESG) performance and financial consequences, a substantial amount of research has been carried out. These investigations have unveiled an intricate array of dynamics that are shaped by a multitude of elements. Notably, Abdi et al. (2021) investigated the impact of state ownership on this relationship, identifying state ownership as a significant moderator. Their study explicitly calls for further research into other forms of Ownership, like those which are owned by Families and Foreign Owned. This presents a clear research gap: while state ownership has been studied, the moderating role of Family and Foreign Ownership on the ESG and Financial Performance / Efficiency link remain under explored. Family Ownership introduce unique governance practices and long-term strategic priorities that could alter the relationship between ESG performance and financial outcomes, while foreign ownership brings different ESG expectations and practices. Despite the acknowledgment of this gap by Abdi et al. (2021) existing research has not adequately addressed how these ownership structures influence the ESG - Financial Performance / Efficiency relationship. The moderating effects of Family and Foreign ownership remain insufficiently explored, presenting a critical area for further investigation. The moderating influence that Family and Foreign Ownership have in the connection between environmental, social, and governance variables and Financial Performance and Efficiency is the first topic of our research that needs to be addressed. This gap is pivotal for enhancing the understanding of how various ownership structures can shape the effectiveness of ESG initiatives on financial outcomes, and current research aims to address this by focusing on these not examined ownership types. A lack of studies that investigate the influence of Environmental, Social, and Governance (ESG) issues on Financial

Performance and Efficiency in the context of developing nations is another finding that emerges from the evaluation of the relevant literature. There is a dearth of research that is contextualized inside developing nations, notably in Pakistan, despite the abundance of studies that have been conducted on environmental, social, and governance (ESG) and financial consequences. It was pointed out by [Cheng et al. \(2023\)](#) that performing research in the setting of various countries can result in differing findings. Pakistan, which is a developing country, may produce findings that are one of a kind due to the distinctive dynamics of the country. Differences in economic conditions, social conditions, and regulatory frameworks in various locations may have a substantial impact on the relationship between environmental, social, and governance (ESG) and financial performance and efficiency. This study also examines the impact of individual ESG components on financial outcomes, as the overall ESG score tends to average out the information, making it harder to understand how each element Environmental, Social, and Governance uniquely affects Financial Performance / Financial Efficiency. By analyzing these components separately, the study provides clearer insights into their distinct influences on financial results. Acquiring a grasp of the ways in which businesses in Pakistan incorporate environmental, social, and governance (ESG) principles in order to improve their Financial Efficiency and Performance is essential for both academic comprehension and practical implementations. When it comes to developing economies like Pakistan, the second gap is the lack of comprehensive research on how environmental, social, and governance (ESG) variables influence Financial Performance and Financial Efficiency.

## 1.4 Problem Statement

Understanding the relationship between Environmental, Social, and Governance (ESG) performance and Financial returns is essential for effective company strategy and smart investment decisions. Superior ESG performance often reflects a company's ability to manage risks and capitalize on environmental, social, and governance opportunities, enhancing efficiency, reputation, and stakeholder relations. Environmental, social, and governance (ESG) considerations in decision-making

can boost resilience, investment, and compliance with changing regulatory and market demands, resulting in superior sustainability and profitability. ESG elements' effects on financial performance and efficiency in developing countries, with a focus on Pakistan, are typically disregarded in research.

This study also examines how Family and Foreign Ownership structures modify the ESG-financial performance link, filling the gap left by prior studies on state ownership. This research examines Pakistan's unique economic and regulatory environment to enable stakeholders in emerging nations effectively incorporate ESG practices into their strategy and optimize financial outcomes.

## 1.5 Research Questions

This research will answer the following questions:

### Research Question 1

Do ESG factors influence Financial Performance?

### Research Question 2

Do ESG factors affect Financial Efficiency?

### Research Question 3

Does Ownership (Family and Foreign) moderate the relationship between ESG factors and financial performance?

### Research Question 4

Does Ownership (Family and Foreign) moderate the relationship between ESG factors and financial efficiency?

## 1.6 Research Objectives

Objectives of the study are as follows:

### Research objective 1

To provide insight into the relationship between ESG factors and financial performance in the context of Pakistan.

### **Research objective 2**

To explore the relationship between ESG factors and financial efficiency in context of Pakistan.

### **Research objective 3**

Assess the moderating role of Ownership (Family and Foreign) between ESG factors and Financial Performance.

### **Research objective 4**

Examine the moderating effect of Ownership (Family and Foreign) on the relationship between ESG factors and Financial Efficiency.

## **1.7 Significance of Study**

The significance of this study is grounded in its potential to contribute to the understanding of Environmental, Social, and Governance (ESG) practices in Pakistan, a developing economy with unique ownership structures and regulatory challenges. Prior research has demonstrated the growing importance of ESG integration in enhancing corporate performance and long-term sustainability in global markets (Gillan et al., 2021). However, much of the existing literature has focused on developed economies, with relatively little attention given to developing markets like Pakistan. Ownership structures, particularly Family and Foreign Ownership, play a crucial role in shaping how businesses implement ESG practices. Previous studies have highlighted that family-owned businesses, which are prevalent in developing countries like Pakistan, often prioritize long-term sustainability over short-term profits, leading to unique approaches to ESG initiatives (Palali et al., 2024). In contrast, foreign-owned firms, influenced by global standards, tend to adopt more standardized ESG practices that align with international benchmarks (Black and Yahaya, 2024). The study's findings will be particularly valuable for corporate managers in Pakistan, where family businesses dominate the private sector. Family-owned firms often face challenges in balancing sustainability initiatives

with family legacy considerations. This research demonstrates that aligning ESG practices with the long-term vision of the owning family can result in improved Financial Performance and smoother implementation of sustainability strategies. On the other hand, managers in foreign-owned firms can leverage global ESG standards while tailoring these practices to local market conditions, thereby achieving both compliance and financial efficiency in the Pakistani context (Siller and Bijvank, 2024).

For investors, the integration of ESG considerations into investment decisions has become increasingly important, as global trends point toward sustainable and responsible investment (Sciarelli et al., 2021). In Pakistan, where economic and social conditions differ significantly from those in developed economies, understanding how ESG practices impact Financial Performance is crucial. This study offers localized insights that will help investors make more informed decisions regarding ESG integration in Pakistani firms, which could potentially lead to enhanced portfolio stability and long-term value creation. The study also provides investors with actionable insights into the nuances of ESG practices in Pakistani firms. Investors can use these insights to tailor their strategies according to the specific ownership contexts of the companies in which they invest, optimizing their portfolios in line with their risk tolerance and investment goals. The role of regulatory bodies in promoting ESG integration is critical, especially in developing economies where governance structures may not fully support sustainable business practices. This study underscores the importance of crafting regulatory frameworks that are sensitive to the diversity of ownership structures. The findings of this study suggest that tailored regulatory approaches are more effective than a one-size-fits-all model. Regulatory frameworks that account for the specific challenges and opportunities associated with different ownership types can enhance the overall impact of ESG initiatives. This research contributes to the development of such frameworks by providing empirical evidence on how ownership structures moderate the relationship between ESG practices and financial outcomes in Pakistan. Regulatory bodies can use these insights to craft more targeted policies that promote sustainable practices while fostering economic stability and growth. Moreover, policymakers play a pivotal role in shaping the business environment,

particularly in developing economies where sustainable practices are still gaining traction. This study offers policymakers a deeper understanding of how ownership structures affect ESG integration, providing a basis for creating policies that promote responsible business behavior. This study's findings suggest that policies tailored to the needs of family-owned and foreign-owned businesses will be more effective in promoting sustainability.

Addressing these research gaps not only contribute toward the corporate world but also significantly enriches the literature on ESG performance and financial outcomes by providing new insights into underexplored areas. Investigating the moderating roles of Family and Foreign Ownership expands the understanding of how different ownership structures influence the effectiveness of ESG initiatives, moving beyond the predominant focus on state ownership. Additionally, studying the ESG and Financial performance / Financial Efficiency relationship within the context of a developing nation like Pakistan adds a crucial comparative perspective, highlighting the impact of local economic and regulatory conditions.

## 1.8 Scheme of Study

Five sections make the research thesis easier to understand. Introduction, gap analysis, problem statement, theoretical framework, research questions, aims, and study importance are covered in the first chapter. It also introduces the research topic. The second chapter reviews the studies on environmental, social, and governance (ESG) factors and financial performance and efficiency. It also explores how familial and international ownership moderates this link. The sample, data sources, and econometric model are detailed in the third chapter. Chapter 4 includes results and statistical analysis. The final chapter concludes the case and makes suggestions and limits.

# Chapter 2

## Literature Review

### 2.1 ESG and Financial Performance

The concept of ESG, which is an acronym that stands for Environmental, Social, and Governance, was brought to the forefront in a document that was published by the United Nations Principles for Responsible Investment (UNPRI) in the year 2006. It was initially offered as a framework with the intention of examining and adding non-financial considerations into evaluations of investment decisions. This approach encourages investors to incorporate ESG in the decision-making processes, acknowledging that these non-financial elements impact Financial Performance and risk profile. By incorporating ESG criteria, investors can gain a more comprehensive view of potential investments, taking into account how environmental sustainability, social factors, and governance practices affect a firm's overall corporate profile and risk.

During the course of the last few decades, Environmental, Social, and Governance (ESG) components have been attracting the attention of both enterprises and investors. These individuals are becoming more aware of the ways in which sustainability and responsible company management have an effect on financial outcomes ([Abdi et al., 2021](#); [Wang et al., 2022](#)). Due to this expanding interest, Environmental, Social, and Governance study on corporate Financial Performance has increased significantly. Despite extensive research, the relationship between ESG (Environmental, Social, and Governance) and Financial Performance remains

unclear. This is due to the fact that the outcomes of the studies have not been definitive (Rahi et al., 2022). A number of research papers have established a positive correlation, indicating that companies with robust ESG practices are achieving superior Financial Performance (Lucia et al., 2020; Azmi et al., 2021; Bruna et al., 2022). This positive correlation emphasises the possible advantages of integrating ESG elements into corporate plans, while the effect differs based on the particular circumstances and approach of each research endeavor.

Chen and Xie (2022) investigate how disclosing ESG information impacts a company's Financial Performance by analyzing non-financial companies listed between 2000 and 2020. Their research employs a staggered difference-in-differences approach. The findings reveal that ESG positively affects the Financial Performance of corporations. However, the impact varies among companies. It is particularly pronounced for firms with ESG-focused investors, longer operational histories, substantial media exposure, and higher agency costs.

An investigation on the effects of sustainable development on businesses is carried out by Zhou et al. (2022). As a further point of interest, research results reveal that the ESG features of organizations have an effect on the market value of those businesses. In contrast to the findings of earlier studies, this investigation takes into account Financial Performance as a mediating factor. Within the scope of the investigation, it employs both linear regression and mediating effect models (MEM) in order to investigate the relationships that exist between Environmental, Social, and Governance (ESG) performance, Financial Performance, and market value. The research makes use of Environmental, Social, and Governance (ESG) rating information from publicly traded companies in China, spanning the years 2014 through 2019. The findings indicate that enhancements in ESG performance are linked to higher market value for companies, with Financial Performance serving as a significant mediator in this relationship. It also notes that for state-owned listed companies, ESG performance has a more significant mediating effect. The paper concludes with recommendations for regulators, listed companies, and investors, advising them to use ESG performance strategically to boost market value. In doing so, it highlights the significance of incorporating sustainable practices in order to improve both Financial Performance and market valuation.

DasGupta (2022) explores whether firms experiencing Financial Performance shortfalls are motivated to improve their ESG practices as a strategy to preserve future legitimacy. The study also investigates how ESG controversies influence this motivation. The research finds that Financial Performance shortfalls significantly drive firms to enhance their ESG performance, suggesting that companies may seek to bolster their sustainability practices to address performance issues and maintain their legitimacy.

However, the study highlights that when firms are faced with high levels of ESG controversies, their inclination to improve ESG practices diminishes, suggesting that conflicts may hinder ESG performance improvement. This study is fascinating because it shows that ESG issues positively mediate the link between Financial Performance gaps and ESG performance. Financial performance deficiencies motivate organizations to enhance their ESG practices, but disputes can heighten this desire and complicate the process.

Chen and Xie (2022) studied the effect of ESG investment on Financial Performance, particularly in context of the global push towards "carbon neutrality" over recent decades. The study underscores the growing focus on ESG within both industry and academia amid global uncertainties. Companies that actively share ESG data can reap various benefits, including enhanced brand image, increased funding opportunities, reduced financing costs, and improved company valuation. The research explores the connection between ESG and corporate performance using a sample of 3,332 listed organizations worldwide, covering a decade from 2011 to 2020. Based upon stakeholder theory and signaling theory, they employed multiple regression and regression analyses with STATA 16.0 software, based on a robust dataset of 24,076 valid readings. Data shows a positive association between ESG performance and firm Financial Performance.

The study found that Environmental, Social, and Governance evaluations improve Financial Performance in high-risk and small and medium-sized firms. This influence is less important for larger companies. ESG performance improves company success by encouraging sustainability, developing a solid reputation, earning stakeholder trust, and tackling sustainable development issues. The results provide valuable insights for companies and governments, suggesting that integrating ESG

considerations into business strategies can substantially benefit organizational development and Financial Performance.

[Batten et al. \(2020\)](#) examined how Environmental, Social, and Governance (ESG) factors affect company value. From 2005 to 2018, the study focused on Malaysian enterprises. The findings show that adding Environmental, Social, and Governance (ESG) factors lowers enterprises' capital costs and raises Tobin's Q. On average, the reduction in the cost of capital was measured at 1.2%, while Tobin's Q experienced a notable increase of 31.9%. The researchers emphasized the positive implications of ESG for stakeholders and potential investors, suggesting that regulators should consider mandating the implementation of ESG practices as a policy tool. The study also indicated that the equity market exhibited greater responsiveness to the adoption of ESG ratings compared to the debt market. This suggests that, in corporate lending decisions, ESG disclosure may not be of primary importance, highlighting the equity market's heightened receptiveness to ESG considerations.

[Wu et al. \(2024\)](#) examined how Environmental, Social, and Governance (ESG) activities affect a company's finances. who emphasized boardroom diversity (BRD) as a moderator. Their study uses a large panel dataset of 494 non-financial Chinese enterprises listed between 2018 and 2022. To ensure reliability, the authors employ the Generalized Method of Moments (GMM) for econometric analysis. The study measures boardroom diversity using a six-dimensional index. According to the study, Environmental, Social, and Governance initiatives boost company Financial Performance. This suggests a strong favorable relationship. Incorporating Environmental, Social, and Governance (ESG) concepts into company planning is valuable, especially when supported by a diverse boardroom. Especially when ESG concepts are part of corporate strategy. Diversity in the boardroom has a complicated effect on the environment, society, and governance. Gender diversity improves Environmental, Social, and Governance practices and Financial Performance, while functional diversity does not. Unlike functional diversity, this has an impact. This link weakens with diversity in abroad background, education, age, and associations. Non-state-owned companies (non-SOEs), corporations with larger boards, and those with shorter board tenures suffer most from boardroom

diversity. These findings imply that ESG practices improve Financial Performance but are affected by board makeup. The report advises organizations to deliberately combine ESG measures with boardroom diversity to enhance sustainability. Promoting gender diversity and linking board diversity with sustainability goals can reduce disputes and boost ESG practices.

