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ESG DIMENSIONS AND BANK PERFORMANCE: AN EMPIRICAL EVIDENCE FROM INDIA

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Abstract

Purpose: This paper attempts to examine how Indian banks' environmental performance, societal accountability, and corporate governance (ESG performance) affect their financial and market performance.

Design & Methodology: The study evaluates Indian Commercial Banks both public and private sector depending upon data availability. It examines the relations between Bank Performance (BP) indicators and the ten ESG pillar dimensions for the year 2022. The Refinitiv database's ESG dimensions are the Independent Variables, while market and accounting variables are employed to measure the dependent Variables.

Findings: The study's regression analysis shows that bank's total ESG financial and operational success is positively correlated.

Research Limitations/Implications: This study takes a close look at how companies are handling environmental, social, and governance (ESG) practices and how those practices are connected to their current and future performance. It offers insights that can be useful for both professionals working in companies and researchers in this field. It tells us what factors related to ESG can help companies like BP do better in the present and the future. So, it's like a guide that shows what matters in terms of ESG for improving a company's performance.

Originality/ Value: This is the only study that has examined how the ESG dimension affects Bank Performance in India.

Keywords: *ESG Dimensions, Environmental performance (EP), Societal Responsibility (SR), Corporate Governance (CG), Bank Performance.*

Introduction

The significance of corporate governance (ESG), social responsibility, and environmental performance for banks along with other financial organizations has been increasingly emphasized in recent years. These problems are just not ethical concerns; they also have a significant impact on economic stability. Financial organizations have great challenges in satisfying the expectations of the customers and investors willing to integrate ESG factors into their diversified portfolio, investment and lending practices. Banks are facing high amount of pressure from regulators, investors and policymakers to include ESG risks in their risk management schemes, as evidenced by the growing demand for sustainable goods. It is broadly

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acknowledged that financial organizations play a dual role as generators of financial value and drivers of sustainable development. Consequently, financial intermediaries have started incorporating ESG principles into their business plans in significant numbers. ESG elements being incorporated into credit regulations and risk procedures can have implications for financial regulations and is a tactical consideration for all the governing bodies and even the banks'.

It is a crucial aspect to note that the financial crisis was a major factor for banking industry's decision to adopt ESG standards. In response to the crisis, credit institutions started adopting these practices as a means to rebuild customer confidence. An ideal result of ESG regulations would be the widespread implementation of more reliable corporate governance standards, alongside efforts to minimize environmental impact and engage in social responsibility initiatives. These practices are considered important for all of the participants engaged. ESG policies can, however, be affected by competing managerial interests, and adopting better ESG practices may occasionally conflict with the need for profitability.

This study seeks to investigate the feasibility of achieving the "desirable scenario" for Indian banks. Specifically, it aims to provide empirical evidence by reviewing earlier research to determine the connection between corporate financial success and ESG initiatives conducted on banks.

Literature Review and Hypothesis Development

Bank Performance and ESG Principles: ESG Involvement is a diverse and detailed concept, incorporating various dimensions. The concept of "ESG" states the combined impact of environmental, societal, and corporate governance policies.

They have (Chouaibi and Affes, 2021) said that it is crucial for banks efficaciously convey their environmental activities, social responsibility initiatives, and governance policies to their customers, investors, and other stakeholders.

Bank performance and environmental factors: Banks are actively involved in establishing protections of the environment for their clients and business partners as well as for themselves. Thus, implementing an environmental strategy may be considerably simpler with the help of a robust environmental management system, which will be advantageous to both internal operations and clients. The environmental consciousness of a bank can be evaluated from three angles: financial environment-responsible projects, mitigating the risk associated with lending to polluting industries, and ensuring efficient resource utilization within the bank itself (Laguir et al., 2018). As a result, a bank's commitment to environmental regulations can be determined by its incorporating environmental factors in its lending guidelines and by providing "green" financial commodities and services, such as climate products, socially responsible savings instruments, and environmental advisory services. (Gangi et al., 2019; Scholtens, 2009).

As long as the ongoing environmental investments continue to yield benefits, environmental measures, such as implementing rules to minimize paper and water usage and adopting electricity-saving programs, can bolster the competitive advantage of environmentally conscious banks. (Finger et al., 2018). A source of competitive advantage, the strategic development of specialized organizational resources for mitigating environmental consequences might come from environmental management (Menicucci et al., 2023).

For example, by focusing on the increasing public demand for corporate environmental awareness, banks can improve their reputation by showing their green building certifications, ISO 14001 approval, and charitable operations that aid environmental causes. (Chang and Devine, 2019). From a resource-based view, taking part in environmental protection initiatives for the bank or its consumers can lead to increased profitability, while according to stakeholder Theory; banks have obligations to a variety of stakeholders. (Including supplier, governmental bodies, workers and all other stakeholders) and the circulation of values related to environment throughout its value network. In this instance, environmental giving back contributes to establishing a favorable image with stakeholders (Jacobs et al., 2010).

Studies indicate a robust connection between the sustainable management quality and bank performance, although the exact nature of this correlation varies depending on the industry. Stakeholder theory and resource-based theories indicate that environmental practices and bank performance are positively correlated. (Albertini, 2013).

