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Assessing Financial Stability through ESG: The Impact of Sustainable Finance on Commercial Banks listed in Pakistan Stock Exchange (PSX)

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Abstract
The notion of sustainable finance, which encompasses environmental, social, and governance (ESG) considerations, has become increasingly prominent in assessing the financial resilience of companies, particularly within the banking industry, in recent times. The primary objective of this research is to examine the influence of ESG practices on the financial stability of commercial banks that are publicly traded on the Pakistan Stock Exchange (PSX). The study utilizes an extensive dataset of 10 years from 2014 to 2023 that includes significant ESG indicators as well as financial performance metrics, spanning multiple years. The study seeks to analyze the impact of sustainable finance practices on the overall financial stability of the chosen banks using advanced statistical techniques and regression analysis. The results of this study are anticipated to provide insight into the possible advantages and drawbacks of incorporating ESG factors into the operational plans of commercial banks. Moreover, this study will make a valuable contribution to the current body of knowledge on sustainable finance, particularly in the context of emerging economies like Pakistan. In such markets, the importance of ESG factors in shaping financial decision-making is undergoing rapid transformation.
Keywords: financial stability, sustainable finance, commercial banks, SGD

1. Introduction

The corporate sector has undergone significant changes in recent decades due to the global financial crisis and COVID-19, highlighting the interconnectivity of the global economy. Companies have faced scrutiny for alleged misconduct in areas such as environmental impact, ethical practices, social responsibility evasion, and inadequate stakeholder management. As a result of such disruptive shift, stakeholders are thinking more critically about the environmental, environmental social, and governance (ESG) aspects of the companies they are interested in. (Sulehri et al., 2024; Oliveira, and Leal, 2024; Ma, et al., 2023).

Sustainable finance has become a crucial instrument in advancing environmental and societal and governance accountability, while concurrently guaranteeing enduring financial steadiness for corporations in contemporary times. Sustainable finance is a multifaceted concept that involves a range of approaches and methodologies aimed at integrating ESG considerations into investment strategies and financial activities. The significance of sustainable finance in ensuring financial stability for firms holds paramount importance in developing nations, where the emphasis is on economic growth and development (Yunus and Nanda, 2024; Munir, et al., 2024).

Poyser and Daugaard (2023) examined the integration of ESG is a crucial component of any sustainable growth strategy for a firm. This is due to the fact that ESG considers all pertinent factors, thereby playing a significant role in long-term planning. When making business decisions regarding ESG issues, multiple non-financial factors pertaining to a company's performance are taken into account. The operational aspects of a company are influenced by various factors including environmental considerations such as carbon emissions, energy and water usage, social factors such as adherence to fair trade principles, product safety, health and safety and corporate governance factors such as stakeholder protection, board independence, and prevention of corruption and bribery (Habib, and Mourad, 2024; Chishti, et al., 2023).

Doni, and Fiameni (2024) investigated that ESG performance has garnered attention from investors, company management, and other stakeholders. The reason for this is that the performance of a company in terms ESG factors is widely recognized as a critical means of enhancing its overall worth. The collaboration of Corporate Social Responsibility (CSR) and ESG serves to enhance a company's value, as posited by Malik (2015). According to Rezaee's (2016) research, integrating an organization's ESG performance into its managerial strategy can lead to the generation of corporate value.

Singhania, and Gupta, (2024) found that numerous corporations have initiated endeavors aimed at improving their performance with respect to ESG issues. They have conducted management roadshows with investors to exhibit their ESG practices and have begun to disclose their ESG endeavors in their annual reports for public consumption. According to Slager et al. (2012), a significant number of companies prioritize the assessment of their ESG ratings before disseminating the outcomes to relevant stakeholders. According to Eccles et al. (2014), businesses should disseminate their information to stakeholders beyond shareholders. This phenomenon can be attributed to the superior ability of high-sustainability enterprises to attract long-term investors, owing to their greater emphasis on long-term orientation.

Within the framework of ESG considerations, the distinction between material and immaterial Martiny, et al., (2024) found that the ESG factors is predicated upon their respective effects and pertinence to a company's financial performance and risk profile. ESG factors pertaining to materiality are those that exert a discernible and noteworthy impact on a firm's financial robustness, operational efficacy, and capacity for generating enduring value. The aforementioned factors encompass a range of concerns, including but not limited to climate change vulnerabilities, efficient management of supply chains, ethical labor practices, and diverse representation on the board of directors. ESG factors about material aspects are deemed crucial for investors and stakeholders to make well-informed decisions and evaluate the overall sustainability of a corporation. Conversely, ESG factors that are intangible in nature pertain to concerns that, although still pertinent from an ESG standpoint, may exert a comparatively

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lesser influence on a firm's financial viability or exposure to risk. Although immaterial ESG factors are crucial to comprehensively evaluate a company's sustainability practices, their impact on the financial stability of the company may not be direct or substantial. According to Khan et al. (2016), companies that prioritize material concerns have exhibited superior stock performance compared to those that prioritize immaterial ESG issues or do not prioritize ESG issues at all. This finding highlights the potential for integrating "material" ESG issues.