The study by [Alareeni and Hamdan \(2020\)](#) used panel regression in analyzing ESG characteristics and US SP 500 company's Financial Performance. Their research assessed how ESG variables impact market, operational, and Financial Performance. The study found that overall, ESG factors positively influence all three measures of Financial Performance. However, when analyzing the individual components of ESG, distinct patterns emerged. The Environmental (E) and Social (S) aspects of ESG showed a negative relationship with operational and financial metrics, indicating that while these components may be beneficial for market valuation, they do not always directly enhance operational or Financial Performance. Conversely, both Environmental and Social components were positively associated with firms' market value. In contrast, the Governance (G) pillar of ESG exhibited a positive correlation with both operational and market-based measures. This suggests that strong Corporate Governance is critical for improving Financial Performance and adds value to both shareholders and stakeholders. The study highlights that while Governance practices tend to enhance a firm's overall performance, the Environmental and Social dimensions may require a more nuanced approach to realize their full potential in improving financial outcomes.

In their study, [Kuo et al. \(2021\)](#) examined whether adopting social responsibility practices could enhance Financial Performance in the airline industry. They focused on 30 airlines globally analyzing 5-year data. This information was obtained from the Eikon database maintained by Thomson Reuters. During the course of the investigation, a multilevel quadratic growth model was utilized. The study found that the initial adoption of ESG practices was associated with a decline in Return on Assets (ROA). However, this decline was followed by a subsequent increase in ROA after a certain period. The research highlights differences in short-term Financial Performance based on airline ownership types. Private airlines performed top in terms of short-term financials, while state-owned airlines came

second, while mixed-ownership airlines showing the weakest performance. The poor sustainability performance of mixed-ownership airlines is attributed to leadership and cultural issues stemming from their ownership structure, which results in conflicts of interest between managers and shareholders. Private airlines, which emphasize Financial Performance, often implement diverse strategies to improve service quality, directly boosting corporate profitability.

In addition to the previously mentioned literature, alternative studies yield divergent findings. Despite the prevalent support in existing research for a positive correlation between ESG information and corporate Financial Performance, certain investigations emphasize a contrary negative association, while others suggest a vague or nonexistent relationship.

In the research that they conducted, [Kalia and Aggarwal \(2022\)](#) investigate the relationship that exists between ESG scores and Financial Performance (FP). The research is done in the healthcare industry. Using 2020 data from 468 healthcare companies obtained from Thomson Reuters, the study uses multivariate regression and correlation techniques to look at how ESG practices affect business performance. The analysis is performed on the entire dataset as well as on subsamples to differentiate between developing and developed markets. The results reveal that ESG rankings and Financial Performance vary greatly by market situation. ESG activities usually improve business performance in developed nations, therefore strong ESG practices can boost financial results. Developing economies have little or no association between ESG rankings and Financial Performance. This discrepancy shows that, especially in less developed economies, ESG activities do not always result in improved Financial Performance.

These results provide policymakers and practitioners with insightful information. They suggest that the effectiveness of ESG activities in improving firm performance is context-specific, and that strategies for promoting ESG engagement may need to be adapted to fit different market conditions. For policymakers, the study provides guidance on how to foster more effective ESG participation among firms, helping to craft policies that support the successful integration of ESG practices across various economic environments. [El Khoury et al. \(2023\)](#) examined how Environmental, Social, and Governance (ESG) practices affect MENAT banking

industry Financial Performance. Study was done in 2021. Their methodology uses financial indices including ROE, Tobin's Q, ROA, and Stock Return to determine how Environmental, Social, and Governance (ESG) efforts have affected the firm. 47 publicly traded banks contributed data from 2007 to 2019 for their investigation. The study found a non-linear association between ESG factor investments and bank performance. Initially, ESG investments are found to positively influence performance.

However, this beneficial effect diminishes once the level of investment surpasses a certain threshold. This observation suggests that while ESG practices can boost bank performance, over-investment or misalignment with strategic goals may result in diminishing returns. Furthermore, the research differentiates the impacts of the various ESG pillars on performance. Specifically, the governance pillar initially improves the performance but after some time it tend to cause the performance to decline implying that while improvements in governance initially enhance accounting performance, the additional benefits tend to decrease as governance practices become more advanced. However, the environmental pillar demonstrates a significant difference and a better relation with the firms performance indicating that higher levels of investment in environmental practices lead to increasingly larger benefits for market performance.

Additionally, the study underscores the influence of financial development variables on bank performance, emphasizing the need to consider the broader economic context when evaluating the impact of ESG investments. This highlights the importance of integrating ESG practices within a framework that accounts for economic and financial development factors to fully understand their effects on bank performance. [El Khoury et al. \(2023\)](#) advise banks to identify key thresholds in their ESG investments to optimize their impact on Financial Performance. Effective management and strategic monitoring of ESG practices can help banks enhance their performance more efficiently and effectively. Including Environmental, Social, and Governance (ESG) factors in companies can incur costs that might impact a company's current and future cash flows. This phenomenon arises because companies that adopt socially responsible practices often face increased financial burdens. These costs can stem from various sources, such as implementing

new technologies, complying with regulatory requirements, or investing in sustainable practices. Consequently, companies might experience lower operational and Financial Performance as they absorb these expenses (Orlitzky and Shen, 2013).

Kabir and Chowdhury (2023) examine the increasing prevalence of corporate social responsibility (CSR) in the banking sector of Bangladesh. This sector is notorious for inconsistencies in corporate philanthropy and a lack of social trust among its employees. Their research is aimed at determining if the increasing expenditures on corporate social responsibility (CSR) in this industry are the product of financial incentives or whether they are the consequence of a real commitment to social responsibility. The analysis examines data from 30 banks that are publicly listed in Bangladesh, spanning the time frame from 2006 to 2018. Using Panel Vector Autoregression (PVAR) methods, the researcher examine the correlation between CSR expenditure and Financial Performance. Their findings contradicting certain assumptions that were previously held, more corporate social responsibility (CSR) expenditure does not inevitably lead to enhanced Financial Performance. Based on the available literature review, it is hypothesized that:

***H1: ESG factors have positive impact on Market Value (Financial Performance)***

***H2: Environmental factors have positive impact on Market Value (Financial Performance)***

***H3: Social factors have positive impact on Market Value (Financial Performance)***

***H4: Governance factors have positive impact on Market Value (Financial Performance)***

## **2.2 ESG and Financial Efficiency**

Financial Efficiency is the capacity of a company to effectively manage its financial resources to maximize its revenue and profitability. It involves optimizing financial operations and investments to generate the highest possible returns on resources used. Achieving Financial Efficiency requires strategic allocation of resources, cost

control, and effective financial planning to enhance overall Financial Performance. This concept is a critical component of financial management, as it directly impacts the long-term sustainability and success of a business. By ensuring that financial resources are used judiciously, and investments are carefully managed, companies can improve their profitability and achieve better financial outcomes. Financial efficiency helps businesses maintain competitiveness, adapt to changing market conditions, and support their growth and operational objectives over time.

The research that was carried out by [Wang and Azam \(2024\)](#) investigated the effect that putting Environmental, Social, and Governance (ESG) principles into practice had on the efficiency and financial reserves of businesses operating in China's non-financial sector between the years of 2010 and 2022. Employing fixed effect and system Generalised Method of Moments (GMM) regression analysis, the research revealed a positive correlation between higher ESG scores and improved efficiency. Consequently, organisations that have robust ESG policies demonstrate superior resource management, resulting in more efficient operations. The findings emphasise that the incorporation of ESG principles not only enhances the ethical position of a company but also strengthens its financial stability. The research indicates that sustainable practices should be seen as strategic priority rather than just obligatory compliance measures, since they provide concrete financial advantages.

[Andrey \(2023\)](#) explores how Environmental, Social, and Governance (ESG) factors influence financial stability and efficiency within financial companies. With the rise of sustainable development as a key societal value, many industries, including small and medium-sized enterprises (SMEs), are incorporating ESG considerations into their operations. The study underscores that adopting ESG practices not only supports long-term sustainability but also serves as a profitable business strategy, offering both immediate and future benefits. Integrating ESG factors can enhance a company's attractiveness in the global market, especially for firms involved in or aiming to enter international markets. ESG integration can also facilitate access to diverse financing options such as bank loans, private equity, equity financing, and trade finance. Additionally, investors are increasingly drawn to companies that actively engage in ESG practices, which can further bolster financial stability

and operational efficiency. Andreys research highlights the significant role of ESG in securing financial resources and improving market positioning. It demonstrates that ESG considerations are becoming a crucial component of modern business strategy, reinforcing their importance in achieving financial stability and operational success.

[Chang et al. \(2021\)](#) examined how Environmental, Social, and Governance (ESG) policies affect financial institutions' cost-effectiveness in developed and emerging Asian nations. The inquiry uses a two-step analytical technique that combines SFA and SMF to assess 2015-2018 and beyond data. The dataset comprises 60 banks from economically advanced Asian countries and 85 banks from emerging Asian economies. The research findings indicate that banks in industrialized Asian economies attain superior cost efficiency by using environmentally sustainable procedures. In spite of this, financial institutions in developing Asian economies are able to maximize their cost efficiency primarily through the participation in socially responsible projects and the implementation of improved governance standards. Furthermore, the research reveals that banks in developed Asian nations exhibit superior performance in terms of technology gap ratio (TGR) and metafrontier cost efficiency (MCE) when compared to banks in developing economies. Their analysis underscores the role of various ESG practices in enhancing cost efficiency and overall performance within the banking sector. They stress that the influence of ESG initiatives can change depending on the economic development level of the region. Therefore, it is crucial to customise ESG initiatives according to particular regional circumstances in order to optimise their efficacy.

[Iazzolino et al. \(2023\)](#) examine how ESG factors affect the Financial Efficiency of various European firms. This is due to the fact that Environmental, Social, and Governance concerns gradually influence corporate and investment decisions. By employing Data Envelopment Analysis (DEA), a widely recognised approach in empirical financial research, this study investigates the correlation between ESG characteristics and company efficiency in several sectors. The investigation demonstrates that the influence of ESG issues on Financial Efficiency differs significantly among business sectors. Certain industries have a higher degree of responsiveness to ESG factors, therefore suggesting that the advantages or disadvantages linked

to ESG practices can vary based on the specific sector. Furthermore, the study examines the related risk-return characteristics for sectors most affected by ESG issues. This study offers critical insights for investors seeking to build effective and long-lasting investment portfolios. Through the elucidation of the sector-specific consequences of ESG integration and the manner in which ESG features effect Financial Performance in various industries.

[Forgione et al. \(2020\)](#) conducted an investigation into the complex relationship that exists between corporate social responsibility (CSR) and the efficiency of banks by conducting an examination of a diverse sample of major commercial banks in 22 countries over the course of the years 2013 to 2017. According to the research, the examination makes use of a stochastic frontier analysis model that is created specifically for panel data. The model's objective is to evaluate the profit efficiency of banks within the panel data. The most important finding that emerged from their research was that initiatives pertaining to corporate social responsibility (CSR) frequently result in a positive influence on the efficiency of financial institutions. This beneficial effect is most noticeable in nations that follow common law principles and those with strong procedures for safeguarding stakeholders. The results indicate that corporate social responsibility (CSR) activities effectively improve the efficiency of banking institutions, particularly in settings where institutional frameworks promote sustainable practices. An important finding emerging from the research is the moderating influence of the institutional environment.

[Pacelli et al. \(2022\)](#) investigate the correlation between risk-return performance and the mean ESG (Environmental, Social, and Governance) score of sector-specific funds that consist only of ESG assets. The analysis employs daily data obtained from Refinitiv, encompassing pricing information and ESG ratings for a varied group of 30 publicly traded companies in Europe spanning the years 2017 to 2019. The analysis demonstrates that the correlation between risk-return performance and the mean ESG score varies significantly among different sectors. These findings indicate that the impact of ESG scores on improving portfolio selection strategies could vary depending on the particular industry sector. This observation implies that the success of sustainable investments is not consistent on a

global scale and is impacted by characteristics particular to each sector. The analysis finds that the assets with the greatest weights in different Conditional Value at Risk (CVaR) portfolios did not consistently exhibit high ESG coefficients. The current application of ESG scores as an extra and valid criterion for asset selection lacks uniformity. These findings underscore the intricate and fluctuating nature of including ESG scores into investing choices, indicating that although ESG factors are significant, they may not consistently correspond to the best risk-return profiles across all industries.

[Wu et al. \(2024\)](#) explore how Environmental, Social, and Governance (ESG) performance influences the efficiency of financial institutions in China, focusing on listed institutions from 2015 to 2021. The study is motivated by the global push towards sustainable development and seeks to understand whether improved ESG practices can lead to greater efficiency in these crucial financial entities, which are integral to national economic stability and broader macroeconomic management. To assess this, the researchers use advanced nonparametric boundary and fixed-effects models. Their results indicate that higher ESG performance, including its environmental and social components, significantly enhances the efficiency of these institutions. The positive impact is particularly strong in the securities and financial sectors and is more evident among non-state and smaller financial entities. The findings are robust across various checks and additional tests indicate that ESG factors improves efficiency by downsizing reducing agency costs and risks.

[Rahim \(2021\)](#) conducted research to determine whether or not there is a causal connection between making environmental disclosures and the operational efficiency of publicly traded companies in Pakistan. For the purpose of gathering empirical data, the study made use of secondary data sources such as annual reports, sustainability reports, and websites of corporations. On the basis of their market capitalization and inclusion in the KSE-100 index, a sample of 46 prominent enterprises was chosen. The study revealed a major and beneficial relationship between the sharing of environmental information and the operational efficiency of these companies. The study suggests that improved environmental disclosure practices can lead to greater efficiency and recommends that regulatory bodies implement measures to enhance these practices. This research offers valuable insights from

a developing country context, where environmental regulations may be less stringent, highlighting the importance of environmental disclosure in improving firm performance.