Bank Performance and Social Responsibility: *Corporate Social Responsibility (CSR)* and banks' role as intermediaries are strongly interrelated, (Menicucci et al., 2023), which refers to how banks contribute positively to society and the environment. CSR in the banking sector includes various actions like ethical investment funds, financing non-governmental organizations (NGOs), enabling cost-effective e-payments, advising clients on risk, and encouraging financial literacy among the general public. The goal is to make financial services more inclusive and beneficial for a broader part of society. A strong banking industry is necessary for the economy to prosper, and CSR strategies help build trust with stakeholders, such as investors and customers. By adopting CSR practices, banks can differentiate themselves from competitors and gain a market advantage. It becomes a "win-win" situation, where the bank's social responsibility reinforces its position in the market and improves profitability. Customers, communities, and the employees of banks are all directly impacted by *corporate social responsibility (CSR)*. Through a variety of initiatives and activities, it also has an impact on business owners, institutions, and organizations that become consumers of banking services. The goal is to fulfill the requests and the obligations of various stakeholders to increase competitive advantage, product differentiation, and efficiency. According to the resource-based concept, banks can differentiate themselves through CSR and enhance the public's opinion of their financial activities. To develop a good reputation, Banks must convey to consumers that their function in society extends beyond financial gain. Previous research indicates that social responsibility positively influences banks' long-term financial performance, market position, and reputation. In general, CSR-oriented banks do better than banks that do not comply the CSR norms in terms of effectiveness and profitability.

In summary, banks that are involved in CSR initiatives tend to have a stronger financial result, gain a competitive advantage, and build a positive reputation, which leads to increased trust and loyalty from customers.

Based on previous research, social responsibility has been found to have several positive impacts on banks: enhanced market position and long-term financial performances (Velte, 2017). Public perception of the bank is positively influenced (Gangi et al., 2019). Stakeholder theory serves as the foundation for the social impact hypothesis, which states that when CSR activities grow, there is a strong association with improved financial performance (Wu and Shen, 2013). In other words, banks that participate in more socially responsible activities, tend to perform better financially. For instance, research conducted by (Shen et al. 2016) demonstrated that banks that prioritize CSR tend to outperform non-CSR banks in terms of profitability and efficiency. Their analysis covered data from global banks in 18 different countries. Overall, the literature provides evidence that social responsibility positively affects banks' financial results, place in the market, reputation, and the general public's perception. It supports the idea that integrating CSR practices can lead to better outcomes for banks and their stakeholders.

Bank Performance and Corporate Governance: Better corporate governance procedures are associated with higher company performance, following the agency theory. The quality of corporate governance system is determined by several elements, including executive compensation, risk management, CEO-chairperson duality, board size, gender equality and diversity, director competency and knowledge, and independence. To enhance their financial performance, companies need to reconsider governance processes, value chain frameworks, and business strategies. (Youssef and Diab, 2021); (Elali, 2021). Strong corporate governance mechanisms, as advocated by the agency theory, should coordinate between managers' and all investors' interests (Grove et al., 2011). In the banking sector, which has unique characteristics, regulatory bodies have a significant role in pressuring banks to carry out enhanced and secure corporate framework of governance due to the complexity of the business and strict regulatory requirements (John et al., 2016). The relationship between excellent corporate governance and financial performance in the banking industry has been the subject of numerous studies. Several studies have

demonstrated the beneficial effects of sound corporate governance on financial performance and the decrease in agency issues. (Orazalin and Mahmood, 2019; Soana, 2011). Furthermore, Governance procedures can improve performance by reducing mismanagement, strengthening regulation, and strengthening reputation. (Zehri and Zgarni, 2020). According to prior research, a bank's outstanding image is similarly based on careful business planning, a transparent governance framework, and an effective internal control system. These results align with the agency theory predictions, and multiple researches have indicated a beneficial relationship between financial performance and corporate governance. (Soana., 2011).

Still, there is some inconsistency in the outcomes from earlier studies. The quality of corporate governance and financial performance were not found to be correlated (Shakil et al., 2019). The relationship between corporate governance and financial success in the banking sector is therefore still up for discussion.

Based on the past literature, the following hypothesis has been developed:

H1: There is a positive relationship between ESG activities and Banks' financial performance.

Data and Methodology

Sampling: We compel our sample to banks located in India. The selection process considered a sample of 12 public and 21 private banks out of which a total of 28 banks has been finalized based on the availability of data for the year 2021-22.

Three primary benefits come with this information when examining the connection between environmental performance, societal accountability, and corporate governance (ESG performance) and bank performance – presumably a reference to a company or banks.

- **No Regulatory Bias:** The study isn't affected by specific regulations because the chosen banks operate under similar regulatory and governance rules. In simpler terms, they all play by the same rulebook.
- **Large and Similar Sample:** The group of banks we selected is both big and similar. They do pretty much the same things, following the same rules set by The Reserve Bank of India. These banks, which primarily offer corporate, investment, and commercial banking services, are a combination of medium-sized and large banks and share comparable funding sources.
- **Uniform Business Structures:** This means they're quite alike when it comes to how they operate.

So, in a nutshell, this dataset is great for studying the connection between ESG aspects and these banks because they're in a similar field when it comes to regulations, and also similar in size and operations.

Data: The Refinitiv database is where the ESG-Score data used in this study was acquired.

ESG Indicator: The study employs the ESG performance Score provided by Refinitiv. Previous banking research has shown that the ESG Score is a useful tool for conducting an extensive analysis of a bank's ESG activities (Buallay et al., 2021). The combined value of the scores for the Environment, Social, and Governance (ESG) pillars has been used to compute the ESG Performance Score. In addition, the Environmental, Societal, and corporate governance performance scores are comprised of a ten linked dimensions with a weighted average score associated with each ESG pillar. The Refinitiv Database is a comprehensive data and analytics platform designed to empower professionals in the financial industry with the information they need to make informed decisions. It is a product of Refinitiv, a worldwide supplier of infrastructure and data for the financial markets that serves more than 40,000 institutions across around 190 countries. This database is an important tool for traders, analysts, portfolio managers, risk managers, and other financial professionals, providing them with real-time and historical data, as well as a wide range of analytical tools.

Refinitiv Database plays an important role in the world of finance by providing a comprehensive and reliable source of financial data, analytics, and research. Its user-friendly interface, extensive coverage, and

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customized features make it an indispensable tool for the financial industry. As the financial landscape continues to evolve, the Refinitiv Database remains a vital resource for making informed decisions and managing risk in an ever-changing market.