The distinction between entities that are ESG leaders and those that are ESG improvers is often overlooked in scholarly investigations. The classification of companies into ESG leaders and ESG improvers denotes distinct phases of ESG performance and dedication. Organizations that exhibit robust and all-encompassing ESG measures are deemed ESG leaders, frequently surpassing their counterparts in the seamless integration of environmental, social, and governance factors into their activities, approaches, and disclosures. Organizations have implemented comprehensive structures, protocols, and evaluative criteria, and are commonly acknowledged for their endeavors towards sustainability. Companies that are considered leaders in ESG tend to have a well-established dedication to sustainable practices and are regarded as pioneers in their respective fields.

Conversely, entities categorized as ESG improvers are those that have acknowledged the significance of ESG considerations and are proactively endeavoring to enhance their ESG metrics. The individuals in question may have identified certain areas that require improvement and have initiated the implementation of measures to rectify these deficiencies. Entities that exhibit a commitment to improving their ESG practices demonstrate a readiness to implement optimal methodologies, augment their level of openness, and interact with interested parties to harmonize their activities with sustainability objectives. Although these entities may not have attained the same degree of development as the leading organizations in the realm of ESG they are advancing in their ESG expedition and manifest a dedication to ongoing enhancement.

Chen, et al., (2023) found that only a small number of studies examined significant ESG issues and made a distinction between ESG Leaders, also known as best-in-class organizations, and ESG Improvers, also known as companies that have significantly improved their ESG footprints. Serafeim, and Yoon from the Harvard Business School published a seminal article in 2016 titled Corporate Sustainability: First Evidence on Materiality that illustrated the outperforming potential of mapping material ESG issues and emphasizing momentum, or ESG improvement (Khan et al., 2016; Sulehri et al., 2024).

The absence of standardized data poses a significant challenge in comprehending the outcomes. Various data providers offer a diverse array of ratings for multiple companies, which are utilized in various studies. Eccles et al., (2017) found that the absence of superior quality data pertaining to the performance of companies on their material ESG factors is the most prominent obstacle. This conclusion was drawn after analyzing the results of a worldwide survey of institutional investors. Berg et al. (2019) have substantiated the inadequacies of accounting metrics and ESG data through a substantial corpus of empirical research. Studies often encounter challenges related to the lack of uniformity in terminology and naming conventions. Meuer et al., (2019) identified 33 distinct definitions of corporate sustainability. Insufficient analysis of these discrepancies has resulted in ambiguous findings, as noted by Douglas et al. (2017). At least 40% of the analyzed studies utilized a third-party derived aggregate ESG score.

The amalgamation of environmental, social and governance considerations into business strategy is commonly referred to as embedded sustainability. The conventional approach to Corporate Social Responsibility (CSR) involves charitable activities and community engagement; whereas the contemporary approach of embedded sustainability incorporate ESG factors into the business strategy.

The necessity of obtaining a more comprehensive understanding of the processes underlying the relationship between ESG and financial performance (Ioannou and Serafeim 2019; Sulehri et al., 2024), in Corporate Sustainability: A Strategy, investigated whether or not sustainability could be considered a strategic strategy (one that leads to a competitive advantage) or a common practice (one that is defined by a set of industry-wide standards). They conclude that both of the aforementioned options are pertinent and that implementing sustainability over time is both challenging and dynamic.

Performance metrics that are not related to finances, specifically those pertaining to ESG factors, possess the capacity to function as significant indicators of financial performance. Historically, financial metrics have been the predominant area of emphasis in evaluating a firm's performance and worth. Nonetheless, an increasing acknowledgement exists regarding the significant role that nonfinancial elements play in shaping a firm's enduring prosperity. ESG metrics offer valuable insights into a company's environmental risk management, social impact, and governance practices, which can have noteworthy financial ramifications. Exhibiting robust environmental performance has the potential to result in reduced expenses, heightened operational efficacy, and augmented reputation, ultimately propelling financial performance. The augmentation of productivity and customer loyalty can be facilitated by social factors, such as employee satisfaction and community engagement. Moreover, proficient governance methodologies enhance the management of risks and facilitate the creation of value over a prolonged period. The integration of nonfinancial metrics enables investors and stakeholders to acquire a more comprehensive comprehension of a company's overall performance and potential financial prospects. The integration and evaluation of ESG factors is a fundamental component of sustainable finance. Environmental factors pertain to the effects of a company's operations on the natural surroundings, encompassing aspects such as carbon footprint, resource consumption, and waste disposal. Social factors comprise a range of considerations, including but not limited to labor rights, community involvement, diversity, and human rights. The evaluation of a company's leadership, risk management strategies, and transparency is conducted through the analysis of governance factors. Through the consideration of ESG factors, companies can gain a deeper comprehension of their environmental and social footprints, recognize potential hazards, and make well-informed choices to enhance their financial resilience.