Not all research findings demonstrate a positive relationship. Pérez-López et al. (2015) found no significant relationship between the factors of ESG and Financial Efficiency. The study investigated the responsible energy consumption practices of listed European hotels, employing a Stochastic Frontier Analysis (SFA) production function to estimate hotel efficiency. The input for the analysis comprises supply costs, while total revenue serves as the output. The findings reveal that the average efficiency of listed European hotels stands at 25.34%. Notably, larger hotels exhibited significant inefficiency between 2004 and 2007. Surprisingly, no discernible positive correlation is identified between hotel returns and their efficiency levels. Furthermore, shareholder rewards do not appear to favor companies with superior efficiency. As a result, the findings of the study indicate that there is no clear connection between Environmental, Social, and Governance (ESG) aspects and the operational efficiency of the hotels that were investigated.

In their study, Shaddady and Alnori (2024) examine the impact of ESG activities implemented by banks on their operational efficiency. The research focuses on all publicly traded banks in Saudi Arabia between the years 2016 to 2021. According to the results of the OLS regression, Environmental, Social, and Governance factors have a detrimental impact on the efficiency of banks. This implies that higher ESG scores translate into less efficiency. The quantile regression analysis provides evidence that the adverse impact of ESG on efficiency remains observable across various quantiles of the efficiency distribution. It is hypothesized, on the basis of the literature review that is now accessible, that:

***H5: ESG factors have positive impact on Financial Efficiency.***

***H6: Environmental factors have a positive impact on Financial Efficiency.***

***H7: Social factors have a positive impact on Financial Efficiency.***

***H8: Governance factors have a positive impact on Financial Efficiency.***

## 2.3 Ownership as Moderator between ESG and Financial Performance

The ownership of a business is the arrangement and allocation of rights among its owners. It outlines the distribution of ownership rights, responsibilities, and decision-making authority within the organization.

Ownership plays important role in defining the governance and strategic decision-making of a firm. Two prevalent forms of ownership, namely Family Ownership and Foreign Ownership, stand out as distinctive models with unique implications for corporate behavior and performance. Family ownership denotes the significant presence of a single family or a group of related individuals who hold a substantial stake in a business. On the other hand, Foreign Ownership implies the involvement of non-domestic entities or investors in the ownership and control of a company. The dynamics of these Ownership have far-reaching consequences on organizational outcomes, including firm performance, strategic decision making, and stakeholder relationships.

### 2.3.1 Foreign Ownership as Moderator between ESG and Financial Performance

[Lutfiani and Hidayah \(2022\)](#) examined how Environmental, Social, and Governance (ESG) factors and ownership types (institutional, insider, block holder, and foreign) affect RD investment and capital costs. This study examines several Indonesia Stock Exchange (BEI)-listed corporations from 2016 to 2020 and their histories. The research makes use of purposive sampling, as well as data obtained from the Thomson Reuters Database and annual reports. This study demonstrates that ESG performance, institutional ownership, and Foreign Ownership exert a substantial adverse influence on the cost of capital, therefore indicating that these variables play a role in reducing financing expenses. In contrast, it has been seen that insider ownership has a substantial impact on the cost of capital, whereas block holder ownership does not have a significant influence. The

research analysis reveals that ESG performance, institutional ownership, and Foreign Ownership have a positive and substantial impact on investment levels in RD. Conversely, insider and block holder ownership types are linked to a negative and significant effect. These findings emphasise the intricate interactions between ownership structures and ESG performance in influencing capital costs and investment in innovation.

[Fuadah et al. \(2022\)](#) conduct research into the impact that ownership structure has on the disclosure of Environmental, Social, and Governance (ESG) information, the value of the company, and the economic performance in Indonesia. The research examines international, public, state, and Family Ownership using secondary data from 140 Indonesia Stock Exchange-listed corporate entities from 2018 to 2020. Legitimacy, stakeholder, and agency are its foundation. The investigation found that foreign and public ownership positively affects ESG metric disclosure. Family and state ownership do not appear to affect ESG disclosure. Drawing on these results, the paper proposes that the Indonesian government should enforce more stringent ESG requirements for publicly traded firms in order to enhance transparency and accountability. The existing regulations are optional and may not be adequate to stimulate substantial enhancements in ESG practices.

[Yu and Van Luu \(2021\)](#) investigate the level of Environmental, Social, and Governance (ESG) disclosure across 1,963 large-cap companies that are located in 49 different countries. They do this by using Bloomberg's ESG disclosure score as a measurement of the quantity of disclosure. According to the findings of the study, variances in ESG disclosure are predominantly driven by firm-specific features, with country-level concerns such as political rights and corruption having less of an impact. In the context of capital markets, the research contributes to the expansion of the theoretical framework of the liability of foreignness. Cross-listed companies, which are companies that operate in various markets, have a tendency to report more Environmental, Social, and Governance (ESG) data than companies that are just listed in their home country. By increasing the amount of information that is disclosed, the risk of foreignness in external capital markets is further reduced. A higher percentage of Foreign Ownership does not, according to the findings of the study, result in increased ESG disclosure. It appears that

cross-listing status reduces the impact of country-specific considerations on ESG disclosure levels. This is supported by the fact that companies with increasing foreign equity do not face substantial obstacles connected to their foreign standing.

The purpose of this research, which was carried out by [Kuo et al. \(2021\)](#), is to assess the impact that the implementation of corporate social responsibility (CSR) programs has on the Financial Performance of airlines. The data for this study comes from the Thomson Reuters Eikon ESG database. Information from thirty different airlines around the world is included in the data, which spans a period of thirty years. The results suggest that airlines typically see a decrease in return on assets (ROA) during the early phases of implementing ESG standards. Nevertheless, this pattern undergoes a reversal, as the return on assets (ROA) enhances with the increasing integration and establishment of ESG practices. This study emphasizes the need of airlines meticulously choosing key performance indicators to direct their corporate social responsibility (CSR) initiatives towards sustainability. Furthermore, the nature of ownership is shown to greatly attenuate the influence of ESG performance indicators on ROA, indicating that ownership structures affect the extent to which ESG activities affect Financial Performance. Hence, the present study formulates the following hypotheses, taking into account the moderating influence of Foreign Ownership:

***H9: Foreign Ownership strengthens the relationship between ESG factors and Market Value (Financial Performance).***

### **2.3.2 Family Ownership as Moderator between ESG and Financial Performance**

[Ahmed et al. \(2024\)](#) explore the distinctive nature of family-owned businesses, which are defined by their unique ownership and control structures predominantly held by a single family. Their research utilizes agency theory to assess how control by the founding family influences various elements of business performance, including capital structure and overall value. The study's results indicate that family-controlled firms generally exhibit higher overall value, greater operational efficiency, and lower debt levels compared to non-family businesses. This is in

contrast to publicly traded companies, where ownership and control are typically dispersed. Family-owned enterprises benefit from a close-knit familial connection that goes beyond mere employment, fostering a unique business environment shaped by shared values, traditions, and a focus on long-term success. Decision-making within these businesses often involves perspectives from multiple generations, which helps maintain a sense of continuity and reinforces the legacy of the founding family.

[Yeon et al. \(2021\)](#) examined how Family Ownership affects CSR and FP in the US hospitality business. The objectives of the study were to analyze the impact that Family Ownership has on both of these aspects. This study, which makes use of agency theory, investigates the differences between various forms of family participation. such as Family Ownership, management, and board control, influence the connection between a company's corporate social responsibility (CSR) strategies and its financial results. Their study offers valuable understanding of how the distinct dynamics of family-operated enterprises impact both their implementation of social responsibility initiatives and their Financial Performance.

The researchers have employed a two-way fixed-effects model in conjunction with panel regression analysis and robust standard errors to carry out their analysis. Their dataset comprises 565 annual observations of firm-years spanning from 1994 to 2018. The research results implies that family-operated enterprises may gain more financially from their CSR activities in comparison to non-family organizations.

More precisely, when the founding family members are more involved in the operating activities of the company, there is a heightened emphasis on executing socially responsible and sustainable development (SRD) projects. This heightened engagement is associated with a stronger focus on long-term goals, with family-owned businesses showing a greater efficiency in prioritizing and carrying out Sustainable Resource Development (SRD) initiatives. This study indicates that companies that actively involve their families are more inclined to include corporate social responsibility (CSR) initiatives into their fundamental business strategies. This integration not only enhances their reputation but also emphasizes their commitment to social responsibility and sustainability, demonstrating

how family participation may result in stronger corporate social responsibility involvement and enhanced operational success.

[Kaimal and Uzma \(2024\)](#) analyze the impact that expenditures related to corporate social responsibility (CSR) have on the Financial Performance of businesses operating in the non-bank service sector in India. More specifically, they focus on the moderating function that Family Ownership has in this relationship when it comes to the relationship. This study utilized panel data regression analysis, which comprised 3,456 firm-year observations covering the years 2010 to 2021, in order to assess the correlations between the variables under investigation.

A total of 288 distinct businesses contributed to the collection of the panel data. The data indicates that investments in corporate social responsibility (CSR) have a positive impact on Financial Performance metrics such as return on assets and Tobin's Q. This is the case because CSR investments are positive. The findings allow for this to be the conclusion that can be formed from them. The study also emphasizes the fact that mandated corporate social responsibility (CSR) policies have a favorable impact on the performance of organizations. This is something that is highlighted in the results of the study. The presence of Family Ownership has been shown to strengthen the connection between spending on corporate social responsibility (CSR) and Financial Performance. This has been proved through a number of studies. A big discovery has been made here.

As a result of this, it is possible to draw the conclusion that companies that are owned by families have the ability to improve their Financial Performance by combining their corporate social responsibility (CSR) programs with societal concerns. This is something that can be performed by leveraging their structure that is focused on the family in order to obtain greater results. [Kim et al. \(2024\)](#) investigate whether family-owned businesses are more likely to interact actively with their stakeholders due to non-financial incentives. This research fills a key vacuum in the field of family business research. The most important takeaway from their research is that family businesses are more likely to engage in proactive stakeholder engagement (PSE) projects in order to maintain and improve their socioemotional wealth (SEW). This approach is grounded in the notion that the identity and values of those who control the firm play a critical role in shaping

the firm's sensitivity to stakeholder concerns and pressures. For family businesses, which often prioritize long-term relationships and legacy, the drive to maintain and boost their socioemotional wealth makes them more responsive to stakeholder issues. Consequently, these firms are more likely to engage in PSE activities to safeguard and enrich their socioemotional assets, reflecting a commitment to both social goals and long-term relational stability.

To investigate the influence of Family Ownership and governance on business performance in an emerging market setting, [Srivastava and Bhatia \(2020\)](#) use a panel dataset of publicly traded companies from India's National Stock Exchange (NSE) spanning the years 2011 to 2017. The study evaluates the impact of Family Ownership on company success, taking into account an array of external and company-specific variables. Financial performance is evaluated by accounting measures and Tobin's Q. This study demonstrates that the correlation between Family Ownership and business performance is non-linear, suggesting that the impact of Family Ownership on performance varies depending on the degree of ownership. Initially, the impact is favourable; but, this favourable effect gradually decreases and ultimately turns unfavourable beyond a certain level of ownership. These findings indicate that although a certain degree of Family Ownership can improve the profitability of a company, too much ownership can result in unfavorable consequences. The report also emphasizes that the participation of families in governance has a beneficial impact on the success of the organization. This participation is associated with a concentration on the pursuit of long-term shareholder interests and the formulation of strategic plans.

[Gjergji et al. \(2021\)](#) investigates into the impact that Environmental, Social, and Governance (ESG) disclosure has on the cost of funding for these businesses. This research addresses a key research knowledge gap that has been identified as a result of their investigation. By conducting an analysis of data collected from Italian small and medium-sized businesses (SMEs) that are listed on the Italian stock exchange, this study investigates the impact that nonfinancial disclosure has on the cost of borrowing money. This helps to identify a facet of tiny businesses that has not yet been investigated. The research reveals that family firm status has a detrimental moderating effect on the relationship between ESG disclosure and

the cost of capital for SMEs, unlike similar findings for bigger firms. The study, guided by the socioemotional wealth (SEW) theoretical framework, proposes that family enterprises give priority to nonfinancial factors such as retaining family control, strengthening their unique identity, and safeguarding the family heritage. By prioritizing SEW objectives, family enterprises may make investment choices that are more in line with family interests rather than economic value, which could lead to increased costs of capital. Therefore, considering the Family Ownerships role as a moderator in this study, the following hypotheses can be formulated:

***H10: Family Ownership strengthens the relationship between ESG factors and Market Value (Financial Performance).***

## **2.4 Ownership as Moderator between ESG and Financial Efficiency**

### **2.4.1 Foreign Ownership as Moderator between ESG and Financial Efficiency**

Choi et al. (2020) investigated the impact of business group affiliation and ownership structure on the quality of profits and CSR activities displayed by Korean companies listed on the KOSPI market of the Korea Exchange. Finding out how much of an effect these characteristics had was of special interest to the researchers. This in-depth analysis sheds light on how different ownership and organisational factors impact CSR engagement and profit chances.

The KEJI Index is utilized as a measurement instrument for the aim of determining the extent of the efforts that are being made by corporations in the realm of social responsibility. It has been determined by the findings of the study that there is no evidence to support the notion that the impact of corporate social responsibility (CSR) efforts is mitigated by foreign investors. Given that there is no evidence to back up this theory, it would appear that the presence of foreign investors does not have any effect on the correlation between the quality of profitability and ratings of corporate social responsibility. The "home bias" arguments provide an

explanation for the findings, which imply that there is not a large monitoring role for foreign investors.

These arguments can provide an explanation for the findings. While it is possible that these insufficient findings are the consequence of the challenges that foreign investors face when seeking to actively monitor the activities of a company due to hurdles such as geographical distance, language limits, and cultural differences, it is also possible that these difficulties are the cause of inadequate findings.

In [Ellili \(2022\)](#), the author analyzes the potential impact that corporate governance could have on the disclosure of Environmental, Social, and Governance (ESG) information. To achieve this goal, it is necessary to differentiate between organizations that are concerned with finances and those that are not concerned with finances. Her focus is primarily drawn toward the distinction that exists between the two groups of businesses. Panel data regressions were done with a sample of companies that were listed in the United Arab Emirates between the years of 2010 and 2019 in order to evaluate these effects. The sample of enterprises reflected the market.

All enterprise financial and non-financial subsamples were included for estimates. The empirical results show that institutional ownership, Foreign Ownership, board independence, and board diversity improve Environmental, Social, and Governance (ESG) disclosure for both financial and non-financial companies. Non-financial firms' ESG disclosure is adversely connected with managerial positions, block holders, and board size.

National Institute of Environmental and Social Policy research found this. This study is the first to distinguish between financial and non-financial businesses to better understand how ownership structure and board of directors affect ESG transparency. This study provides a more complete understanding of the UAE's most successful corporate governance practices.