Dependent Variables: To measure BP, we have employed three *dependent variables*: ‘ROE (Return on Equity)’, ‘ROA (Return on Asset)’, Stock Market Return (SR), and ‘Price Book Ratio (P/B Ratio)’.

Control Variables: The research has taken into account the impact of banks and additional particular factors to regulate the connection between bank performance and ESG score. We have considered three control variables namely ‘SIZE’, ‘Capital Adequacy Ratio (CAR)’, and ‘Net Interest Margin (NIM)’.

Methodology:

The Econometric Model:

To test the connection between banks’ performance and ESG Score, we have considered the following estimation models:

$$ROA_{it} = \beta_0 + \beta_1 ESG\ SCORE_{it} + \beta_2 CAP_{it} + \beta_3 NIM_{it} + \beta_6 SIZE_{it} + e \text{ [Regression Model 1]}$$

$$ROE_{it} = \beta_0 + \beta_1 ESG\ SCORE_{it} + \beta_2 CAP_{it} + \beta_3 NIM_{it} + \beta_6 SIZE_{it} + e \text{ [Regression Model 2]}$$

$$SR_{it} = \beta_0 + \beta_1 ESG\ SCORE_{it} + \beta_2 CAP_{it} + \beta_3 NIM_{it} + \beta_6 SIZE_{it} + e \text{ [Regression Model 3]}$$

$$P/B_{it} = \beta_0 + \beta_1 ESG\ SCORE_{it} + \beta_2 CAP_{it} + \beta_3 NIM_{it} + \beta_6 SIZE_{it} + e \text{ [Regression Model 4]}$$

Empirical Results and Interpretations

Table 1: Descriptive Statistics

	LOG_OS	LOG_ROA	LOG_ROE	LOG_PB	SR	SIZE	LOG_NIM	LOG_CAR
MEAN	3.779752	-0.543778	1.873466	-0.134962	-0.826083	1.873466	1.061329	2.831735
MEDIAN	3.900696	-0.553423	2.053963	-0.255413	-0.889294	2.053963	1.016764	2.820185
MAX	4.406719	0.688135	2.909630	1.280934	-0.633796	2.909630	1.835776	3.254243
MIN	2.397895	-2.659260	-0.371064	-1.427116	-0.952455	-0.371064	0.647103	2.582487
STD.DEV.	0.519720	0.796837	0.845858	0.741992	0.128310	0.845858	0.289351	0.167031

Interpretation: The above Table displays descriptive statistics with SD, MAX, MIN, and mean for the whole sample. Here the dependent variables considered in the present study are ‘Return on Assets (ROA)’, ‘Return on Equity (ROE)’, ‘price-to-book ratio (P/B ratio)’, and ‘Stock Return (SR)’. ESG-related overall score has been denoted as OS. Here the firm-level control variables included ‘Net Interest Margin (NIM)’ and ‘Capital Adequacy Ratio (CAR)’, whereas to take into consideration the firm’s size, the total assets log has been utilized. The table above allows us to observe that the mean value of the overall ESG score is 3.779752, whereas the median, maximum, and minimum values of the independent variable are 3.900696, 4.406719, and 2.397895 respectively. The ‘standard deviation’ of the overall ESG scores is 0.519720 which indicates that there are no large differences in the sample’s total ESG scores. The mean values of the ROA, ROE, PB ratio and stock return are -0.543778, 1.873466, -0.134962, and -0.826083 respectively. The values of standard deviation for ROA, ROE, PB, and Stock Return are 0.796837, 0.845858, 0.741992, and 0.128310 respectively, which further suggests that there aren’t any significant differences in values of ROA, ROE, PB and Stock Return in the entire sample. The mean value of the firm’s size is 1.873466, whereas the median, maximum, and minimum values of the independent variable are 2.909630, -0.371064, and 2.053963 respectively. The ‘standard deviation’ of the ‘size of the firms’ is 0.845858 which indicates that there are no large differences in the entire value of the size in our sample.

Table 2: Correlation Analysis

	LOG_OS	LOG_ROA	LOG_ROE	LOG_PB	SR	SIZE	LOG_NIM	LOG_CAR
LOG_OS	1.000000							
LOG_ROA	0.223147	1.000000						
LOG_ROE	0.008798	0.756311	1.000000					
LOG_PB	0.325341	0.303425	0.072543	1.000000				
SR	-0.595687	-0.187208	0.188769	-0.393249	1.000000			
SIZE	0.008798	0.756311	1.000000	0.072543	0.188769	1.000000		
LOG_NIM	0.465633	-0.053468	-0.392133	0.515757	-0.668857	-0.392133	1.000000	
LOG_CAR	0.342201	0.463908	0.149673	0.518216	-0.547454	0.149673	0.549508	1.000000

Interpretation: “Table2” shows the ‘correlation’ between overall ESG scores and financial performance indicators along with some firm-level control variables. Here we see that all the financial performance indicators are positively correlated with the overall ESG scores except stock return. The correlation coefficients between overall ESG scores and financial performance indicators in terms of ‘ROA’, ‘ROE’, ‘Price-to-book value ratio’, and ‘Stock Return’ are 0.223147, 0.008798, 0.325341, and -0.595687 respectively. The firm's size is positively correlated with overall ESG scores. Both the firm-level control variables (‘Net Interest Margin(NIM)’ and ‘Capital Adequacy Ratio (CAR)’ are also positively associated with the firm's overall ESG score.