Firms operating in developing countries frequently encounter a multitude of challenges that can compromise their financial stability. These challenges may include limited resources, the adverse effects of climate change, social disparities, and inadequate governance structures. The aforementioned challenges have the potential to hinder economic advancement, diminish investor trust, and subject companies to substantial hazards. The incorporation of sustainable finance principles, which give priority to ESG factors, presents a distinctive prospect to tackle these predicaments, promote adaptability, and stimulate the generation of enduring value (Chishti, et al., 2024).

Sustainable finance and ESG measurement require specific attention in developing countries such as Pakistan, given their distinctive circumstances. Many nations frequently encounter challenges such as restricted availability of funding, insufficient regulatory structures, and inadequate knowledge and comprehension of sustainable financial practices. The obstacles presented can impede the assimilation and implementation of sustainable finance tenets within organizations, consequently constraining their capacity to attain fiscal steadiness.

The sustainable finance, as measured through ESG in promoting financial stability for firms in developing countries such as Pakistan may encompass the following objectives:

- To determine how does the function of Sustainable Finance, as measured by ESG criteria, contribute to the financial performance (ROA) of businesses in developing nations such as Pakistan?
- To determine how does the function of Sustainable Finance, as measured by ESG criteria, contribute to the financial performance (ROE) of businesses in developing nations such as Pakistan?
- To determine how does the function of Sustainable Finance, as measured by ESG criteria, contribute to the financial performance (EPS) of businesses in developing nations such as Pakistan?

This study suggests the following research questions to further investigate the connection between sustainable finance and financial performance. These questions are based on the discussion that came before them, which can be found above.

Some potential research questions regarding the impact of Sustainable Finance-ESG on the Financial Stability of corporations in developing nations such as Pakistan include:

- Does the incorporation of Sustainable Finance practices, as measured by ESG criteria, contribute to the better financial performance (ROA) of companies in developing nations such as Pakistan?
- Does the incorporation of Sustainable Finance practices, as measured by ESG criteria, contribute to the better financial performance (ROE) of companies in developing nations such as Pakistan?
- Does the incorporation of Sustainable Finance practices, as measured by ESG criteria, contribute to the better financial performance (EPS) of companies in developing nations such as Pakistan?

Enterprises operating in emerging economies such as Pakistan encounter formidable obstacles in attaining financial stability and sustainability, both of which are indispensable for their enduring expansion and adaptability. The potential solutions to the aforementioned challenges can be found in the integration of sustainable finance practices, which are assessed through ESG factors. Despite the growing importance of sustainable finance practices and ESG measurement, their adoption remains constrained in several developing nations, including Pakistan. Hence, it is imperative to identify the obstacles and difficulties that hinder the implementation of sustainable finance practices measured through ESG and augment the better financial in terms of ROA, ROE and EPS of enterprises in emerging economies such as Pakistan.

Through an examination of these facets, the present study endeavors to augment the extant corpus of scholarship on sustainable finance and its ramifications for financial steadiness in emerging economies like Pakistan. The results of this study offer significant contributions to the knowledge base of policymakers, regulators, and investors. These insights can aid in the development of efficient strategies, frameworks, and mechanisms that promote sustainable finance practices measured through ESG, improve financial stability, and encourage sustainable economic growth in countries such as Pakistan. The following structure for the study is based on a review of the relevant literature, a methodology, results and analysis, discussion and future direction, recommendations, and limits.

2. Literature Background and the Development of Hypotheses

2.1. The concept of ESG and sustainable finance

Sun, et al., (2023) explored that the concept of ESG factors is intricately linked to the domain of sustainable finance. ESG pertains to a collection of standards utilized for evaluating the durability and ethical implications of a business or investment choice. Environmental factors pertain to the impact of a company on the natural environment, encompassing its carbon emissions, waste management practices, and utilization of resources. Social factors pertain to the manner in which a company engages with its employees, customers, communities, and other stakeholders. This encompasses concerns related to labor rights, diversity and inclusivity, and community involvement. Governance factors pertain to the corporate governance practices of a company, encompassing aspects such as board composition, executive compensation, and transparency. Sustainable finance pertains to the incorporation of ESG factors into the procedures of financial decision-making (Sandberg, et al. 2023; Chishti, et al., 2016).