[Ali et al. \(2022\)](#) filled a vacuum in the literature by focusing on the basic goal of corporate social responsibility, which is to increase stakeholder well-being. For this reason, study was done. The research uses Data Envelopment Analysis (DEA) and Panel Regression Analysis, based on Institutional Theory, to examine social

performance (SP) efficiency. The research also evaluates corporations' social performance efficiency. The 2010 to 2019 analysis includes Malaysian and Singaporean ESG and non-ESG enterprises. The most significant findings show that Environmental, Social, and Governance (ESG) firms in both nations contribute more to society's well-being than non-ESG enterprises. This is true in the US and UK. As another point of interest, the research shows that a corporation's pure technological inefficiency in dispersing financial returns to Environmental, Social, and Governance contributions significantly impacts SP efficiency. The success of the SP for Malaysian Environmental, Social, and Governance (ESG) enterprises is influenced by both internal firm characteristics and external nation factors. However, only foreign countries' characteristics affect Singaporean ESG enterprises. This study offers unique viewpoints for each nation. Internal company characteristics are the most critical factors affecting SP efficiency for non-ESG enterprises in both countries. Therefore, considering Foreign Ownership's moderating influence in this inquiry, the following hypotheses can be established because:

***H11: Foreign Ownership strengthens the relationship between ESG Factors and Financial Efficiency.***

#### **2.4.2 Family Ownership as Moderator between ESG and Financial Efficiency**

Using Family Ownership as a moderating variable, [Gusrianti et al. \(2020\)](#) investigates the relationship between corporate social responsibility (CSR) disclosure and business value. Specifically, they focus on the factors that influence the association. The research is motivated by the increasing emphasis on social and environmental issues and the demand for CSR disclosures from various stakeholders. The central argument posits that family firms, driven by the desire to uphold their company's reputation and maintain positive relationships with stakeholders, will exhibit a strengthened association between CSR disclosure and firm value. An analysis of moderated regression is performed on a representative sample of Indonesian manufacturing enterprises as part of this study, which employs a quantitative methodology. Purposive sampling was used to choose the individual

observations for the sample, which totaled 196 firm-year observations spanning the years 2014 until 2016. According to the findings, the disclosure of corporate social responsibility has a beneficial effect on the value of the company. However, contrary to the expectation, the research does not find that Family Ownership plays a substantial moderating influence on this association. The insignificance of the moderation effect is attributed to the weak control exerted by pyramid-shaped Ownership on firms in Indonesia.

[Black and Yahaya \(2024\)](#) investigate how different ownership structures affect Environmental, Social, and Governance (ESG) performance among the 154 companies listed on the Nigerian Stock Exchange (NGX). Their study addresses the risks associated with poor ESG performance, which may signal insufficient attention to sustainable and responsible practices, potentially harming stakeholders such as the environment, society, and shareholders. To analyze these relationships, the researchers use a panel-based multiple regression model, examining the impact of various ownership types including institutional, foreign, family, CEO, and board (managerial) ownership on ESG performance. The analysis controls for firm size, profitability, listing age, and leverage. ESG performance is evaluated according to the GRI G4 (2012) standards. According to the conclusions of the study, there is a positive relation between improved ESG performance having institutional, foreign, CEO, and board (managerial) ownership. This suggests that these ownership structures are pivotal in promoting a company's dedication to sustainability and responsible practices. Conversely, Family Ownership, as well as factors like firm size, profitability, listing age, and leverage, do not show a significant effect on ESG performance. This highlights that while certain ownership types enhance ESG outcomes, Family Ownership and the controlled factors do not have a comparable impact on promoting sustainable and responsible business practices.

[Nam et al. \(2024\)](#) investigates the strategic significance of Environmental, Social, and Governance (ESG) activities on firm performance, with a particular focus on family-owned firms in Korea. This research highlights the crucial role of ESG management in enhancing firm value, especially within the context of Family Ownership dynamics. The study reveals that ESG investments can help address agency

problems commonly associated with Family Ownership, though the effectiveness of these investments depends on their management.

The research decomposes the influence of Environmental, Social, and Governance (ESG) factors and reveals a crucial threshold of Family Ownership that optimizes the advantages of ESG initiatives. It also introduces the concept of the marginal effect of ESG. The findings suggest that firms should tailor their ESG investment strategies based on their position relative to this threshold, emphasizing the importance of timing in both investing and disinvesting in ESG initiatives. The insights provided offer practical guidance for family-owned firms to optimize their ESG strategies, enhancing both their sustainability and the long-term effectiveness of ESG practices.

[Sun et al. \(2023\)](#) conducted a study that investigates the influence that different kinds of family engagement have on the adoption of Environmental, Social, and Governance (ESG) standards among family businesses that are listed on the stock exchange. The research is grounded in socioemotional wealth theory, which posits that family firms prioritize sustainable development and long-term goals, though the drivers for this emphasis can vary based on the family's level of involvement and external factors.

A multivariate regression analysis is performed on a sample of 1,151 Chinese enterprises in order to investigate the links between Family Ownership, control, market rivalry, and institutional environment in the context of Environmental, Social, and Governance (ESG) adoption. The findings reveal that both Family Ownership and control are positively associated with higher ESG scores. However, market competition is found to negatively moderate the impact of Family Ownership and control on ESG adoption, while the institutional environment has a similar but negative moderating effect specifically on family control. This indicates that the type of family involvement significantly influences a firm's commitment to ESG criteria, highlighting the complex interplay between internal family dynamics and external market and institutional factors, the following hypotheses can be formulated:

***H12: Family Ownership strengthens the relationship between ESG factors and Financial Efficiency.***

## **2.5 The Hypothesis of Study**

Based on the literature, the following hypothesis can be formulated:

H1: ESG factors have positive impact on Market Value (Financial Performance)

H2: Environmental factors have a positive impact on Market Value (Financial Performance)

H3: Social factors have a positive impact on Market Value (Financial Performance)

H4: Governance factors have a positive impact on Market Value (Financial Performance)

H5: ESG factors have a positive impact on Financial Efficiency.

H6: Environmental factors have a positive impact on Financial Efficiency.

H7: Social factors have a positive impact on Financial Efficiency.

H8: Governance factors have a positive impact on Financial Efficiency.

H9: Foreign Ownership strengthens the relationship between ESG factors and Market Value (Financial Performance).

H10: Family Ownership strengthens the relationship between ESG factors and Market Value (Financial Performance).

H11: Foreign Ownership strengthens the relationship between ESG Factors and Financial Efficiency.

H12: Family Ownership strengthens the relationship between ESG factors and Financial Efficiency.

# Chapter 3

## Research Methodology

This section discusses the study's sample, data range, and econometric methodology to examine ESG factors's impact on Financial Performance and Efficiency, taking Ownership (Family and Foreign) as moderator into account.

### 3.1 Sample of the Study

The purpose of this quantitative research is to evaluate the impact of Environmental, Social, and Governance (ESG) Factors on the Financial Performance and Efficiency of publicly traded firms on the Pakistan Stock Exchange. Additionally, the investigation investigates the manner in which these relationships are moderated by Ownership, with a particular emphasis on Family and Foreign Ownership. This study spans the period from 2017 to 2023, as ESG data has been accessible since 2017. The analysis employs ESG measures acquired from Refinitiv Eikon, as well as data on Financial Performance, Financial Efficiency, and Ownership (Family and Foreign Ownership) including the other variables obtained from the Khistocks.com and Investing.com.

### 3.2 Econometric Model

This research uses ESG Score, Environmental Score, Social Score, and Governance Score as independent variable, Financial Performance and Financial Efficiency as

dependent variables, while Ownership (Family and Foreign) as moderator. The analysis technique employed in this study is Pooled Least Square (PLS) regression, i.e. Common Effect Model is selected on the basis of Random / Fixed effect redundancy test.

### 3.2.1 Impact of ESG on Financial Performance

The direct relationship between ESG and Financial Performance (Market Value) is presented below:

$$\text{Tobin's } Q_{it} = \beta_0 + \beta_1 \text{LESG}_{it} + \beta_2 \text{ROE}_{it} + \beta_3 \text{LEV}_{it} + \beta_4 \text{SIZE}_{it} + \beta_5 \text{GROWTH}_{it} + \epsilon_{it}$$

Where:

Tobins Q = Financial Performance of the company.

LESG = Log of Environmental, Social and Governance score.

ROE = Return on Equity Ratio.

LEV = Leverage Ratio.

SIZE = Firm Size

GROWTH = Sales Growth

$\epsilon$  = Residual Error

i = Company

t = Year

The direct relationship between Environmental Score, Social Score, Governance Score and Financial Performance (Market Value) is presented below:

$$\text{Tobin's } Q_{it} = \beta_0 + \beta_1 \text{ENV}_{it} + \beta_2 \text{SOC}_{it} + \beta_3 \text{GOV}_{it} + \beta_4 \text{ROE}_{it} + \beta_5 \text{LEV}_{it} + \beta_6 \text{SIZE}_{it} + \beta_7 \text{GROWTH}_{it} + \epsilon_{it}$$

Where:

ENV = Environmental Score

SOC = Social Score

GOV = Governance Score

The moderating role of Family Ownership between ESG and Market Value (Financial Performance) is presented below:

$$\text{Tobin's } Q_{it} = \beta_0 + \beta_1 \text{ESG}_{it} + \beta_2 \text{FAO}_{it} + \beta_3 (\text{ESG}_{it} \times \text{FAO}_{it}) + \beta_4 \text{ROE}_{it} + \beta_5 \text{LEV}_{it} + \beta_6 \text{SIZE}_{it} + \beta_7 \text{GROWTH}_{it} + \epsilon_{it}$$

Where:

FAO = Family Ownership

The moderating role of Foreign Ownership between ESG and Market Value (Financial Performance) is presented below:

$$\text{Tobin's } Q_{it} = \beta_0 + \beta_1 \text{ESG}_{it} + \beta_2 \text{FORO}_{it} + \beta_3 (\text{ESG}_{it} \times \text{FORO}_{it}) + \beta_4 \text{ROE}_{it} + \beta_5 \text{LEV}_{it} + \beta_6 \text{SIZE}_{it} + \beta_7 \text{GROWTH}_{it} + \epsilon_{it}$$

Where:

FORO = Foreign Ownership

### 3.2.2 Impact of ESG on Financial Efficiency

The study employed the DEA model to quantitatively assess the degree of Financial Efficiency. This analysis considered Fixed Assets and Cost of Goods Sold (COGS) as inputs, and Revenue, Earnings Before Taxes (EBT), and Free Cash Flow (FCF) as outputs. In finance, the Data Envelopment Analysis (DEA) model is a non-parametric quantitative approach that is employed to evaluate the financial efficiency of firms by comparing the inputs and outputs of comparable organizations. Proposed by [Charnes et al. \(1978\)](#), the DEA model, specifically CCR model, forms the basis for the empirical study given in this work. Data Envelopment Analysis (DEA) is a widely employed method for assessing the efficiency and inefficiency of a set of organizations. In their study, [Bruna et al. \(2022\)](#) provide a synthetic index that enables the estimation of the gap between inefficient enterprises and the efficiency frontier.

The efficiency frontier is the threshold at which optimal performance can be attained. To conduct DEA Analysis Data Envelopment Analysis Software developed

by Seiford and Zhu (1998) is utilized. This technique is utilized by numerous researches to quantify Financial Efficiency (Xie et al., 2019; Stefanoni and Voltes-Dorta, 2021; Alam et al., 2022; Pham et al., 2022; Bruna et al., 2022).

The direct relationship between ESG and Financial Efficiency is presented below:

$$\text{Eff}_{it} = \beta_0 + \beta_1 \text{LESG}_{it} + \beta_2 \text{ROA}_{it} + \beta_3 \text{LEV}_{it} + \beta_4 \text{SIZE}_{it} + \beta_5 \text{GROWTH}_{it} + \epsilon_{it}$$

Where:

Eff = Financial Efficiency

ROA = Return on Asset Ratio

The direct relationship between Environmental Score, Social Score, Governance Score and Financial Efficiency is presented below:

$$\text{Eff}_{it} = \beta_0 + \beta_1 \text{ENV}_{it} + \beta_2 \text{SOC}_{it} + \beta_3 \text{GOV}_{it} + \beta_4 \text{ROA}_{it} + \beta_5 \text{LEV}_{it} + \beta_6 \text{SIZE}_{it} + \beta_7 \text{GROWTH}_{it} + \epsilon_{it}$$

Where:

ENV = Environmental Score

SOC = Social Score

GOV = Governance Score

The moderating role of Family Ownership between ESG and Financial Efficiency is presented below:

$$\text{Eff}_{it} = \beta_0 + \beta_1 \text{ESG}_{it} + \beta_2 \text{FAO}_{it} + \beta_3 (\text{ESG}_{it} \times \text{FAO}_{it}) + \beta_4 \text{ROA}_{it} + \beta_5 \text{LEV}_{it} + \beta_6 \text{SIZE}_{it} + \beta_7 \text{GROWTH}_{it} + \epsilon_{it}$$

The moderating role of Foreign Ownership between ESG and Financial Efficiency is presented below:

$$\text{Eff}_{it} = \beta_0 + \beta_1 \text{ESG}_{it} + \beta_2 \text{FORO}_{it} + \beta_3 (\text{ESG}_{it} \times \text{FORO}_{it}) + \beta_4 \text{ROA}_{it} + \beta_5 \text{LEV}_{it} + \beta_6 \text{SIZE}_{it} + \beta_7 \text{GROWTH}_{it} + \epsilon_{it}$$

## 3.3 Description of Variables

### 3.3.1 Financial Performance

A company's capacity to generate profits and expand its assets over time is referred to as Financial Performance. Tobin's Q is commonly utilized in scholarly works as a proxy for Financial Performance. Our research defines Tobin's Q as the sum of Market Value of Equity and Book value of Debt divided by Total Assets ([Chen and Xie, 2022](#)).

$$\text{Tobin's Q} = (\text{Market Value of Equity} + \text{Book Value of Debt}) / \text{Total Assets}$$

### 3.3.2 Financial Efficiency

Financial efficiency refers to the ability of a business or organization to use its resources (such as capital, assets, and labor) effectively to achieve its financial goals. Financial Efficiency is measured by a mixed DEA (Data Envelopment Analysis) model in which inputs used are Fixed Assets and Cost of Goods sold (COGS) while outputs are Revenue, Earning Before Tax (EBT) and Free Cash Flow (FCF).

### 3.3.3 ESG

The Environmental, Social, and Governance (ESG) standards provide a structured approach to assess the performance of a company in three key domains: Governance, Social, and the Environment. Utilizing environmental criteria, a company is assessed according to its proficiency in managing its impact on the environment. This include the assessment of practices related to waste management, energy consumption, resource efficiency, and strategies intended to mitigate greenhouse gas emissions. For the purpose of promoting sustainable environmental management and decreasing their ecological impact, enterprises are advised to use strategies that minimize their ecological footprint. The evaluation of the organization's management of its interactions with various stakeholders, such as

its employees, suppliers, consumers, and society as a whole, should incorporate social criteria. The scope of this area includes human rights, diversity and inclusion, employee welfare, labor practices, and community involvement. One of the factors used to assess firms is their ability to foster positive social outcomes and maintain ethical relationships with stakeholder groups. The fundamental focus of governance criteria is the effective implementation of leadership and management practices inside the company. This includes the assessment of executive remuneration systems, auditing protocols, internal controls, shareholder rights, and general transparency. Efficacious governance ensures that the organization operates successfully by upholding integrity, accountability, alignment with shareholder interests, and compliance with regulatory and ethical norms. Consolidated, these Environmental, Social, and Governance (ESG) aspects provide a comprehensive viewpoint on the level of dedication a company has towards ethical and sustainable business operations.