Regression Results and Interpretations:

Table 3: “Regression Result”

‘Dependent Variable’: ‘ROA’

Variable	Coefficient	Std. Error	t-Stat	Prob.
Overall Score	0.009137	0.004815	1.897481	0.0704
Size	0.536174	0.149366	3.589669	0.0015
CAR	0.105931	0.042976	2.464913	0.0216
NIM	-0.175903	0.154393	-1.139324	0.2663
C	-3.287586	0.514581	-6.388857	0.0000
	<i>R-Squared</i>		0.736205	
	<i>Adjusted R-Squared</i>		0.690328	
	<i>F-Statistic</i>		16.04727	
	<i>Prob. (F Statistic)</i>		0.000002	

Interpretation: The regression analysis indicates the relation between several independent variables and bank performance as measured by “Return on assets, or ROA’ including the "Overall Score" (representing ESG performance), "Size," "CAR", "NIM" (Net Interest Margin), and a constant term denoted as "C." The coefficient of "Overall Score" is 0.009137, and the p-value associated with it is 0.0704. This means that there is a positive relationship between the overall ESG score and bank performance (ROA), and it is also “statistically significant” at a "10% significance level". The coefficient of "Size" is 0.536174, and its associated p-value’ is 0.0015, indicating a statistically significant positive relationship between the size of the bank and it’s ROA. This implies that bigger banks typically have more assets and have higher ROAs.

The coefficient for "CAR" is 0.105931, with a p-value of 0.0216. This suggests a statistically significant positive relationship between "CAR" and ROA. The coefficient for "NIM" is -0.175903, with a p-value of 0.2663. This implies that there exists a statistically negative correlation between "NIM" (Net Interest Margin) and ROA in this model. The constant term (intercept) is -3.287586. With associated p-value of 0.0000, that is 'statistically significant'. The model's "Adjusted R-squared" value is 0.690328. This indicates that the overall ESG performance score with its other control variables explains a 69.03% variance in the model. The Durbin-Watson statistic is (2.106026). The F-statistics value is 16.04727 for the overall significance of the model, with the associated p-value of 0.000002, suggesting that the model is fitted and is 'statistically significant'.

In summary, while the model overall appears to be statistically significant in explaining ROA, the relationship between ESG performance (represented by "Overall Score") and ROA is statistically significant. However, other factors like "Size" and "CAR" do show significant relationships with ROA, suggesting that these variables have a more substantial impact on bank performance in this analysis.

“Table 4”: ‘Regression Analysis’

‘Dependent Variable’- ‘ROE’

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Stat</i>	<i>Prob.</i>
ESG score	0.041123	0.036781	1.118049	0.2751
SIZE	1.056507	0.589677	1.781672	0.0864
CAR	1.114035	0.283310	3.932218	0.0007
NIM	-2.235825	0.835355	-2.676498	0.0135
C	-19.71439	10.05619	-1.960423	0.0622
<i>R-squared</i>			0.493785	
<i>Adjusted R-squared</i>			0.405748	
<i>F-statistic</i>			5.608812	
<i>Prob. (F-statistic)</i>			0.002658	

Interpretation: The provided regression results examine the relationship between banks performance which is measured by ‘Return on Equity (ROE)’, and various independent variables, including "Overall score" related to ESG performance, "SIZE" (bank size), "CAR" related to capital adequacy, and "NIM". The coefficient for "Overall score" is 0.041123 a p-value of 0.2751. It is implied by this that there isn't any statistical significant connection between ESG performance (Overall score) and bank ‘ROE’ in this analysis. This shows that there is insufficient data to conclude that bank ROE is significantly impacted by ESG performance. The coefficient of "SIZE" is 1.056507, but the associated p-value is 0.0864, which is 'statistically significant' at a '10% significance level'. This indicates that there is a positive relationship between 'bank size' and 'ROE'. The coefficient for "CAR" is 1.114035, and a p-value of 0.0007, demonstrating a favorable link that is statistically significant between "CAR" and ROE. This suggests that whatever "CAR" represents in this context is strongly related to higher ROE. The coefficient for "NIM" is -2.235825, and its associated p-value is 0.0135, which means there is a statistically significant negative relationship between "NIM" and ROE. In simpler terms, a higher Net Interest Margin is associated with a lower ROE in this analysis. The constant term is -19.71439 with a p-value of 0.0622, which is 'statistically significant' at a '10% significance level'. The ‘R-squared’ value is 0.493785, indicating that approximately 49.4% of the variance in ‘ROE’. The ‘Adjusted R-squared’ value is 0.405748; the Durbin-Watson Stat is 1.429747. The F-statistic is 5.608812, and a low p-value of 0.002658 that is the model as a whole is 'statistically significant' in explaining ‘ROE’.

In summary, this analysis shows that the ESG performance does not have a ‘statistically significant’ impact

on banks 'ROE'. However, factors like 'Capital Adequacy Ratio (CAR)' and 'Net Interest Margin (NIM)' are significantly related to ROE. The overall regression is statistically significant in explaining bank ROE.

**“Table 5”: ‘Regression Results’:
‘Dependent Variable’- Stock Return**

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Stat</i>	<i>Prob.</i>
Overall score	-0.003226	0.000918	-3.515134	0.0019
SIZE	0.031591	0.028468	1.109721	0.2786
CAR	-0.012868	0.008191	-1.571036	0.1298
NIM	-0.014416	0.029426	-0.489907	0.6288
C	-0.462309	0.009874	-4.713881	0.0001
	<i>R-squared</i>		0.630440	
	<i>Adjusted R-squared</i>		0.566169	
	<i>F-statistic</i>		9.809039	
	<i>Prob. (F statistic)</i>		0.000088	