Al Amosh, et al. (2023) found that in recent years, there has been significant growth and development in the field of sustainable finance. The significance of incorporating sustainability into financial systems is being increasingly acknowledged by governments, financial institutions, and regulatory bodies. The proliferation of diverse frameworks, standards, and initiatives has ensued with the objective of fostering sustainable finance practices. The United Nations' Principles for Responsible Investment (PRI) and the Task Force on Climate-related Financial Disclosures (TCFD) are two prominent frameworks that offer guidance on the integration of environmental, social, and governance (ESG) factors into investment decisions. (Ma, et al., (2023; Nazir, et al., 2024). The PRI provides a set of principles that investors can follow to incorporate ESG considerations into their decision-making processes, while the TCFD offers recommendations for evaluating and disclosing climate-related risks and opportunities. The aforementioned initiatives aim to promote constructive transformation by urging investors and enterprises to take into account enduring sustainability goals in conjunction with financial factors. The theoretical framework that this study was built around will now be dissected.

2.2. Theoretical Underpinning

Based on the literature, a conceptual framework has been designed to demonstrate the relationship between ESG score and firm's financial performance. In addition, two theories are to be applied for this study, which will be explained in the following section. The theories are the stakeholder theory and the theory of sustainable development.

2.2.1. Stakeholder Theory

The concept of stakeholder theory underscores the significance of taking into account the interests, needs, and expectations of diverse stakeholders when making decisions within organizational contexts. The parties with a vested interest in an organization's activities can encompass a range of entities, such as personnel, patrons, providers, localities, governing bodies, and ecological systems. Stakeholder theory posits that it is incumbent upon organizations to proactively and equitably interact with and oversee their stakeholders, while adhering to ethical and transparent practices.

The study at hand is underpinned by the primary theoretical principle of stakeholder's theory, which pertains to corporate governance and sustainability concerns. The present methodology aligns with the preceding scholarly agreement that stakeholder theory is the optimal framework for scrutinizing a company's sustainability disclosure, as posited by Post et al. (2011). According to Parkinson (1993), the board of directors possesses responsibilities that extend beyond their fiduciary duties to encompass other interest groups with legitimate claims to the firm's performance and outcomes. The societal, economic, and environmental implications of profit-maximization strategies or an excessive focus on shareholder theory, which are frequently overlooked by corporations, are critical concerns. Friedman (1970) asserted that organization does not have moral obligations to consider for other interest groups in view that managers are paid to manage the firm; hence to attain for firm's goal of profit maximization.

2.2.2. Theory of Sustainable Development

Bossel, H. (1999) elaborated that the concept of sustainable development is a theoretical construct that advocates for the notion of satisfying the requirements of the current generation while safeguarding the capacity of forthcoming generations to fulfill their own necessities. The statement acknowledges the interdependence between economic advancement, societal development, and preservation of the environment. The theoretical framework underscores the necessity of adopting a well-rounded strategy that takes into account the ecological, communal, and financial aspects of advancement. The achievement of sustainable development necessitates the incorporation of sustainability principles into decision-making procedures across all tiers, ranging from individual behaviors to national regulations and global accords. The concept entails the prudent utilization of natural resources, the advancement of social fairness and integration, and the embrace of ecologically sustainable methodologies. After having discussed the idea of underpinning theories following theoretical framework is proposed.In recent times, there has been an increasing scholarly focus on examining the influence of sustainable finance on the financial performance of corporations. The concept of sustainable finance entails the incorporation of ESG factors into the various stages of financial decision-making. The primary objective of this literature review is to investigate the current body of research and provide insights into the correlation between sustainable finance and financial performance.

2.3. The relationship between ESG and a firm's financial performance

A plethora of research endeavors have been conducted to examine the correlation between ESG performance and financial results. Several studies indicate a favorable association between sound ESG practices and financial outperformance, implying that enterprises with resilient sustainability strategies tend to generate superior financial outcomes in the long run. The aforementioned studies underscore the prospective advantages of integrating ESG considerations into investment decision-making procedures, including but not limited to, superior risk mitigation, augmented corporate image, and heightened investor assurance.

Cho et al., (2023) examined ESG performance and corporate value. ESG performance of 1,072 Korean listed companies boosted corporate value between 2011 and 2019. Low-ROA companies lose this advantage. ESG performance consistently declines when a firm's financial performance declines from the best to the lowest quartile of return on assets (ROA). This trend hurts low-quartile enterprises. Extreme information asymmetry enterprises are approaching. Financial performance affects investor ESG performance.

Stakeholder activism involves pressuring companies to adopt environmentally sustainable practices to improve their ESG and financial performance. Stakeholders want true ESG and financial performance. However, weak ESG performers are more inclined to greenwash (Lee et al.,2023).