Refinitiv Eikon was chosen as the source for ESG performance scores in this particular study due to its substantial contribution to the distribution of Environmental, Social, and Governance (ESG) data and its strong reputation. [Drago et al. \(2019\)](#) and [Berg et al. \(2020\)](#) have demonstrated that Refinitiv is a highly regarded provider of Environmental, Social, and Governance (ESG) information. This is attributed to its extensive worldwide reach and its rating of more than 4,500 companies. The Environmental, Social, and Governance (ESG) scores supplied by Refinitiv have been referenced in more than one thousand scholarly articles throughout the past fifteen years, providing additional proof of its reliability and extensive use ([Berg et al., 2020](#)).

ESG ratings are produced by Refinitiv using a rigorous process that involves a detailed analysis of data provided by corporations. Following a study of over 630 publicly available ESG-related measurements, the company chooses 186 pertinent indicators. These metrics have been categorised into ten separate groups, each aligning with one of the three main ESG pillars: Environmental, Social, and Governance. To comprehensively assess a company's Environmental, Social, and Governance (ESG) performance, the total ESG score is determined by an equal averaging of these indicators across all three pillars ([de Villiers et al., 2022](#)).

TABLE 3.1. Variable Definitions

Variable	Definition
ESG	A company's ESG Score is an overall grade that is provided to it by Refinitiv. This rating is generated on data that the company has self-reported across the Environmental, Social, and Governance pillars.
Environment Pillar Score	This score is a weighted average relative rating that is derived from the environmental data that was recently reported by a corporation. This is determined by taking the ratings for each of the three distinct environmental categories (Resource Use, Emissions and Innovation) .
Social Pillar Score	This score is a weighted average relative rating that is based on the social data that was reported by the company. The scores for each of the four social categories are used to derive it (Work force, Human rights, Community and Product responsibility).
Governance Pillar Score	The information that was reported regarding governance was used to calculate this score, which indicates a weighted average relative evaluation. The scores for each of the three governance categories are used in the calculation (Management, Shareholders and CSR Strategies).

### 3.3.4 LEVERAGE

Leverage is used as other variable in this study. Leverage can serve as a stand-in for unsystematic risk, according to [Fischer and Sawczyn \(2013\)](#). Companies that prioritize ESG factors tend to be viewed as less risky, which can lead to lower costs of debt capital due to reduced "insurance effects." Leverage is measured using debt to asset ratio.

$$LEV = \frac{\text{Total Debt}}{\text{Total Assets}}$$

### 3.3.5 SIZE

Firm size is often included as a other variable in studies to measure the influence of a company's size on various outcomes. When applied to this scenario, the logarithm of market capitalization is utilized as a stand-in for the size of the company.

Calculating a company's market capitalization involves multiplying the current market price per share by the total number of shares that are currently outstanding. This gives the market capitalization of the company its overall market value (Alareeni and Hamdan, 2020). The formula for market capitalization is:

$$MC = \log(\text{Market Price of Shares} \times \text{Total Number of Shares})$$

### 3.3.6 GROWTH

Sales Growth considered as other variable is measured by current year sales minus previous year sales, which is then divided by previous year sales (Alareeni and Hamdan, 2020). Presented as:

$$\text{GROWTH} = \frac{S_t - S_{t-1}}{S_{t-1}}$$

### 3.3.7 Return on Equity - ROE

Return on Equity (ROE) is a financial metric that gauges a company's profitability relative to its shareholders' equity. It is calculated by dividing net income by total equity and is expressed as a percentage. A higher ROE indicates that a company is effectively using its equity to generate profits, reflecting efficient management and strong Financial Performance (Abdi et al., 2021). The formula for ROE is:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Equity}} \times 100$$

### 3.3.8 Return on Asset - ROA

Return on Assets (ROA) is used to evaluate a company's profitability with total assets. It reflects how effectively a company is utilizing its assets to generate profit. ROA serves as an indicator of the firm's operational efficiency, providing insight into how well the company is using its assets to drive Financial Performance (Abdi et al., 2021). The formula for ROA is:

$$\text{ROA} = \frac{\text{Net Profit}}{\text{Total Assets}} \times 100$$

### 3.3.9 Foreign Ownership

Foreign ownership denotes the proportion of a company's shares that are held by investors or entities from outside the country where the company is based. This metric reflects the extent to which a company is influenced or controlled by foreign individuals, institutions, or governments. In the context of our study, foreign ownership is quantified by calculating the percentage of a company's shares that are held by foreign investors ([Qi et al., 2000](#)).

$$\text{FORO} = \% \text{ of company shares held by Foreign Investors}$$

### 3.3.10 Family Ownership

Family ownership refers to the extent to which a business is owned and controlled by members of a single family. It is measured by calculating the percentage of company shares held by family members ([Andres, 2008](#)).

$$\text{FOA} = \% \text{ of company shares held by Family}$$

# Chapter 4

## Results and Discussion

This section presents the descriptive statistics, followed by the regression results for all the variables, and concludes with a discussion of the findings.

### 4.1 Results

#### 4.1.1 Descriptive Statistics

The statistical behavior of data is expressed as descriptive statistics. Table 4.1 shows each variable's mean, standard deviation, maximum, minimum, skewness, and kurtosis. The mean gives the average, the standard deviation shows variance, and the minimum and maximum values describe the data's range.

The maximum ESG score of any firm in this sample is 63.41, minimum ESG score is 14.66, and the average score is 35.86. The maximum Environmental Score of any firm in this sample is 67.32, the minimum is 0, and the average is 23.17. The fact that the standard deviation is 16.95 indicates that there is a significant amount of diversity in the environmental performance of various companies has been observed. With a minimum score of 10.61 and a maximum score of 59.04, the Social Score of all of the companies that are included in this sample is determined to be 33.27 on average. The standard deviation of 13.04 indicates that there is a moderate amount of variation in social performance among the companies being observed. Out of all the companies in this sample, the one with the greatest

TABLE 4.1. Descriptive Statistics

<b>Variables</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Std. Dev.</b>	<b>Skewness</b>	<b>Kurtosis</b>
ESG	35.86	63.41	14.66	12.30	0.08	2.48
ENV	23.17	67.32	0.00	16.95	0.85	4.16
SOC	33.27	59.04	10.61	13.04	0.16	1.94
GOV	48.24	83.94	8.26	20.42	-0.47	2.39
FP (Tobins Q)	1.07	1.93	0.53	0.29	1.23	5.26
FE (DEA)	0.90	1.00	0.42	0.13	-1.64	5.64
ROE	16.61	46.08	-2.92	10.05	1.18	4.44
ROA	3.88	15.77	-0.24	4.53	1.20	4.06
SIZE	11.10	11.85	9.82	0.43	-1.08	4.08
LEVERAGE	0.74	0.96	0.18	0.30	-1.08	2.29
GROWTH	0.23	1.02	-0.13	0.30	1.22	4.59
FAM_OWN	0.08	0.42	0.00	0.13	1.76	4.80
FOR_OWN	0.16	0.77	0.00	0.24	1.67	4.17

Governance Score is 83.94, the one with the lowest is 8.26, and the average is 48.24. The standard deviation of 20.42 demonstrates that there is a significant amount of variation in the governance procedures that are utilised by the organisation.

The highest Financial Performance (Tobins Q) of any firm in this sample is 1.93, minimum is 0.53, and the average is 1.07. This means, on average, firms show slightly better-than-average Financial Performance relative to their asset replacement cost. The range from 0.53 to 1.93 highlights that some firms exhibit weaker Financial Performance compared to their assets, while others show stronger Financial Performance, reflecting a broad spectrum of market confidence and asset utilization. There is a modest amount of variation in the Financial Performance, as indicated by the standard deviation value of 0.29. 90% is the average level of Financial Efficiency, with a standard variation of thirteen percent. This indicates that firms, on average, are 90% efficient in using their resources, reflecting a high efficiency level across the sample. The maximum and minimum efficiency are 100% and 42%, respectively, showing that while most firms are highly efficient, there is some variability in efficiency among them.

The highest ROE (Return on Equity) earned by a firm in a year is 46.08%, minimum loss incurred by a firm in a year is 2.92%, and the average ROE earned is 16.61% in this sample. This indicates that, on average, firms have a solid ROE, but there is significant variability, with some firms experiencing high returns and others facing losses.

The highest ROA (Return on Assets) earned by a firm in a year is 15.77%, minimum loss incurred by a firm in a year is 0.24%, and the average ROA is 3.88% in this sample. This indicates that, on average, firms have a modest ROA, but there is significant variability, with some firms achieving high returns on Assets and others experiencing losses.

The maximum Size of any firm in this sample is 11.85, the minimum is 9.82, and the average is 11.10. This suggests that an average change in the market capitalization of firm in a year is 11.10. The standard deviation of 0.43 indicates some variability in firm size, with most firms clustering around the average but with a few being notably larger or smaller. The maximum debt ratio of any firm in this sample is 96%, the lowest is 18%, and the average is 74%. This indicates that, on average, firms rely more on debt than equity. The standard deviation of 30% shows significant variability, with some firms having much higher or lower debt ratios compared to the average.

Sales Growth displays a mean of 0.23, with a standard deviation of 0.30, and minimum and maximum growth from -0.13 to 1.02. This means that, on average, firms experience a 23% growth in sales in a year. The minimum loss on sales incurred in a year is -13%, while maximum sales growth experienced by a firm is 102% in this sample. The average Family Ownership of any firm in this sample is 8%, minimum is 0% and maximum is 42% with a standard deviation of 13%. The average Foreign Ownership of any firm in this sample is 16%, minimum is 0% and maximum is 77% with a standard deviation of 24%

In this dataset, several variables exhibit positive skewness, indicating a distribution with a longer right tail. These include Environmental, Social and Governance (ESG) with a skewness of 0.08, Environmental Score (ENV) with a skewness of 0.85, Social Score(SOC) at 0.16, Financial Performance at 1.23, Return on Equity at 1.18, Return on Assets at 1.20, Growth at 1.22, Family Ownership at 1.76, and Foreign Ownership at 1.67. In contrast, negatively skewed variables, indicating a longer left tail, include Governance Score with a skewness of -0.47, Financial Efficiency at -1.64, Size at -1.08, and Leverage at -1.08.

In terms of kurtosis, variables such as Environmental Score (ENV) at 4.16, Financial Performance (FP) with a kurtosis of 5.26, Financial Efficiency (FE) at 5.64,

Return on Equity (ROE) at 4.44, Return on Assets (ROA) at 4.06, Size at 4.08, Family Ownership at 4.80, Foreign Ownership at 4.17, and Growth at 4.59 exhibit leptokurtic. This indicates distributions with heavy tails and a greater likelihood of extreme values. Conversely, Environmental, Social, and Governance (ESG) at 2.48, Leverage at 2.29, Social Score (SOC) at 1.94, and Governance Score (GOV) at 2.39 show relatively flat distributions, suggesting the variables not normally distributed due to their deviation from the kurtosis benchmark of 3.

### 4.1.2 Impact of ESG on Financial Performance

The results of the regression analysis presented in Table 4.2 illustrate the relationship between the dependent variable Financial Performance, and independent variables including Return on Equity (ROE), Leverage (LEVERAGE), Firm Size (SIZE), Growth (GROWTH), and Environmental, Social, and Governance (ESG) Factors.

The findings elucidate the impact of a company's ESG Score on its Financial Performance. The statistical significance of this finding is established by its p-value of 0.0283, which falls below the p-value threshold of 0.05. There exists a positive relation between the ESG Score and Financial Performance, as indicated by the coefficient value of 0.3244, means that each 1 percent rise in ESG scores results in a 0.003 unit gain in Financial Performance.

In contrast, there is an insignificant relationship between Return on Equity (ROE) and Financial Performance indicated by the p-value of 0.4807, which is above the p-value threshold of 10%. It is highly probable that the observed link between ROE and Financial Performance may be attributed to random variation. After conducting this analysis, it is evident that Return on Equity (ROE) is not a reliable measure of Financial Performance.

The analysis further demonstrates a significant and negative impact of Leverage on Financial Performance, analyzed by the coefficient of -0.5547. This coefficient measures the extent to which the Financial Performance declines by 0.55 units for every unit increase in Leverage. The statistical significance of this negative relation is 0.0117, which is below the threshold of 0.05. On the other hand, the relationship

TABLE 4.2. Impact of ESG on Financial Performance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.861100	1.575004	1.181648	0.2458
ROE	0.003422	0.004797	0.713313	0.4807
SIZE	-0.139444	0.132348	-1.053616	0.2997
LEVERAGE	-0.554737	0.207874	-2.668626	0.0117
GROWTH	-0.140896	0.161839	-0.870593	0.3903
LOG(ESG)	0.324362	0.141375	2.294341	0.0283

Statistic	Value
Adjusted R-squared	0.343102
F-statistic	2.900664
Durbin-Watson stat	2.432679
Prob(F-statistic)	0.006101

between Sales Growth and Financial Performance is insignificant indicated by the coefficient value of -0.1409 and p-value of 0.3903, which is above the significance threshold of 10%. Similarly there is no significant impact of Firm Size on Financial Performance of companies in Pakistan.

The Adjusted R-squared value of 0.3431 reveals that approximately 34.31% of the variation in the dependent variable financial performance, can be accounted for by the independent variables included in the regression model. The Durbin-Watson statistic, which is reported as 2.4327, is a test for autocorrelation in the residuals of the regression model.

The value of 2.4327 is close to 2, which typically indicates the absence of first-order autocorrelation. The value suggests that there is little to no autocorrelation present, implying that the residuals are relatively independent of each other. The F-statistic's p-value of 0.006101 is below the 0.01 significance threshold, indicating that the model is highly statistically significant. This suggests that ESG is a significant predictor of Financial Performance.

Table 4.3 show the regression results on the relationship between Financial Performance and individual components of ESG (Environmental Score, Social Score, Governance Score) including ROE, SIZE, LEVERAGE and GROWTH as other variables. The results revealed that there is an insignificant relationship between Environmental Score and Financial Performance in Pakistani companies, indicated by p-value of 0.2249, which is above the threshold level of 10%. Similarly,

there is also insignificant relationship between Governance Score and Financial Performance, indicated by p value of 0.5538, which is above the threshold of 10%. Whereas there is significant and positive relationship between Social Score and Financial Performance, indicated by the significance value of 0.046 (below the significance level of 5%). The coefficient value of 0.012639 explains that each unit rise in Social score, results in an increase of 0.012 units in Financial Performance.