Interpretation: The regression analysis establishes the relation of 'Bank performance' by 'Return on the stock market (SR)' and several independent variables, which include "Overall score" (ESG performance), "SIZE" (bank size), "CAR", and "NIM" (Net Interest Margin). The coefficient for "Overall score" is -0.003226, with its p-value of 0.0019. This indicates a 'statistically significant' negative connection between ESG performance and stock market return (SR). Higher 'ESG performance' is associated with lower stock market return, which counters our main hypothesis of a positive relationship. The coefficient of "SIZE" is 0.031591; with a p-value is 0.2786, means it is 'not statistically significant'. This indicates that there is 'no statistically significant' relationship between the size of the bank with the stock market return in this analysis. The coefficient for "CAR" is '-0.012868', and a p-value is 0.1298, suggesting that there is no statistically significant relationship between "CAR" and stock market return. The coefficient for "NIM" is -0.014416, and a p-value is 0.6288. This indicates that there is 'no statistically significant' relationship between "NIM" and stock market return. The constant term is -0.462309, and the associated p-value is 0.0001, indicating that the constant term is statistically significant. This constant term represents the estimated stock market return when all independent variables are zero. The R-squared value is 0.630440 which is 63.0% of the variability in stock market return (SR). The adjusted R-squared value is 0.566169; the Durbin-Watson Stat is 1.575735. The F-statistic is 9.809039, with a low p-value of 0.000088.

In summary, this analysis shows a 'negative relationship' between 'ESG performance' and 'stock market return (SR)', which is contrary to the hypothesis of a positive relationship. However, the 'size of the bank (SIZE)', 'capital adequacy (CAR)', and 'Net Interest Margin (NIM)' do not show statistically significant relationships with stock market return. The overall model is statistically significant in explaining stock market returns and has a negative relationship with ESG.

**“Table 6”: ‘Regression Results’:
Dependent Variable- Price-to-book ratio**

Variable	Coefficient	Std. Error	t-Stat	Prob.
Overall score	0.006710	0.006630	1.012094	0.3220
SIZE	0.252686	0.205670	1.228600	0.0316
CAR	0.028141	0.059175	0.475559	0.6389
NIM	0.371020	0.212591	1.745231	0.0943
C	-2.541749	0.708553	-3.587239	0.0016
	<i>R-squared</i>		0.423177	
	<i>Adjusted R-squared</i>		0.322860	
	<i>Durbin-Watson stat</i>		1.802927	
	<i>F-statistic</i>		4.218397	
	<i>Prob. (F-statistic)</i>		0.010480	

Interpretation: The regression intends to examine the association between bank performance, as determined by the Price-to-Book ratio, and various independent variables, including "Overall score" which is related to ESG performance, "SIZE", "CAR" capital adequacy ratio, and "NIM". The ‘Coefficient’ for "Overall score" is 0.006710, and its associated p-value of 0.3220. This indicates that there is ‘no statistically significant’ relationship in between ESG performance and Price-to-Book ratio. In simpler terms, the data does not provide strong evidence in order to determine that ESG performance has a ‘significant impact’ on the PB ratio. The ‘Coefficient’ for "SIZE" is 0.252686, and a p-value is 0.0316, which is ‘statistically significant’ at 5% significance level (typically 0.05 or lower). This implies that the Price-to-Book ratio and bank size are positively correlated. In other words, larger banks tend to have higher Price-to-Book ratios. The coefficient for "CAR" is 0.028141, but its associated p-value is 0.6389.

The coefficient for "NIM" is 0.371020, and the associated p-value is 0.0943, which is ‘Not statistically significant’ at a ‘5% significance level’. This implies that there might be a positive relationship between the NetInterest Margin and the Price-to-Book ratio. The constant term is -2.541749, with a p-value of 0.0016, indicating that the constant term is ‘statistically significant’. The constant term represents the estimated Price-to-Book ratio when all independent variables are zero. The ‘R-squared’ value is 0.423177, demonstrating a 42.3% of the ‘Variance’ in the Price-to-Book ratio is described by the ‘Independent Variables’. The ‘Adjusted R-squared’ value is 0.322860. Durbin-Watson Stat is 1.802927. The ‘F-statistic’ is 4.218397, with ‘p-value’ of 0.010480, indicating that the ‘model’ as a whole is ‘statistically significant’ in explaining ‘Price-to-Book ratio’.

In summary, this analysis shows that ESG performance is ‘Not statistically significant’ on the ‘Price-to-Book Ratio’. However, bank size (SIZE) is positively related to the Price-to-Book ratio, indicating that greater banks tend to have higher Price-to-Book ratios. Other factors like ‘Capital Adequacy (CAR)’ and ‘Net Interest Margin (NIM)’ do not show ‘statistically significant’ relationships with the ‘Price-to-Book Ratio’. The overall ‘model’ is statistically significant in explaining the ‘Price-to-Book ratio’.

Discussions and Conclusions

The results of the study could influence future banking practices in India by encouraging the banking industry to embrace ESG standards. Policymakers may develop regulations that promote ESG activities both in private and public sector banks, aiming to improve their financial performance. Additionally, investors could utilize ESG factors as a basis for making investment decisions, potentially leading to a greater emphasis on ESG activities within the banking sector. This could assist investors in making well-informed investment decisions and further promote the integration of ESG principles into banking consideration.

The study finds that there is a 'Positive correlation' between banks' financial performance and ESG activities, meaning those banks that are actively engaged in these actions generally achieve better financial results. The study additionally reveals that when we say about ESG initiatives and 'financial performance', public-sector banks usually outperforms private-sector banks. Policymakers, investors as well as other parties involved in the 'banking sector' should make note of the study's findings to make well-informed investment decisions, regulators can use the insights to urge banks to get involved in ESG initiatives. Furthermore, a bank that is concerned about the environment might influence its customers' environmental habits. Customers are unaware of the components of product responsibility, which goes against the stakeholder theory's assumption, especially when it comes to social aspects.