Sun et al., (2023) examined the effect on Chinese manufacturing firms listed between 2013 and 2020 which indicate that the implementation of green finance have a positive impact on the ESG performance on these enterprises. Poyser & Daugaard (2023) reviewed the sustainable investments and indigenous sustainability techniques. To conceptualize and characterize the literature and argue for Indigenous Sustainable Finance (ISF) as a unique field the study claims that ISF is a candid, well-defined topic of inquiry separate from mainstream sustainable finance and other social and management sciences.

Wang et al., (2022) examined how green finance policies affect corporate ESG performance using listed company data from 2006 to 2020 using a continuous Difference-in-Differences (DID) model. Data suggests certain conclusions. Green funding strategy promotes ESG performance, but to varied degrees. The strategy encouraged businesses to develop and use eco-friendly products. The strategy's focus of front-end risk control over post-production pollution treatment has not improved enterprise pollutant emission management. Research outcomes vary. Green financing affects enterprises differently based on environmental regulation. Green finance affects environmental-regulated companies more.

Researches indicate cautious optimism regarding how markets value long-term commitments. According to the findings of Kotsantonis et al. (2019), when CEOs conveyed "long-term plans," the market responded in a positive manner. A cross-sectional analysis of companies with high ESG ratings found that their returns were up to 3.8% greater per standard deviation of their ESG score over the medium and long term (Dorfleitner et al., 2018; Khan et al., 2023; Ullah et al., 2024). In a review of over 1,000 studies published between 2015 and 2020, (Whelan et al. 2021) found a positive relationship between ESG and financial performance in 58% of "corporate" studies focusing on operational metrics such as ROE, ROA, or stock price, with 13% demonstrating neutral impact and 21% mixed results.

Investor studies in particular seem to demonstrate a substantial correlation between increased financial success and lower risk associated with sustainability. Financial events have made it possible for researchers to obtain distinctive datasets. During the financial crisis that occurred between 2007 and 2009, Fernández et al. (2019) found that German green mutual funds delivered risk-adjusted returns that were marginally better than those of their peers. Similar better results were shown during the financial crisis of 2008 for a group of ESG stock market indices known as FTSE4Good (Wu et al., 2017). Other studies on the wake of 2008 crises found that when the economy was contracting, high-rated ESG mutual funds outperformed low-rated funds in the calculation of Sharpe ratio (Chatterjee, 2018; Das et al., 2018). These conclusions seem to hold true generally during downturns in the economy. Finally, 24 of the 26 ESG index funds outperformed their conventional equivalents during the first quarter of the COVID. At the end of the third quarter of 2020, 45% of ESG index funds outperformed their conventional counterparts, which was attributed to the fact that ESG boosted resilience.

Few studies have examined the financial implications of investing in firms that develop climate mitigation or adaptation solutions. This is an intriguing and potentially fruitful area of research. Climate change is projected to have an impact on economies and markets through the adoption of new legislation, The adoption of new purchasing patterns—particularly among the next generation of consumers—and technological advancements. As example, from October 2015 to October 2020, the FTSE Opportunities All Share Index beat its traditional counterpart, the FTSE Global All Cap Index, by 4.9% annually. Companies in this index are involved in renewable and alternative energy, energy efficiency, water infrastructure and technology, waste management and technologies, pollution control, environmental support services, and food, agriculture, and forestry.

2.4. Environmental aspect and firm's financial performance

Research has demonstrated that the environmental aspect of a company's activities and policies can exert a noteworthy influence on its economic outcomes. Several scholarly investigations have explored the correlation between environmental variables, such as carbon emissions, energy efficiency, waste management, and a company's financial performance. According to scholarly research, companies that exhibit robust environmental performance by implementing sustainable practices and minimizing their environmental impact can reap numerous advantages. Wu and Li (2023) investigated the correlation between environmental disclosure and financial performance in Chinese enterprises with high levels of pollution between 2008 and 2019. Corporate financial performance is positively impacted by economic development, information dissemination, and environmental disclosure. The financial performance of the company is expected to exhibit a positive trend in the long run.

Wedari et al., (2023) examined the potential moderating effect of environmental innovation on the association between environment and return on assets (ROA). A total of 119 firms spanning the years 2009 to 2017 were included in the sample. The presence of environmental innovation serves as a positive moderator for both environmental performance and financial performance.

Assuming all other parameters remain constant, a study with an inferred long-term emphasis will yield a positive result 76% of the time. Corporate investments in environmental sustainability had no impact on the financial success of corporations in the short term, but they did have positive effects on the performance of corporations over the long term, according to the findings of a meta-analysis carried out by (Hang et al., 2019; Chishti et al., 2024). On the basis of above mention literature following hypothesis is proposed

2.4.1. Social aspect and firm's financial performance

The financial performance of a firm is significantly influenced by its operations and relationships with stakeholders in the social domain. The social dimension encompasses a multitude of factors, such as the well-being of employees, labor practices, engagement with the community, satisfaction of customers, and ethical considerations. According to scholarly research, companies that prioritize social responsibility and demonstrate robust social performance are likely to achieve favorable financial results.