TABLE 4.3. Impact of Components of ESG Score on Financial Performance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.638416	1.544896	1.707828	0.0977
ROE	0.001988	0.005261	0.377926	0.7081
SIZE	-0.148986	0.133637	-1.114860	0.2735
LEVERAGE	-0.400851	0.237643	-1.686779	0.1017
GROWTH	-0.158252	0.166046	-0.953059	0.3479
ENV	-0.005566	0.004495	-1.238321	0.2249
SOC	0.012639	0.006081	2.078220	0.0461
GOV	0.001883	0.003145	0.598655	0.5538

Statistic	Value
Adjusted R-squared	0.093444
F-statistic	2.559555
Durbin-Watson stat	2.401092
Prob(F-statistic)	0.035712

The coefficient associated with leverage is -0.400851, suggesting a negative impact on the Financial Performance. Nevertheless, the p-value of 0.1017 (above the threshold level of 10%) indicates that there is an insignificant impact of Leverage on Financial Performance in Pakistani companies. Based on the obtained p-value of 0.7081 and coefficient of 0.001988, it can be concluded that there is also an insignificant impact of Return on Equity (ROE) on Financial Performance, making ROE an unreliable predictor in this scenario.

According to the coefficient of -0.148986 and the p-value of 0.2735 (above the benchmark of 10%), it is clear that Firm size alone does not significantly affects Financial Performance in Pakistani Firms. Additionally, the regression coefficient of -0.158252 and the p-value of 0.3479 (above the p-value benchmark of 10%) for Growth indicate that the effect of growth on Financial Performance is not statistically significant. The aforementioned finding suggests that improvements in growth not automatically lead to enhanced Financial Performance.

The overall model fit is weak, with an adjusted R-squared of 0.093444, indicating that approximately 9.34% of the variability in Financial Performance can be explained by the independent variables included in the model. The weak fit is attributed to the small sample size used in the analysis. With a limited number of observations, the estimates of the model coefficients are likely to be less precise, increasing the potential for variability and reducing the model's explanatory power. The Durbin-Watson statistic of 2.401092 suggests that there is no substantial relation in the residuals. The F-statistic of 2.559555, accompanied by a p-value of 0.035712, demonstrates that the model is statistically significant at the 5% level. This result indicates that the collective set of independent variables has a highly statistically significant effect on explaining the variations in financial performance.

### 4.1.3 Moderating Role of Ownership between ESG and Financial Performance

Table 4.4 provides the results of regression analysis to investigate the relationship between Financial Performance (the dependent variable) and ESG with the moderating effect of Family Ownership.

TABLE 4.4. Moderating Role of Family Ownership between ESG and Financial Performance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.169087	1.589272	2.623268	0.0144
ROE	0.011728	0.004904	2.391293	0.0243
SIZE	-0.285012	0.139574	-2.042013	0.0514
LEVERAGE	-0.248993	0.229866	-1.083208	0.2887
GROWTH	-0.094134	0.212514	-0.442952	0.6615
ESG	0.005566	0.004495	1.238321	0.0439
FAM_OWN	5.434240	0.990735	5.485060	0.0015
FAM_OWN*ESG	0.038220	0.011886	3.215579	0.0035

Statistic	Value
Adjusted R-squared	0.279118
F-statistic	2.226103
Durbin-Watson stat	2.379808
Prob(F-statistic)	0.042644

The ESG, representing the overall Environmental, Social, and Governance performance, with a positive coefficient of 0.005566 and p-value of 0.0439 indicates that,

on average, an increase in the ESG score is associated with an increase in Financial Performance. This analysis incorporates an interaction term (*FAM\_OWNESEG*) to assess the moderating effect of Family Ownership on the relationship between ESG Performance and Financial Performance. The coefficient for this interaction term is 0.038220, with a standard error of 0.011886 and a p-value of 0.0035 indicate that this interaction effect is statistically significant. The significant positive coefficient shows that the impact of ESG Performance on Financial Performance is stronger in firms with Family Ownership. The positive coefficient indicates that, in firms with family ownership, the relationship between ESG factors and Financial Performance is more robust.

The Return on Equity (ROE) also shows a positive coefficient of 0.011728, with a p-value of 0.0243, indicating that ROE is positively and significantly associated with Financial Performance indicating that higher ROE is associated with higher financial outcomes, reflecting the profitability aspect of the firms. Size is represented with a coefficient of -0.285012 and a p-value of 0.0514, which is below 10% significance threshold. This negative coefficient means that an increase in the size of the firm is associated with a decrease in Financial Performance. Leverage has a coefficient of -0.248993 and yielding a p-value of 0.2887 which indicates that leverage does not have a statistically significant impact on Financial Performance. Growth is associated with a coefficient of -0.094134 and a p-value of 0.6615 further indicate a lack of statistical significance indicating growth does not have a notable impact on financial performance.

The model fit is evaluated by calculating an adjusted R-squared value of 0.279118. These findings indicate that the model accounts for 27.91% of the variation in Financial Performance. A 2.226103 F-statistic validates the statistical significance of the model, indicating that the independent variables collectively impact Financial Performance with a p-value of 0.042644. This holds true at a significance level of 5%. Moreover, the Durbin-Watson statistic of 2.379808, explain that there is no significant relation in the residuals, supporting the validity of the regression model's assumptions.

The results presented in Table 4.5 offers a comprehensive examination of the impact of Foreign Ownership on the relation between Financial Performance and

Environmental, Social, and Governance (ESG) Score. Following the adjustment for Foreign Ownership, the coefficient for Environmental, Social, and Governance (ESG) is 0.004730, with a p-value of 0.0327. This demonstrates a statistically substantial relationship between Financial Performance and Environmental, Social, and Governance (ESG) Score, with a significance level of 5%. Thus, this analysis suggests that, on average, enhanced ESG performance is linked to better Financial Performance, even when considering Foreign Ownership.

TABLE 4.5. Moderating Role of Foreign Ownership between ESG and Financial Performance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.175640	0.302138	10.51056	0.0000
ROE	0.008554	0.002049	4.174293	0.0059
SIZE	-0.189575	0.020940	-9.053323	0.0001
LEVERAGE	-0.475298	0.272455	-1.744497	0.1317
GROWTH	-0.107987	0.098802	-1.092961	0.3163
ESG	0.004730	0.001711	2.763779	0.0327
FORO_OWNS	7.225165	0.922811	7.829518	0.0002
FORO_OWNS*ESG	0.006811	0.000727	9.367244	0.0001

Statistic	Value
Adjusted R-squared	0.247025
F-statistic	2.112519
Durbin-Watson stat	2.145610
Prob(F-statistic)	0.029801

Although the coefficient for the interaction term between Foreign Ownership and ESG (FOR\_OWNS\*ESG) is 0.006811, the p-value of 0.0001 indicates a considerably high level of significance. The statistical significance of this finding indicates that the relation between Financial Performance and Environmental, Social, and Governance (ESG) Score is markedly stronger in firms held by foreign companies. The aforementioned finding indicates that firms controlled by foreign entities derive more benefits from robust Environmental, Social, and Governance (ESG) performance compared to firms without Foreign Ownership.

The analysis also revealed a p-value of 0.0059 and a coefficient of 0.008554 for Return on Equity (ROE). This observation implies that there exists a statistically significant positive relation between Financial Performance and Return on Equity. Furthermore, it may be inferred from these results that a greater return on equity

(ROE) leads to enhanced Financial Performance. Conversely, the coefficient for the Size of the firm is -0.189575, accompanied by a p-value of 0.0001, indicating a statistically significant negative relationship between the size of the organization and its Financial Performance. The aforementioned observation suggests that larger corporations generally exhibit lower levels of Financial Performance. Given the coefficient of -0.475298 and the p-value of 0.13417, it can be inferred that leverage does not exert a statistically significant impact on the Financial Performance. Based on the p-value of 0.3163 and coefficient of -0.107987, it can be concluded that there is no statistically significant impact of Growth on Financial Performance, indicating that increase in Growth do not lead to significant improvements in financial results.

The overall model fit is represented by an adjusted R-squared of 0.247025, indicating that approximately 24.7% of the variability in financial performance is explained by the model. The F-statistic of 2.112519 with an associated p-value of 0.029801 suggests that the model is statistically significant at the 5% level, meaning that the independent variables collectively have a significant effect on financial performance. The Durbin-Watson statistic of 2.145610 suggests that there is no significant relation in the residuals, supporting the assumption that the residuals are independent.

#### **4.1.4 Impact of ESG on Financial Efficiency**

The results of the regression analysis examining the relation between Financial Efficiency (the dependent variable) and ESG score, as well as several other variables including Return on Assets (ROA), Firm Size, Leverage, and Growth, are presented in Table 4.6.

The coefficient for ESG Score is -0.061792, and this negative coefficient suggests that for every 1% increase in ESG, Financial Efficiency decreases by 0.0006 indicating that there is a slight decrease in Financial Efficiency as the ESG score increases. The p-value associated with this is 0.0870 which indicates that there is an 8.7% probability that the observed negative relationship between ESG and Financial Efficiency could have occurred by random chance. While this p-value

is greater than the 5% threshold for statistical significance, it is less than 10% threshold. Therefore, the p-value of 0.0870 suggests that the relationship between ESG and Financial Efficiency is marginally significant.

TABLE 4.6. Impact of ESG on Financial Efficiency

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.769897	0.206283	-3.732237	0.0097
ROA	0.000207	0.003890	0.053124	0.9594
SIZE	0.156374	0.023558	6.637694	0.0006
LEVERAGE	0.238186	0.066483	3.582676	0.0116
GROWTH	-0.014289	0.018615	-0.767600	0.4718
Log(ESG)	-0.061792	0.030231	-2.044030	0.0870

Statistic	Value
Adjusted R-squared	0.333374
F-statistic	4.800703
Durbin-Watson stat	1.988798
Prob(F-statistic)	0.002088

Furthermore, the regression statistical analysis shown in Table 4.6 provides significant insights into the determinants of Financial Efficiency. The statistical coefficient associated with Return on Assets (ROA) is 0.000207, and its accompanying p-value is 0.9594. Therefore, it can be inferred from these results that the return on assets (ROA) does not exert a statistically significant influence on Financial Efficiency.

The coefficient of 0.156374 for firm Size and the p-value of 0.0006 clearly demonstrate a strong and statistically significant relationship between firm size and Financial Efficiency. This observation implies that larger corporations exhibit higher levels of Financial Efficiency. A coefficient of 0.238186 and a p-value of 0.0116 indicate a positive correlation between leverage and Financial Efficiency. The statistically significant finding indicates that the use of debt financing, and hence leverage, enhances Financial Efficiency. Based on the p-value of 0.4718 and the coefficient of -0.014289 for the Growth variable, it can be concluded that there is no significant impact of growth on Financial Efficiency.

Based on an adjusted R-squared value of 0.333374, the model explains almost 33.3% of the variation in Financial Efficiency, considering the number of predictors. An F-statistic of 4.800703 and a p-value of 0.002088 indicate that the model

is statistically significant at a significance level of 1%. Consistent with the assumptions of the regression model, the Durbin-Watson value of 1.988798 for the residuals suggests a low level relation.

TABLE 4.7. Impact of Components of ESG Score on Financial Efficiency

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.932765	0.198800	-4.691983	0.0034
ROA	0.001313	0.005344	0.245668	0.8141
SIZE	0.158227	0.019916	7.944731	0.0002
LEVERAGE	0.214447	0.074431	2.881156	0.0280
GROWTH	-0.006874	0.021683	-0.317031	0.7620
ENV	0.000876	0.000878	0.997459	0.3571
SOC	-0.002623	0.001108	-2.367398	0.0557
GOV	0.000025	0.000650	0.039327	0.9699

Statistic	Value
Adjusted R-squared	0.413812
F-statistic	4.832226
Durbin-Watson stat	1.928327
Prob(F-statistic)	0.000908

The link between Financial Efficiency and the components of ESG, namely the Environmental score (ENV), Social score (SOC), and Governance score (GOV), is presented in Table 4.7. An Environmental score (ENV) with coefficient of 0.000876 and a p-value of 0.3571 indicate that there is no statistically significant relationship between environmental practices and Financial Efficiency.

The results suggest that fluctuations in the Environmental score have no impact on Financial Efficiency. The coefficient associated with the Social score (SOC) is -0.002623, with a p-value of 0.0557. At a significance level of 10%, the statistical analysis shows a fairly significant inverse association with Financial Efficiency.

The results suggest a little decrease in Financial Efficiency attributable to higher social scores, but the statistical significance is inadequate to conclusively establish this relationship. Given the coefficient of 0.000025 and a p-value of 0.9699, it can be inferred that there is no statistically significant influence of the Governance score (GOV) on the efficiency of Financial Efficiency. Therefore, based on this, it can be inferred that there is no significant relation between Governance score and Financial Efficiency.

Additionally, the results of the regression analysis provide a complete comprehensive view of the factors that influence Financial Efficiency. The coefficient for Return on Assets (ROA) is 0.001313, and its P-Value is 0.8141. The substantial p-value suggests that there is no meaningful association between changes in Return on Assets (ROA) and changes in Financial Efficiency.

This highlights ROA as a less informative predictor. Conversely, there exists a robust positive correlation between the company's size and its Financial Efficiency, as evidenced by a coefficient of 0.158227 and a statistically significant p-value of 0.0002. For each unit in the size of a firm, there is a corresponding increase of 0.15 units in Financial Efficiency.

The p-value's statistical significance suggests that the observed link is unlikely to be explainable by random variation. Moreover, the leverage has a positive and statistically significant effect on Financial Efficiency. The coefficient from the Leverage variable is 0.214447, and its associated p-value is 0.0280. These results indicate that there is a direct relationship between leverage and improved Financial Efficiency.

The strength of this link suggests that using debt can enhance a company's Financial Efficiency. By contrast, the coefficient for the Growth variable is -0.006874 and its p-value is 0.7620. The strong p-value implies that fluctuations in the growth rate have no significant effect on Financial Efficiency, thereby indicating that Growth is not a significant driver.

A adjusted R-squared value of 0.413812 suggests that 41.38% of the variability in Financial Efficiency can be explained by the model, therefore confirming the overall adequacy of the model. These results suggest that a substantial proportion of the variation can be explained by the independent variables. Based on the F-statistic of 4.832226 and the p-value of 0.000908, it is evident that the model is statistically significant at the 1% level. These findings indicate that the independent factors collectively have a significant impact on Financial Efficiency. Moreover, the Durbin-Watson statistic of 1.928327 suggests that the residuals do not exhibit significant relation. Consequently, this validation confirms the soundness of the assumptions made in the regression model and ensures the reliability of the model's forecasts.