Practical Implications, Limitations, and Future Research

This finding can be useful for banks that are looking to enhance their 'financial performance' and attract investment professionals. Banks can use insights from this study to develop and implement ESG strategies that align with their business objectives and improve their financial performance. The study suggests that public sector banks tend to perform better than private sector banks with regard to ESG activities and 'financial performance'. This current finding can be useful for policymakers who are looking to promote ESG activities in the banking sector. They can also develop policies and regulations that encourage private sector banks to engage in ESG related activities and to enhance their overall financial performance. Finally, the research indicates that investors can use 'ESG factors' as a basis for making investment decisions. Investors can put this study's insights to identify banks that are engaged in ESG activities and are likely to perform well financially. This can encourage the banking industry to embrace ESG standards and assist investors in making well-informed investment decisions. The study's exclusive concentration on the banking industry may restrict how far the conclusions may be applied to other countries or regions.

Secondly, the study considers data from a single year (2021-22) which may not be sufficient to capture the long-term connection between financial performance and ESG initiatives. Thirdly the study uses secondary data from the Refinitivdatabase, which may not be fully representative of the actual ESG activities.

Future research could examine the 'long-term relation' between 'ESG performance' and 'Financial Efficiency' in the banking sector. As the current studies focus only on the banking sector, future research could examine the relationship in other countries, regions, and sectors. The current study uses quantitative data so a qualitative method to obtain a better comprehension of the elements influencing the banking industry's adoption of ESG practices can be applied.

References

1. Ahmad, S., Khan, D., & Haq, I. U. (2022). Assessing the role of information and communication technology in reducing the gap between rich and poor: the case of South Asia. *International Journal of Social Economics*, 49(11), 1663-1679.
2. Al Jundi, N. A. (2023). The Extent Of Meeting The Forensic Accounting Requirements In Courts: Evidence From The Developing Countries. *Business Strategy Review*, 4(1), 39-49.
3. Albertini, E. (2013). Does environmental management improve financial performance? A meta-analytical review. *Organization & Environment*, 26(4), 431-457.
4. Aldhamari, R., Mohamad Nor, M. N., Boudiab, M., & Mas' ud, A. (2020). The impact of political connection and risk committee on corporate financial performance: evidence from financial firms in Malaysia. *Corporate Governance: The International Journal of Business in Society*, 20(7), 1281-1305.
5. Ali, M., Azmi, W., Kowsalya, V., & Rizvi, S. A. R. (2023). Interlinkages between stability, carbon emissions and the ESG disclosures: Global evidence from banking industry. *Pacific-Basin Finance Journal*, 82, 102154.
6. Al-Malkawi, H. A. N., & Javaid, S. (2018). Corporate social responsibility and financial performance in Saudi Arabia: Evidence from Zakat contribution. *Managerial Finance*, 44(6), 648-664.
7. Ates, S. (2023). The credibility of corporate social responsibility reports: evidence from the energy sector in emerging markets. *Social Responsibility Journal*, 19(4), 756-773.

8. Bahadori, N., Kaymak, T., & Seraj, M. (2021). Environmental, social, and governance factors in emerging markets: The impact on firm performance. *Business Strategy & Development*, 4(4), 411-422.
9. Bătae, O. M., Dragomir, V. D., & Feleagă, L. (2021). The relationship between environmental, social, and financial performance in the banking sector: A European study. *Journal of Cleaner Production*, 290, 125791.
10. Bătae, O. M., Dragomir, V. D., & Feleagă, L. (2021). The relationship between environmental, social, and financial performance in the banking sector: A European study. *Journal of Cleaner Production*, 290, 125791.
11. Bénabou, R., & Tirole, J. (2010). Individual and corporate social responsibility. *Economica*, 77(305), 1-19.
12. Buallay, A., Al-Ajmi, J., & Barone, E. (2022). Sustainability engagement's impact on tourism sector performance: linear and nonlinear models. *Journal of Organizational Change Management*, 35(2), 361-384.
13. Buallay, A., Fadel, S. M., Alajmi, J., & Saudagaran, S. (2021). Sustainability reporting and bank performance after financial crisis: evidence from developed and developing countries. *Competitiveness Review: An International Business Journal*, 31(4), 747-770.
14. Chang, Q., & Devine, A. (2019). Environmentally-certified space and retail revenues: A study of US bank branches. *Journal of Cleaner Production*, 211, 1586-1599.
15. Chen, S., Song, Y., & Gao, P. (2023). Environmental, social, and governance (ESG) performance and financial outcomes: Analyzing the impact of ESG on financial performance. *Journal of Environmental Management*, 345, 118829.
16. Chouaibi, S., & Affes, H. (2021). The effect of social and ethical practices on environmental disclosure: evidence from an international ESG data. *Corporate Governance: The International Journal of Business in Society*, 21(7), 1293-1317.
17. Chouaibi, S., & Affes, H. (2021). The effect of social and ethical practices on environmental disclosure: evidence from an international ESG data. *Corporate Governance: The International Journal of Business in Society*, 21(7), 1293-1317.
18. De Villiers, C., Hsiao, P. C. K., & Maroun, W. (2017). Developing a conceptual model of influences around integrated reporting, new insights, and directions for future research. *Meditari Accountancy Research*, 25(4), 450-460.
19. Dean, O., & Marshall, S. (2020). A race to the middle of the pack: An analysis of slavery and human trafficking statements submitted by Australian banks under the UK Modern Slavery Act. *Australian Journal of Human Rights*, 26(1), 46-73.
20. Elali, W. (2021). The importance of strategic agility to business survival during the coronavirus crisis and beyond. *International Journal of Business Ethics and Governance*, 1-8.
21. Ersan Ersoy, Beata Swiecka, Simon Grima, Ercan Özen, Inna Romanova. "The Impact of ESG Scores on Bank Market Value? Evidence from the U.S. Banking Industry", Sustainability, 2022.
22. Esteban-Sanchez, P., de la Cuesta-Gonzalez, M., & Paredes-Gazquez, J. D. (2017). Corporate social performance and its relation with corporate financial performance: International evidence in the banking industry. *Journal of Cleaner Production*, 162, 1102-1110.
23. Finger, M., Gavius, I., & Manos, R. (2018). Environmental risk management and financial performance in the banking industry: A cross-country comparison. *Journal of International Financial Markets, Institutions and Money*, 52, 240-261
24. Gangi, F., Meles, A., D'Angelo, E., & Daniele, L. M. (2019). Sustainable development and corporate governance in the financial system: are environmentally friendly banks less risky? *Corporate Social Responsibility and Environmental Management*, 26(3), 529-547.
25. Grove, H., Patelli, L., Victoravich, L. M., & Xu, P. (2011). Corporate governance and performance in the wake of the financial crisis: Evidence from US commercial banks. *Corporate Governance: An International Review*, 19(5), 418-436
26. Gutiérrez-Ponce, H., & Wibowo, S. A. (2023). Do Sustainability Activities Affect the Financial Performance of Banks? The Case of Indonesian Banks. *Sustainability*, 15(8), 6892.