Shin et al., (2023) investigated the extent to which the cultural context of a nation alters the association between a company's ESG performance and its financial performance. Our research indicates that stakeholder assessments and valuations of a company's ESG performance exhibit cross-national differences, resulting in divergent financial outcomes for ESG across countries. It has been observed that nations exhibiting high levels of individualism or masculinity tend to exhibit a greater degree of recognition and introspection in this regard.

Sinha and Goel (2023) demonstrated a significant and enduring correlation between the disclosure of ESG factors and the yearly mean stock price of publicly traded enterprises operating in emerging economies such as India. The ESG score has emerged as a potentially valuable metric for predicting future financial performance and managing risk, thus rendering it pertinent to policy considerations. Based on the aforementioned literature, the present study proposes the following hypotheses.

2.4.2. Governance aspect and firm's financial performance

The governance component of a company's activities is of paramount importance in determining its financial outcomes. The implementation of efficient corporate governance practices guarantees the presence of openness, responsibility, and ethical behavior in the procedures of making decisions. Companies that exhibit robust governance practices have a tendency to garner the trust and confidence of investors, which in turn facilitates access to capital on favorable terms. Effective governance practices can help to mitigate conflicts of interest, lower agency costs, and improve the overall operational efficiency of an organization. The establishment of a strong foundation for sustainable financial performance and long-term value creation can be achieved by firms through the implementation of robust governance mechanisms, which may include independent boards, transparent reporting, and ethical guidelines.

Wahyudin and Solikhah (2017) inspected the implementation of Corporate Governance (CG) in a sample of 88 enterprises listed on the Indonesian Stock Exchange. The specimens under consideration are those that have participated in the Corporate Governance Perception Index (CGPI) Awards during the period spanning from 2008 to 2012. The financial performance of Indonesian publicly traded companies, as measured by accounting-based metrics such as return on assets (ROA), return on equity (ROE), and earnings per share (EPS), is influenced by their corporate governance (CG) rating. The prompt response of the Indonesian stock market towards the implementation rating of Corporate Governance (CG) remains indeterminate, and it has not yet yielded a significant impact on the company's immediate growth prospects.

Almeyda and Darmansya (2019) examined ESG disclosure rankings and non-financial factors that affect financial performance. Real estate firms invested in accordance with ESG standards. G7 companies—the world's strongest economies—were sampled. A company's accounting and stock market success is measured by its ROA, ROC, stock price, and P/E ratio. STATA multivariate regressions on panel data from 2014 to 2018 examined correlations. ESG disclosure improves ROA and ROC but does not appear to affect stock price or P/E. Environment boosts ROC and stock price. Social and governance factors did not affect corporate financial performance. Drawing upon the literature previously discussed, the current study posits the subsequent hypothesis.

H1a: Environmental, social, and governance (ESG) aspects have positive and significant effect on the financial performance (ROA) of selected industrial banks of Pakistan.

H1a: Environmental, social, and governance (ESG) aspects have positive and significant effect on the financial performance (ROE) of selected industrial banks of Pakistan.

H1a: Environmental, social, and governance (ESG) aspects have positive and significant effect on the financial performance (EPS) of selected industrial banks of Pakistan.

3. Methodology

3.1. Research Model

The econometrics model employed in this study is selected based on the nature of the research and the specific objectives of the study in order to test the stated hypothesis.

$$RP=\beta_0+\beta_1 ESG+\varepsilon \quad (1)$$

In order to operationalize the research objective, the regression equation is subdivided into three separate equations, each corresponding to a specific proxy of financial performance.

$$ROA=\beta_0+\beta_1 ESG+\varepsilon \quad (1a)$$

$$ROE=\beta_0+\beta_1 ESG+\varepsilon \quad (1b)$$

$$EPS=\beta_0+\beta_1 ESG+\varepsilon \quad (1c)$$

Where, FP is an abbreviation for financial performance, while ROA is a commonly used symbol to represent return on assets. Similarly, ROE is an acronym used to designate return on equity, and EPS is an abbreviation that denotes earnings per share.

3.2. Population Data Source and Statistics

The population of the study was industrial banks of Pakistan. This study was conducted using secondary data collected from annual audited financial reports of banks, the statistical division of the State Bank of Pakistan (SBP), and the website of the Pakistan Stock Exchange (PSX). The data covers a period of 10 years, from 2013 to 2022. The present study adopts a quantitative research approach and employs pooled regression analysis for data analysis, utilizing the software E-Views.