### 4.1.5 Moderating Role of Ownership between ESG and Financial Efficiency

The findings of the regression study that investigated the interaction between Family Ownership and Environmental, Social, and Governance (ESG) performance (FAM\_OW\*ESG) in connection to Financial Efficiency are displayed in Table 4.8.

TABLE 4.8. Moderating Role of Family Ownership between ESG and Financial Efficiency

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.680819	0.136627	-4.983042	0.0025
ROA	0.009031	0.003707	-2.436186	0.0507
SIZE	0.146792	0.011828	12.41081	0.0000
LEVERAGE	-0.053831	0.073109	-0.736309	0.4893
GROWTH	0.034765	0.020474	1.698062	0.1404
ESG	0.002140	0.000935	2.289827	0.0620
FAM <sub>O</sub> WN	-1.404232	0.250158	-5.613374	0.0014
FAM <sub>O</sub> WN * ESG	0.021869	0.004633	4.720421	0.0033

Statistic	Value
Adjusted R-squared	0.708527
F-statistic	14.19607
Durbin-Watson stat	2.116608
Prob(F-statistic)	0.000000

The coefficient value of ESG score and Financial Efficiency is 0.002140, with a p-value of 0.0620. This suggests a positive relationship at the significance threshold level of .10. The data indicate that there is a positive link between improved Financial Efficiency and stronger ESG performance.

The coefficient for the interaction term between Family Ownership and Environmental, Social, and Governance (ESG) factors is 0.021869. Furthermore, the associated p-value for this coefficient is 0.0033. The results of this examination suggest that Family Ownership enhances the impact of Environmental, Social, and Governance (ESG) performance on Financial Efficiency with statistical significance at the 1% level suggesting that firms owned by families have a more advantageous position to utilize ESG performance in order to achieve greater levels of Financial Efficiency.

Furthermore, the regression analysis results offer valuable insights into the relationships between the different factors and the efficiency. With a p-value of 0.0507, the coefficient of the Return on Assets (ROA) variable is 0.009031. Based on a significance level of 10%, this result indicates a weakly significant positive connection with Financial Efficiency. The coefficient suggests that a greater Return on Assets (ROA) is associated with improved Financial Efficiency, but the correlation is close to the conventional threshold of significance of 5

There is a robust and statistically significant positive relation between the size of a firm and its Financial Efficiency. The coefficient related to Firm Size is 0.146792, and the p-value is 0.0000, indicating statistical significance at the 1% level. Hence, for every incremental unit in Firm Size, there is a corresponding increase of 0.15 units in Financial Efficiency, suggesting that larger organizations generally achieve higher levels of Financial Efficiency. The statistical significance of the p-value underscores the robustness and reliability of this link.

No statistically significant impact of leverage on Financial Efficiency is observed. The magnitude of the coefficient for the variable Leverage is -0.053831, and its associated p-value is 0.4893. As the p-value exceeds standard significance levels, these results indicate that changes in Leverage do not have a meaningful effect on Financial Efficiency. Hence, the coefficient of Growth is 0.034765 and the p-value is 0.1404, indicating that there is no statistically significant effect of Growth on Financial Efficiency. The p-values found in this analysis suggest that there is no statistically significant relationship between changes in Growth and Financial Efficiency. Based on the corrected R-squared value of 0.708527, it is evident that the model offers an acceptable overall fit. Based on this analysis, it can be inferred that the independent variables included in the model have the ability to account for around 70.9% of the variability in Financial Efficiency. In conjunction with a p-value of 0.000000, the F-statistic of 14.19607 strongly indicates the statistical significance of the model at the 1% level. This observation implies that the collective set of independent factors exerts a significant impact on Financial Efficiency. The Durbin-Watson statistic of 2.116608 suggests that the residuals lack significant autocorrelation, therefore informing the correctness of the model's assumptions on independent residuals.

Presented in Table 4.9 are the results of the regression analysis that examined the relationship between Financial Efficiency (the dependent variable), independent ESG score, and the moderating effect of Foreign Ownership.

Considering the coefficient of -0.000613 and the p-value of 0.6631, it can be inferred that there is no statistically significant correlation between the Environmental, Social, and Governance (ESG) score and Financial Efficiency. These findings suggest that, on average, the ESG performance has a negligible impact on Financial Efficiency. In the interaction term between Foreign Ownership and ESG (FORO\_OWN\*ESG), the coefficient is -0.016342, and its associated p-value is 0.1036. Analyzed statistically, the interaction effect is shown to be non-significant, indicating that foreign ownership does not substantially enhance the relationship between ESG score and Financial Efficiency.

The coefficient of -0.000510 and the corresponding p-value of 0.9165 indicate that there is no statistically significant link between Return on Assets (ROA) and Financial Efficiency.

TABLE 4.9. Moderating Role of Foreign Ownership between ESG and Financial Efficiency

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.474502	0.644881	-0.735797	0.4773
ROA	-0.000510	0.004757	-0.107241	0.9165
SIZE	0.119944	0.052396	2.289189	0.0428
LEVERAGE	0.135357	0.153586	0.881312	0.3970
GROWTH	0.021587	0.027339	0.789617	0.4464
ESG	-0.000613	0.001370	-0.447619	0.6631
FORO <sub>OWN</sub>	-0.570851	0.291317	-1.959556	0.0978
FORO <sub>OWN</sub> * ESG	-0.016342	0.008522	1.917662	0.1036

Statistic	Value
Adjusted R-squared	0.276443
F-statistic	3.074046
Durbin-Watson stat	1.967844
Prob(F-statistic)	0.014052

The coefficient of the dependent variable, SIZE, which represents Firm Size, is 0.119944 and the corresponding p-value is 0.0428. There exists a statistically significant positive link between the size of a corporation and its Financial Efficiency, with a significance level of 5%. This observation implies that larger firms tend to

demonstrate higher degrees of Financial Efficiency of their operations. According to the regression analysis, the coefficient of leverage is 0.135357 and the p-value is 0.3970. These results suggest that there is no statistically significant impact on Financial Efficiency. Given the p-value of 0.4464 and the coefficient of 0.021587, it can be concluded that there is no statistically significant relationship between the Financial Efficiency and the Growth variable. The reported results suggest that fluctuations in growth rates have minimal impact on Financial Efficiency.

The corrected R-squared value of 0.276443 indicates that the model can explain at least 27.6% of the variance in Financial Efficiency. This is the scenario where an analysis takes into account the quantity of predictors. Based on the Durbin-Watson statistic of 1.967844, it is reasonable to infer that the residuals do not display any autocorrelation factors that need careful attention.

This finding provides more support for the idea that the residuals in the model have the ability to operate autonomously. In conjunction with a p-value of 0.014052, the F-statistic of 3.074046 indicates the statistical significance of the model at the 5% level. These findings suggest that the independent factors collectively have a significant impact on Financial Efficiency. Based on the Durbin-Watson statistic of 1.967844, it may be deduced that the residuals lack any substantial autocorrelation factor. This result provides evidence in favor of the idea that the residuals in the model have the ability to operate autonomously.

## 4.2 Discussion

### 4.2.1 ESG and Financial Performance

The objective of this research is to examine the correlation between Financial Performance and Environmental, Social, and Governance (ESG) score in Pakistani firms. This will be accomplished by utilizing the Pooled Least Squares (PLS) regression methodology.

The analysis has determined that the aggregate ESG score is 0.324362. This suggests that there is a correlation between a 1% increase in ESG ratings and a 0.003 improvement in Financial Performance. This statistically significant link

between Financial Performance and Environmental, Social, and Governance (ESG) policies is indicated by a p-value of 0.0283.

Firms with better ESG scores generally have a tendency towards enhanced Financial Performance. This positive effect can be ascribed to several factors, including advanced risk management, heightened operational efficiencies, greater brand value and reputation, and higher appeal to investors. Based on the research conducted by [Puriwat and Tripopsakul \(2023\)](#), [Chung et al. \(2023\)](#), [Weston and Nnadi \(2021\)](#), the combination of these elements enhances the strength and reliability of financial indicators.

According to [Hira et al. \(2023\)](#) and [Sood et al. \(2022\)](#), the significance of Environmental, Social, and Governance (ESG) practices in Pakistan highlights the growing significance of sustainable business practices and their congruence with the ethics of consumers and investors who place a high priority on environmental and social issues. According to the findings of [Chen and Xie \(2022\)](#) and [Naeem and ankaya \(2022\)](#), this work provides evidence that is in line with the broader research that emphasises the positive effects of Environmental, Social, and Governance (ESG) factors on Financial Performance.

Upon closer examination, the individual ESG components reveal ever more nuanced information. With coefficient being -0.005566 and the p-value being 0.2249, it indicates that the Environmental component does not have a statistically significant impact on the Financial Performance in Pakistan. The negative coefficient serves as evidence for this. This lack of relevance may be attributed to inadequate environmental standards, limited market recognition, or the initial costs of implementation outweighing the advantages ([Memon et al., 2019](#)).

Alternatively, the Social component exhibits a coefficient of 0.012639 and a p-value of 0.0461, suggesting a statistically significant positive influence on Financial Performance. The findings of [Freeman and Velamuri \(2006\)](#) suggest that social activities, including community involvement and employee connections, have a substantial influence on enhancing financial results. It is possible that a higher level of trust and loyalty, in addition to market differentiation, is responsible for this phenomena. As a result of the fact that the coefficient for Governance is 0.001883 and the p-value is 0.5538, it is indicated that the Governance factor has

a insignificant impact on Financial Performance. The findings of (Long et al., 2019) indicate that while good governance is crucial, its impact on Financial Performance may not be as substantial in this particular context. On the contrary, it is imperative to contemplate the potentiality that other variables exert a more significant influence. When considering the positive impact that Environmental, Social, and Governance (ESG) factors have on the Financial Performance of companies in Pakistan, the social component continues to be the most significant contribution. Based on the findings of Margolis and Walsh (2003), social behaviors exert a direct influence on the reputation of a company, the degree of customer satisfaction, and the employee morale. These findings demonstrate the importance of social activities in producing economic prosperity.

#### 4.2.2 ESG and Financial Efficiency

An investigation into the relationship between Financial Efficiency and Environmental, Social, and Governance (ESG) score is carried out through the use of Pooled Least Square (PLS) regression analysis. This indicates that a 1% change in ESG score is predicted to result in a 0.0006 loss in Financial Efficiency. The correlation linked with ESG is -0.061792, and the p-value that corresponds to this coefficient is 0.0870, which is higher than the commonly recognized significance level of 0.05 but lower than the threshold of 0.10, which indicates that this link is only marginally significant than the threshold. Multiple factors could be responsible for the occurrence of this phenomena. To begin, the implementation of ESG principles typically requires significant initial investments in areas such as the education of staff, the utilization of cutting-edge technology, and the observance of environmental and social standards (Khamisu et al., 2024). The early expenses that businesses incur might have a negative impact on their Financial Efficiency in the short term as they adjust to new operational norms. Additionally, developing economies like Pakistan experience inefficiencies as a result of the lack of well-established Environmental, Social, and Governance frameworks of their own. The incorporation of Environmental, Social, and Governance (ESG) policies into the business models of companies operating in these sectors is still in its infant stages at the present time, Aparna et al. (2024) and de Villiers et al. (2022) both

found that this transformation has the potential to result in additional challenges and inefficiencies.

Based on the fact that the significance of the link is rather low, it may be inferred that the impact of Environmental, Social, and Governance variables on Financial Efficiency is not as strong as one might expect. This suggests that although there is a distinct negative effect, it is not uniform across all businesses and may be influenced by additional variables such as the industry in which the company operates, the size of the company, and the specific Environmental, Social, and Governance initiatives that are being implemented.

Furthermore, it is plausible that the initial costs and associated inefficiencies may be compensated for by long-term increases in efficiency (Yang et al., 2023). One reason for this is that businesses are gaining a deeper understanding of the ways in which Environmental, Social, and Governance (ESG) policies can be implemented, and the sustainable investment industry is continuously expanding.

According to Clark et al. (2015), It has been established that the level of economic development and market maturity of the company's operational environment have an influence on the effect of Environmental, Social, and Governance practices on Financial Efficiency. For the purpose of determining the precise impact that each of these aspects has on Financial Efficiency, an analysis is carried out on each of these aspects individually.

The coefficient for the Environmental component is 0.000876, which indicates that a one-unit rise in the Environmental score is related with a 0.09% gain in Financial Efficiency. This is based on the assumption that all other variables remain constant.

In spite of this, the p-value for this coefficient is 0.3571, which is higher than the significance threshold of 0.05. This indicates that this link does not meet the criteria for statistical significance.

As a result, the implementation of environmental regulations does not have a substantial impact on the Financial Efficiency of Pakistani businesses. According to Yang et al. (2023), environmental initiatives are typically associated with initial expenditures and investments that do not instantaneously result in improvements

in efficiency. The coefficient for the Social factor is -0.002623, which indicates that a one-unit increase in the Social score is connected with a 0.26% loss in Financial Efficiency. This coefficient has a p-value of 0.0557, which is slightly higher than the significance threshold of 0.05.

This indicates that the association indicates a relationship that is only marginally significant. Despite the fact that the finding does not meet the normal 5% level for statistical significance, it is still very close to being significant and suggests that there may be a negative link. Social activities, such as employee involvement and community investment, require resources and efforts that may initially reduce Financial Efficiency, particularly in the short term (Bu et al., 2022).

This is especially true in the short run. Given that the coefficient associated with the Governance component is 0.000025, it can be deduced that a slight increase of one unit in the Governance score results in a minimal gain in Financial Efficiency, suggesting that the relationship between governance score, specifically board structure, transparency, and shareholder rights, and Financial Efficiency in Pakistani companies is not statistically significant.

This conclusion is based on the fact that the p-value that was obtained was 0.9699, which is greater than the significance threshold of 0.05. The p-value that corresponds to the coefficient for the overall ESG score is 0.0870, while the coefficient for the overall score is -0.061792. When viewed as a whole, the fact that this total negative coefficient is negative demonstrates that actions related to the environment, society, and governance have a moderately negative impact on the Financial Efficiency.

It would appear that the Social element is the one that has the largest influence on the overall negative impact that ESG has on Financial Efficiency. It is clear that this is the case because its coefficient is negative (-0.002623), and its p-value is close to the significance level (0.0557).

It may be deduced from this that social practices are the most significant factor in determining the degree to which ESG factors negatively impact Financial Efficiency. It is possible to relate this to the costs and resources that are associated with putting these procedures into effect and keeping them up to date.