27. Gutiérrez-Ponce, H., & Wibowo, S. A. (2023). Do sustainability practices contribute to the financial performance of banks? An analysis of banks in Southeast Asia. *Corporate Social Responsibility and Environmental Management*.
28. Harnett, E. (2018). *Responsible investment and ESG: An economic geography* (Doctoral dissertation, University of Oxford). In Nigerian Universities. *Library Philosophy & Practice*.
29. Jacobs, B. W., Singhal, V. R., & Subramanian, R. (2010). An empirical investigation of environmental performance and the market value of the firm. *Journal of Operations Management*, 28(5), 430-441.
30. John-Okeke, R., Omekwu, C. O., & Chigbu, E. D. (2016). Corporate Social Responsibility: Challenges Of Implementing Mtn Digital Libraries
31. Kohli, N., & Saha, G. C. (2008). Corporate governance and valuations: Evidence from selected Indian companies. *International Journal of Disclosure and Governance*, 5(3), 236-251.
32. Laguir, I., Marais, M., El Baz, J., & Stekelorum, R. (2018). Reversing the business rationale for environmental commitment in banking: does financial performance lead to higher environmental performance? *Management Decision*, 56(2), 358-375.
33. Laguir, I., Stekelorum, R., Laguir, L., & Staglianò, R. (2021). Managing corporate social responsibility in the bank sector: A fuzzy and disaggregated approach. *Corporate Social Responsibility and Environmental Management*, 28(4), 1324-1334.
34. Lynch, B., & LUFF, D. M. O. H. (2022). *The Role of Financial Markets in Incentivising Corporate Social and Environmental Performance* (Doctoral dissertation, Trinity College Dublin).
35. Mahdi, I. B. S., Bouaziz, M., & Abbes, M. B. (2023). Does financial technology matter in the relationship between CSR and banks' financial stability? a quantile regression approach. *Environmental Science and Pollution Research*, 1-18.
36. Menicucci, E., & Paolucci, G. (2022). Board Diversity and ESG Performance: Evidence from the Italian Banking Sector. *Sustainability*, 14(20), 13447.
37. Menicucci, E., & Paolucci, G. (2023). ESG dimensions and bank performance: an empirical investigation in Italy. *Corporate Governance: The International Journal of Business in Society*, 23(3), 563-586.
38. Menicucci, E., & Paolucci, G. (2023). The influence of Italian board characteristics on environmental, social and governance dimensions. *Management Decision*.
39. Miralles-Quirós, M. M., Miralles-Quirós, J. L., & Redondo-Hernández, J. (2019). The impact of environmental, social, and governance performance on stock prices: Evidence from the banking industry. *Corporate Social Responsibility and Environmental Management*, 26(6), 1446-1456.
40. Mokhtar, N. B., & Alam, A. (2023). The Mediating Role of Fintech on ESG and Bank Performance. In *Fintech and Sustainability: How Financial Technologies Can Help Address Today's Environmental and Societal Challenges* (pp. 191-218). Cham: Springer Nature Switzerland.
41. Naeem, N., Cankaya, S., & Bildik, R. (2022). Does ESG performance affect the financial performance of environmentally sensitive industries? A comparison between emerging and developed markets. *Borsa Istanbul Review*.
42. Nizam, E., Ng, A., Dewandaru, G., Nagayev, R., & Nkoba, M. A. (2019). The impact of social and environmental sustainability on financial performance: A global analysis of the banking sector. *Journal of Multinational Financial Management*, 49, 35-53
43. Orazalin, N., & Mahmood, M. (2019). The financial crisis as a wake-up call: corporate governance and bank performance in an emerging economy. *Corporate Governance: The International Journal of Business in Society*, 19(1), 80-101.
44. Peng, B. Corporate governance and its impact on financial performance and innovation in Chinese-listed firms. *Corporate Social Responsibility and Environmental Management*.
45. Salah Mahdi, I. B., Bouaziz, M., & Boujelbène Abbes, M. (2023). The moderating effect of fintech on the relationship between CSR and banks' financial stability: Baron and Kenny's approach analysis. *EuroMed Journal of Business*.
46. Scholtens, B. (2009). Corporate social responsibility in the international banking industry. *Journal of Business Ethics*, 86(2), 159-175.