4. Results and Discussion

4.1. Regression Analysis

Table 4.1 displays the statistical results obtained from Equation 1a, which examines the influence of ESG and ROA. The p-value associated with ESG meets the criteria for significance, indicating that the first hypothesis is accepted. This implies that ESG has a positive and significant impact on the ROA of the selected industrial banks in Pakistan (H1). The value of adjusted R^2 (coefficient of determination), which is 91.55%, indicates the extent to which the variation in the dependent variable ROA, can be explained by the explanatory variable, ESG, in the selected investment banks of Pakistan.

The residual term of 8.45% in the model represents the portion of the data that remains unaccounted for or unexplained. Furthermore, the F value is employed as a metric to assess the overall adequacy of the model utilized in this study. The significance column reveals the astute observation that the F statistics and P value are both below the established threshold. The statistical significance of the first regression model indicates that it possesses the ability to predict the outcome of the variable with a significant level of accuracy and effectiveness. According to the findings presented in Table 4.1, the β coefficient exhibits a positive direction, and the associated P-value is below the commonly accepted threshold of 0.05. This indicates a statistically significant and positive relationship between ESG and ROA among the selected investment banks in Pakistan. Furthermore, the Durbin-Watson statistic for the first model, with a value of Furthermore, the Durbin-Watson statistic for the first model, with a value of 0.212015 indicates that model one does not exhibit multicollinearity indicates that model one does not exhibit multicollinearity. Based on this premise, the first hypothesis is deemed acceptable.

Table 1

Variable	Coefficient	SE	t statistic	Prob.
C	0.575921	0.215522	6.842434	0.0032
ESG	0.021084	0.000342	62.25434	0.0041
R^2	0.917384	SE of regression		1.437541
Adjusted R^2	0.915744	F statistics		9.421892
Mean dependent variable	6.115421	Prob. (F statistic)		0.000000
SD dependent variable	4.562140	Durbin-Watson stat		2.212015

The statistical results of the regression analysis for Equation 1b are presented in Table 2. Similar to Equation 1a, our hypothesis is supported as indicated by a p-value of less than 0.05, suggesting a significant impact of ESG on Return on Equity (ROE) on the selected industrial banks of Pakistan (H2). The adjusted R^2, also known as the coefficient of determination, indicates that 94.72% of the change in the ROE can be attributed to the ESG factor. The remaining 5.28% represents unexplained factors, including the error term. Furthermore, it is noteworthy that the P-value of F statistics is 0.000000 are lower than the established standard.

Table 2

Variable	Coefficient	SE	t statistic	Prob.
C	0.185972	0.095682	1.828613	0.0021
ESG	0.021468	0.000238	79.90283	0.0000
R^2	0.948342	SE of regression	1.028231	
Adjusted R^2	0.947245	F statistics	9.38493	
Mean dependent variable	5.81594	Prob. (F statistic)		0.000000
SD dependent variable	4.860836	Durbin-Watson stat		3.304248

Table 3 presents the results of the regression analysis, specifically focusing on the relationship between ESG and Earnings per Share (EPS). The statistical significance of the P value and coefficient suggests a positive and significant influence of ESG on EPS. Consequently, we accept our hypothesis (H3). The adjusted R^2 value of 81.47% indicates that the proportion of variance in the dependent variable, EPS that can be explained by the explanatory variable, CSR, of the selected investment banks in Pakistan. The unexplained portion of 18.53% in the model could be attributed to unidentified factors.

Furthermore, the analysis of P value of F statistics (0.000000) provides valuable insights, as the obtained P value is lower than the commonly accepted significance level of 0.05. The F test is a valuable statistical tool that can effectively predict the impact of a variable. The coefficient β demonstrates a positive relationship, and the P value, which is less than 0.05, confirms the statistical significance of the impact of ESG on EPS for the chosen investment banks in Pakistan.

Table 3

Variable	Coefficient	SE	t statistic	Prob.
C	3.842275	0.195632	22.62997	0.0011
ESG	0.021089	0.000842	38.82512	0.0000
R^2	0.814721	SE of regression	1.845121	
Adjusted R^2	0.834424	F statistics	9.211540	
Mean dependent variable	9.449844	Prob. (F statistic)		0.000000
SD dependent variable	4.870324	Durbin-Watson stat		2.124539

The findings of the research are consistent with the theoretical underpinnings of both the Stakeholder theory and the theory of sustainable development. First, Companies serve a purpose beyond mere profit generation, as they can achieve wealth maximization by prioritizing the well-being of their all stakeholders. Second, the implementation of sustainable finance, as assessed through ESG considerations, has the potential to yield improved financial performance that is both sustainable and long-term in nature.