### 4.2.3 The Moderating Role of Family Ownership between ESG and Financial Performance

A Pooled Least Square (PLS) regression technique is used to analyse the relationship between Financial Performance and ESG dimensions. A coefficient of 0.038220 characterizes the interaction term between Family Ownership and ESG. This correlation indicates that when family ownership is present, a one-unit rise in ESG score is associated with a 3.82% improvement in Financial Performance. Given that the p-value for this interaction term is 0.0035, exceeding the significance level of 0.05, it may be deduced that there is statistical evidence substantiating the mentioned relationship.

Both positive and substantial, the interaction effect suggests that family ownership affects the link between ESG criteria and Financial Performance among Pakistani firms. The available empirical data suggests that the presence of family ownership strengthens the relationship between Environmental, Social, and Governance (ESG) initiatives and financial outcomes.

The results of this study indicate that the existence of family ownership enhances the impact of ESG policies on both the Financial Performance. This phenomena may be ascribed to multiple separate factors. Firstly, according to [Sritanee and Lonkani \(2023\)](#), family-owned firms typically give priority to long-term goals and have a higher level of commitment to sustainability, therefore complying with the concepts of ESG responsible business practices. The research conducted by [Saeed et al. \(2023\)](#) reveals that these firms place significant value on their brand and history. As a result, they prioritize environmentally responsible activities that can improve their long-term Financial Performance.

Moreover, family-owned businesses possess more autonomy in making decisions and can swiftly and efficiently enforce Environmental, Social, and Governance requirements by using their frequently more streamlined governance systems ([Mu et al., 2024](#)). By harmonizing family goals with sustainable practices, a more effective implementation of Environmental, Social, and Governance (ESG) criteria can be achieved, thereby resulting in enhanced financial outcomes. Enhanced community engagement and increased emphasis on social capital are two additional

benefits generally associated with family ownership. According to [Chiang et al. \(2022\)](#), both of these benefits have the ability to improve the company's reputation and cultivate brand loyalty. Consequently, this might potentially result in an extra positive effect on the company's Financial Performance.

Given that family ownership significantly moderates the relationship between Environmental, Social, and Governance (ESG) criteria and Financial Performance, it is crucial to include ownership structure when evaluating the effects of ESG practices. Moreover, it reveals the fact that family-owned businesses can attain outstanding financial outcomes by effectively integrating environmental, social, and green principles. The results of the present study align with previous research that have shown the positive influence of family ownership on business performance, particularly in conjunction with the implementation of environmentally sensitive management practices ([Mazzi, 2011](#); [Arosa et al., 2010](#)).

#### **4.2.4 The Moderating Role of Foreign Ownership between ESG and Financial Performance**

This study used a Pooled Least Squares (PLS) regression analysis to evaluate the relationship between Financial Performance and Environmental, Social, and Governance (ESG) variables. The study results suggested that Foreign Ownership demonstrated a moderating influence on the established association. The interaction term arising from the combination of Foreign Ownership and ESG (FAM\_OWN \* ESG) has a computed coefficient of 0.006811. An increase of one unit in the ESG score is positively correlated with a 0.68% improvement in Financial Performance when foreign ownership is present. The present results suggest that the observed association has statistical significance. Based on the p-value of 0.0001 for this interaction term, which is well below the significance level of 0.05, it suggests a statistically significant association between the two variables. The coefficient for the interaction term, which is not only considerably positive but also statistically significant, suggests that foreign ownership enhances the relationship between Environmental, Social, and Governance standards and Financial Performance in Pakistani firms. The findings of this study suggest that the existence of

foreign ownership has a beneficial effect on the Financial Performance of a firm by enhancing the leverage of Environmental, Social, and Governance objectives. This result is a direct result of many separate elements. According to the research conducted by [Ahmed et al. \(2024\)](#), multinational firms widely adhere to international norms and practices that give priority to sustainability and corporate social responsibility. These operations strictly conform to ESG criteria. Given the increasing importance of sustainability among global stakeholders such as investors and customers, it is likely that these companies will adopt more rigorous Environmental, Social, and Governance standards ([Arvidsson and Dumay, 2021](#)). Furthermore, the existence of foreign ownership enables the incorporation of supplementary resources, technical knowledge, and management strategies that improve the effective implementation of Environmental, Social, and Governance projects ([Khamisu et al., 2024](#)). According to [Tseng et al. \(2023\)](#), foreign-owned firms may have greater ease in implementing Environmental, Social, and Governance (ESG) criteria, which can enhance their Financial Performance, provided they have improved access to finance and modern technology. Furthermore, international investors frequently share a more sophisticated understanding of worldwide markets and regulatory norms, which can assist domestic businesses in enhancing their Environmental, Social, and Governance (ESG) performance and, as a result, their financial outcomes ([Wang and Azam, 2024](#)).

#### **4.2.5 The Moderating Role of Family Ownership between ESG and Financial Efficiency**

The present study employs Pooled Least Squares (PLS) regression to examine the association between Financial Efficiency and Environmental, Social, and Governance (ESG) indicators. An additional moderating variable included in the current study was Family Ownership. The interaction term between Family Ownership and Environmental, Social, and Governance (ESG) is statistically significant with a coefficient of 0.021869.

The results indicate that when family ownership is present, there is a 2.19% improvement in Financial Efficiency for each one-unit increase in the ESG score.

Under the assumption that all other variables remain constant, this analysis is conducted. Given that the p-value for this interaction term is 0.0033, over the significance level of 0.05, it can be inferred that the relationship is statistically significant.

The findings of this study indicate that the presence of family ownership in Pakistani firms seems to positively impact the correlation between Environmental, Social, and Governance principles and the Financial Efficiency. A significant positive coefficient indicates that family-owned businesses show greater effectiveness in converting their Environmental, Social, and Governance efforts into enhancements in Financial Efficiency. According to the research carried out by [Grissa and Lakhali \(2023\)](#), family-owned firms typically exhibit a long-term perspective, which amplifies their capacity to execute sustainable plans that boost long-term efficiency. Furthermore, family ownership typically confers a substantial level of power and accountability, which is in line with the goals of Environmental, Social, and Governance projects. The results of [Gangi et al. \(2024\)](#) indicate that this alignment has the potential to generate improved operational efficiency and decreased financial costs.

Another valid justification for the beneficial moderating effect of family ownership is that family firms have a stronger alignment between ownership and management in comparison to other commercial structures. The results of [Razzak et al. \(2021\)](#) indicate that this alignment facilitates faster decision-making and improved incorporation of Environmental, Social, and Governance (ESG) objectives. Furthermore, this can result in increased utilization of resources and, thus, enhanced Financial Efficiency. family-owned businesses often develop robust relationships with the local communities, customers, and employees in their respective areas. Within the domains of social and governance, these robust connections possess the capacity to enhance the effectiveness of Environmental, Social, and Governance processes.

The present study emphasizes the significance of family involvement in promoting Financial Efficiency through Environmental, Social, and Governance measures within the context of Pakistan, a country renowned for its substantial concentration of family-owned businesses. Firms owned by families may have a greater

commitment to attaining long-term success and are more likely to invest resources in environmentally sustainable practices that improve their Financial Performance in the long term. Given the significant beneficial influence of the interaction term, family-owned businesses can enhance their Financial Efficiency by successfully executing Environmental, Social, and Governance measures.

#### **4.2.6 The Moderating Role of Foreign Ownership between ESG and Financial Efficiency**

The current investigation utilizes Pooled Least Squares (PLS) methodology. With consideration of the moderating influence of Foreign Ownership, a regression analysis was undertaken to assess the correlation between Financial Efficiency and Environmental, Social, and Governance (ESG) factors. The interaction term between Foreign Ownership and ESG, denoted as FOR\_OWNS \* ESG, has a coefficient of -0.016342. This coefficient indicates that with each one-unit increase in the ESG score, the presence of foreign ownership is linked to a 0.01% decline in Financial Efficiency. This holds true irrespective of whether the company is classified as publicly traded or privately held.

The p-value of 0.1036 for this interaction term above the conventional significance level of 0.05, giving evidence that this relationship lacks statistical significance. The absence of statistical significance in the coefficient indicates that the presence of foreign ownership does not have a significant influence on the relationship between ESG practices and Financial Efficiency in Pakistani operations. These results suggest that the presence of foreign ownership does not have a substantial impact on the relationship between ESG performance and Financial Efficiency.

The lack of significant moderation can be ascribed to other factors. When assessing ESG practices, international investors prioritise other aspects of corporate performance, such as overall sustainability and effective risk management, over Financial Efficiency. These characteristics may not quickly lead to significant enhancements in Financial Efficiency (Matos, 2020). Furthermore, the heterogeneous makeup of foreign ownership, encompassing a range of investors with different goals and strategies, tends to mitigate its impact on Financial Efficiency. The statistical

analysis undertaken by [Black and Yahaya \(2024\)](#) indicates that the moderating influence of foreign ownership on ESG practices lacks statistical significance. Within the Pakistani setting, the lack of a significant moderating influence suggests that foreign ownership has minimal influence on the integration of ESG factors into corporate strategies in relation to financial effectiveness. The above analysis suggests that while foreign ownership may bring in specific standards and procedures, its influence on enhancing Financial Efficiency through ESG practices is limited.

# Chapter 5

## Conclusion and Recommendations

### 5.1 Conclusion

This research provides a comprehensive analysis of the relationship between Environmental, Social, and Governance (ESG) scores and Financial Performance in Pakistani firms, utilizing the Pooled Least Squares (PLS) regression methodology. The findings indicate a statistically significant positive relation between overall ESG scores and Financial Performance. This underscores the critical role that robust ESG practices play in enhancing the financial outcomes of businesses in Pakistan, aligning with previous studies that emphasize the growing importance of sustainable business practices in emerging markets. The analysis of individual ESG components reveals nuanced insights. While the Social aspect demonstrates a significant positive impact on Financial Performance, the Environmental and Governance components show no statistical significance in this context. The absence of a relation for Environmental practices may be attributed to the nascent stage of environmental regulations and standards within Pakistan, which could limit their immediate benefits as well as small sample size used in the study. Conversely, the Social components positive influence highlights the value of community engagement and stakeholder relationships in fostering brand loyalty and trust, ultimately enhancing financial results.

The investigation into Financial Efficiency reveals a different narrative, as the overall ESG score is associated with a negative impact on Financial Efficiency, particularly influenced by the Social component. This suggests that the initial investments required for implementing effective ESG practices may impose short-term burdens on financial efficiency, even as they contribute to long-term financial gains. The study suggests that the full benefits of ESG integration may materialize over time, warranting patience and a long-term perspective from businesses.

Moreover, this research identifies the moderating effects of ownership on the relationship between ESG practices and financial outcomes. The study investigates how family and foreign ownership moderate the relationship between Environmental, Social, and Governance (ESG) dimensions and financial performance and efficiency in Pakistani firm. Findings indicate that family ownership significantly enhances the positive correlation between ESG scores and financial performance. Family-owned firms are shown to be more committed to sustainability and can effectively translate their ESG initiatives into improved financial outcomes. Additionally, family ownership positively impacts financial efficiency, highlighting the ability of these businesses to align long-term goals with sustainable practices. In contrast, the influence of foreign ownership on the relationship between ESG practices and financial outcomes is less pronounced. While foreign ownership does have a positive effect on financial performance, it does not significantly influence the relationship between ESG practices and financial efficiency. This suggests that foreign investors may prioritize broader corporate performance and risk management rather than immediate gains in financial efficiency from ESG initiatives. Overall, the results emphasize the importance of family ownership in enhancing both financial performance and efficiency through effective ESG integration, while foreign ownership impact remains limited in this context.

## **5.2 Recommendations**

This research advises Pakistani businesses to include Environmental, Social, and Governance (ESG) standards into their core operations. The study found that ESG scores improve Financial Performance. This implies that businesses that

adopt and implement effective ESG policies are likely to improve their financial outcomes. Companies should therefore prioritize the development and execution of comprehensive ESG policies to enhance their Financial Performance, attract conscientious investors, and strengthen their brand reputation. The research also underscores the need for companies to prioritize effective community engagement and stakeholder relationships, which are crucial for social factor and which in turn enhance financial results. However, it is essential for firms to also address the shortcomings in their Environmental and Governance practices. Businesses should actively develop and implement comprehensive ESG policies that not only focus on social engagement but also strengthen environmental sustainability and governance structures. In doing so, they can enhance their overall ESG scores, which are linked to better financial outcomes, attract conscientious investors, and bolster their brand reputation.

It is also recommended that companies consider the potential short-term costs associated with implementing ESG practices. In the short term, the initial investment and modifications that are required can have an impact on the Financial Efficiency of the organisation, despite the fact that these practices have the potential to contribute to greater Financial Performance over the long term. Firms should be prepared for these costs and strategically plan their ESG initiatives to mitigate potential negative effects on Financial Efficiency.

It is recommended that family-owned firms take use of their dedication to sustainability and sense of long-term orientation in order to further increase the good impact that Environmental, Social, and Governance initiatives have on Financial Performance. Family-owned firms should align their sustainability goals with their broader business strategies to capitalize on the potential benefits of ESG integration while balancing traditional business practices with innovative approaches.

Foreign-owned companies are encouraged to utilize their access to global standards and resources to effectively implement ESG practices. Although foreign ownership has been shown to enhance the relationship between ESG and Financial Performance, it does not significantly impact Financial Efficiency. Thus, foreign-owned firms should focus on maximizing the benefits of ESG integration for Financial Performance while managing operational practices to optimize efficiency.

Policymakers and regulators should support and incentivize ESG adoption by creating a conducive environment for sustainable business practices. This could include providing guidance, resources, and incentives for companies to integrate ESG factors into their operations and reporting. Such measures can help accelerate the adoption of ESG practices across various sectors and improve overall corporate performance in Pakistan. Investors should consider ESG factors when evaluating potential investments, recognizing the potential for improved Financial Performance associated with high ESG scores. It is possible for investors to support businesses that are committed to sustainable practices and potentially profit from increased long-term financial returns if they incorporate ESG criteria into their investment selections.

### **5.3 Limitations and Directions for Future Research**

While interpreting the findings of this study and planning for future research, it is important to keep in mind that this study has a number of limitations. There is a possibility that the findings cannot be generalised to a larger population because the sample size that was employed in this study was rather small.

The dependability of the findings might be improved by using a bigger sample size, which would bring about more strong and complete insights into the relationship between Environmental, Social, and Governance practices and company performance.

Second, the study is Pakistan-based. This approach gives useful insights into the Pakistani market, but it may not fully capture ESG trends and their impact in other emerging or matured economies. Future research could expand the geographical scope to include a broader range of countries or regions to compare and contrast the effects of ESG practices across different economic contexts.

Third, the study primarily examines the effects of family and foreign ownership on the ESG-performance relationship. Other ownership structures, such as state-owned firm, could also be explored to provide a more complete understanding of

how different ownership models influence the integration and impact of ESG practices. Investigating these alternative ownership structures could reveal additional insights and contribute to a more nuanced understanding of ESG implementation across various types of organizations.

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