47. Shakil, M. H., Mahmood, N., Tasnia, M., & Munim, Z. H. (2019). Does environmental, social, and governance performance affect the financial performance of banks? A cross-country study of emerging market banks. *Management of Environmental Quality: An International Journal*, 30(6), 1331-1344.
48. Shen, C. H., Wu, M. W., Chen, T. H., & Fang, H. (2016). To engage or not to engage in corporate social responsibility: Empirical evidence from global banking sector. *Economic Modelling*, 55, 207-225.
49. Shen, C. H., Wu, M. W., Chen, T. H., & Fang, H. (2016). To engage or not to engage in corporate social responsibility: Empirical evidence from global banking sector. *Economic Modelling*, 55, 207-225.
50. Shen, C. H., Wu, M. W., Chen, T. H., & Fang, H. (2016). To engage or not to engage in corporate social responsibility: Empirical evidence from the global banking sector. *Economic Modelling*, 55, 207-225.
51. Soana, M. G. (2011). The relationship between corporate social performance and corporate financial performance in the banking sector. *Journal of Business Ethics*, 104, 133-148.
52. Tian, G., Wang, K. T., & Wu, Y. (2023). Does the market value the green credit performance of banks? Evidence from bank loan announcements. *The British Accounting Review*, 101282.
53. Velte, P. (2017). Does ESG performance have an impact on financial performance? Evidence from Germany. *Journal of Global Responsibility*, 8(2), 169-178.
54. Vrontis, D., Thrassou, A., Efthymiou, L., Weber, Y., Shams, S. R., & Tsoukatos, E. (Eds.). (2023). *Business for Sustainability, Volume I: Strategic Avenues and Managerial Approaches*. Springer Nature.
55. Wu, M. W., & Shen, C. H. (2013). Corporate social responsibility in the banking industry: Motives and financial performance. *Journal of Banking & Finance*, 37(9), 3529-3547.
56. Yamahaki, C. (2013). *Shareholder engagement in emerging markets: institutional and organisational determinants in Brazil and South Africa* (Doctoral dissertation, Middlesex University).
57. Youssef, J., & Diab, S. (2021). Does the quality of governance contribute to the heterogeneity in happiness levels across MENA countries? *Journal of Business and Socio-economic Development*, 1(1), 87-101.
58. Yuen, M. K., Ngo, T., Le, T. D., & Ho, T. H. (2022). The Environment, Social and Governance (ESG) activities and profitability under COVID-19: evidence from the global banking sector. *Journal of Economics and Development*, 24(4), 345-364.
59. Zehri, F., & Zgarni, I. (2020). Internal and external corporate governance mechanisms and earnings management: an international perspective. *Accounting and Management Information Systems*, 19(1), 33-64.

Annexure I

Table 2	Explanation of Variables	
Variables	Description Measure	Formula
Dependent Variables		
Bank performance Variables		
ROE	ROE is the financial metric indicating the banks' profitability by showing how much profit it generates for each rupee of shareholders' equity, reflecting its efficiency in using Shareholder funds to generate earnings.	Net Income after taxes divided by average total equity.
ROA	A financial metric that measures a company's ability to generate profits from its	Net income after taxes divided by average total assets.

	total assets, indicating its efficiency in asset utilization.	
Stock Market Return	Change in stock price over time.	Average stock price at the end of the period subtracted from average stock price at the beginning of the period/Average stock price at the beginning.
Price to Book Ratio	The financial metric used to assess the relative valuation of a company's stock to its book value per Share	The market price of a company's stock/book value per share
INDEPENDENT VARIABLES		
Combined ESG	Thoroughly evaluating the influence on sustainability and the ethical behaviour of corporations.	Weighted average ESG scores.
Environment(ENV)	Weighted average relative rating of a company based on the reported environmental information	<p>It is based on three sources: ENV_Em (emission and waste reduction)</p> <p>ENV_Ru (Resource Use)</p> <p>ENV_In (Environmental Innovation)</p> <p>ENV_Em Banks' commitment and effectiveness in reducing environmental emissions and waste in operational activities.</p> <p>ENV_Em (Environment Emission): The bank's dedication to environmental sustainability and its success in diminishing environmental emissions and waste generated through its operational activities.</p> <p>ENV_Ru (Environment Resource Use) bank's effectiveness in managing its resource utilization (including materials, energy, and water) and its capability to discover more environmentally efficient approaches for its business operations.</p>

		ENV_In (Environment Innovation): how well the bank helps its clients reduce their environmental problems and costs, while also coming up with new ideas for eco-friendly products and services.
SOCIAL (SOC)	Weighted average relative rating of a company based on the reported social information	<p>It is based on four dimensions: SOC_Hr (Social Human Rights): how well a bank follows important rules about human rights.</p> <p>SOC_Pr (Social Product Responsibility): A bank's ability to provide really good products and services while keeping their customers safe, protecting their personal information, and being honest with it.</p> <p>SOC_Wf (Social Workforce): how well a bank makes sure its employees are happy at work, keeps the workplace safe and healthy and treats everyone fairly and equally.</p> <p>SOC_Cm (Social Community): How a bank shows it's a responsible member of the community by doing the right thing in business, following ethical rules, and making sure people's health is safe.</p>
Governance(GOV)	Weighted average relative rating of a company based on the reported governance information	<p>It is based on three sources: GOV_Mng (Governance Management): How well a bank sticks to the rules and guidelines for how it should be run and make decisions.</p> <p>GOV_Sh (Governance Shareholders): how effectively the banks treat their employees in an equal manner.</p> <p>GOV_Csr (Governance</p>

		CSR strategy): how well the bank includes its social and environmental aspects in its decision-making process.
Control Variables		
SIZE	Banks' size	Natural Logarithm of total assets.
CAR	<p>Financial metrics are used to measure banks' financial health and stability. The most well-known way to check if a bank is following the rules for having enough money to cover losses is by looking at a specific number.</p> <p>This number tells us how much loss a bank can handle using its own money.</p>	<p>Money that bank can use (Tier 1 + tier 2 capital) / Money the bank has at risk (Risk weighted asset)</p>
NIM	<p>It's a profit that a bank makes from the difference between the interest it earns from loans and investments and the interest it pays to the depositors and lenders.</p>	<p>(Interest Income - Interest expense) / Average Earning assets</p>