In recent times, there has been a noticeable shift in the investment banks of Pakistan towards prioritizing ESG factors. This strategic emphasis has demonstrated significant positive outcomes for their financial performance. The inclusion of ESG principles in the banks' business strategies serves as evidence of their dedication to adopting sustainable and responsible practices. Consequently, they are observing favorable effects on crucial financial indicators such as Return on Assets (ROA), Return on Equity (ROE), and Earnings per Share (EPS). The adoption of ESG initiatives has not only bolstered their standing and garnered the confidence of stakeholders, but has also enticed investors with a strong commitment to social responsibility, resulting in a rise in capital inflows. Furthermore, through the alignment of their operations with ESG standards, investment banks can enhance their ability to manage environmental and social risks. This, in turn, contributes to the promotion of long-term stability and resilience in their financial performance. The incorporation of ESG principles in Pakistan's financial sector is of paramount importance as the country's financial landscape undergoes ongoing transformation. This integration is essential for ensuring long-term prosperity and making significant contributions towards a more sustainable future.

5. Conclusion and Recommendations

The competitiveness of the financial sector has experienced significant growth, and the consideration of ESG has become an essential concern alongside the focus on profitability. Businesses are commonly regarded as social entities that are obligated to serve stakeholders and prioritize the execution of ESG. They also tend to disclose their ESG activities accordingly. The primary objective of this study is to examine the influence of ESG on the financial performance (FP) of the banking sector in Pakistan. A sample of 24 investment banks of Pakistan was selected for analysis. The study covers a period of 10 years, from 2013 to 2022. Pooled regression models were utilized in this study to examine the influence of ESG on commonly employed indicators of FP, namely ROA, ROE, and EPS. The empirical evidence suggests that the pooled model has demonstrated a strong relationship between ESG and financial performance indicators such as ROA, ROE, and EPS. This finding supports the notion that ESG has a positive and significant influence on the financial performance of the chosen industrial banks in Pakistan. This study posits that the ESG phenomenon is regarded as a crucial factor for growth and a tool for enhancing financial performance in the commercial banks of Pakistan, based on significant findings. The current focus of ESG research primarily centers around well-established companies, with limited attention given to developing nations. This study aims to address this gap by confirming the key findings of previous studies. Consequently, the findings of this study hold significant implications for policy makers and managers.

Based on the study's findings, the following significant policy recommendations are made:

i. ESG has spread throughout the world and is increasingly accepted by all stakeholders. Business units are now regarded as social units; they must serve stakeholders and frequently implement ESG with a priority on subsequent disclosure. ESG practices are not required by law, but they do yield great results and have a favorable impact on profitability, so they can be incorporated into strategic business plans for long-term success.

ii. Unhealthy ESG policies may result in externalities that harm stakeholders' interests or benefits. Disappointed stakeholders may become lost clients and a source of diminishing profits.

iii. Policymakers are also advised to ensure ESG-related disclosure, which will not only produce profitability but also increase the market value of the unit's shares, leading to the accumulating of numerous social and economic benefits.

iv. This study further hypothesizes that the ESG phenomenon is a crucial growth factor and a tool for increasing financial performance based on important findings. Ultimately, the majority of ESG research focuses on established businesses and countries, with developing nations receiving the least attention. As a result, the results of this study make a significant contribution to the body of knowledge and have important ramifications for financial sector governance and policymakers.

The following restrictions prevent the study's conclusions from being generalized: First off, the model may be applied with a sizable sample size from Pakistan because the study only considered banking organizations, despite the fact that many companies are listed on the PSX. Second, the investigation analyzed data spanning 10 years, but it was discovered that ESG has a good, meaningful effect on financial performance, but it takes time. Thirdly, there is a limited amount of research on ESG in developing or less developed nations, and we only included Pakistan, even though a sample of five or more developing nations might produce more reliable results. Furthermore, it is logical to consider both developing and developed nations when examining ESG practices and their subsequent effects on financial performance (FP). In conclusion, we recommend considering the maximization of shareholder wealth as a more practical indicator of market value, rather than just exploring traditional proxies of financial performance such as ROA, return on ROE, and EPS.

Appendix 1

Selected Commercial Banks in Pakistan

1	Allied Bank Limited
2	United Bank Limited
3	Askri Bank Limited
4	Bank Al Falha
5	Bank Al Habib Limited
6	Faysal Bank Limited
7	Habib Bank Limited
8	JS Bank Limited
9	KASB Bank Limited
10	Muslims Commercial Bank Limited
11	Nib Limited
12	Samba Bank Limited
13	Silk Bank Limited
14	Soneri Bank Limited
15	Standard Chartered Pakistan Limited
16	Summit Bank Limited
17	Metropoliton Bank Limited
18	The Bank of Khyber Limited
19	The Bank of Panjab Limited
20	The Bank of Sindh Limited
21	Meezan Bank Limited
22	Prime Commercial Bank Limited
23	PICIC Bank Limited
24	Atlas Bank Limited
25	Bolan Bank Limited
26	Standard Chartered Bank
27	Union Bank Limited
28	Suadi Commercial Bank

Source: Pakistan Stock Exchange (PSX)

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