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Research Article

Impact Of Environmental, Social, And Governance Risk On The Financial Performance Of Selected Indian Banks

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ABSTRACT

The importance of sustainable and responsible investment strategies has significantly increased due to the increasing awareness of environmental stability and the socioeconomic development of countries. This study seeks to explore how considering Environmental, Social, and Governance (ESG) factors in investment decisions can improve risk management and yield sustainable returns for investors. Specifically, it aims to investigate how ESG risk scores affect the financial performance of banks in India. The study evaluates financial performance using metrics such as return on assets (ROA), return on capital employed (ROCE), and return on equity (ROE), while also considering factors like size (represented by the logarithm of total assets) and leverage (measured by the Debt to Equity Ratio) as indicators of financial risk. Data from 25 public and private banks spanning the years 2021 to 2022 were analyzed in a cross-sectional manner. The study utilized Ordinary Least Squares (OLS) regression to examine how ESG risk affects the financial performance of Indian banks. The findings reveal a noteworthy adverse effect of environmental, social, and governance risk scores on the overall financial performance of these banks. The findings have practical implications for corporations, investors, regulators, and policymakers. The study highlights the need for adoption of sustainability reporting, including disclosure of ESG scores. This would go a long way towards improving sustainable business practices and the long-term viability of the shareholders' wealth.

Keywords: Sustainable Development, ESG Risk, Financial Performance, Indian Banking Sector.

1. Introduction

The concept of growth and development lacking sustainability has become obsolete in light of the adoption of the "Paris Agreement" in 2015, in which India participated as one of the 187 countries signing the agreement. The origin of the 17 Sustainable Development Goals can be traced back to the COP21 conference, which preceded the Paris Agreement (The United Nations, 2015). The incorporation of SDGs in financial institutions is inevitable for supporting the sustainable development of an economy (Nițescu & Cristea, 2020), as it is commonly accepted that financial institutions should be viewed as both generators of financial values and agents of more sustainable development (Sandberg, Alnoor, & Tiberius, 2022). The Environmental, Social, and Governance (ESG) initiative represents the most recent standard by which one can assess a company's dedication to sustainable progress. ESG is defined as a firm's obligation to improve social welfare and create equitable and sustainable long-term wealth for all stakeholders (Jamali & Carroll, 2017). In contemporary times, there has been a noticeable increase in the significance of environmental performance, corporate social responsibility, and corporate governance for banks as well as other financial institutions. ESG concerns are no longer just an ethical issue but are now evolving into an economic one (Menicucci & Paolucci, 2022).
The most *"desirable scenario"* of ESG policies would be increased incorporation of the highest-calibre corporate governance standards while reducing environmental consequences and participating in social

responsibility initiatives. From a strategic perspective, stakeholders' focus on sustainability intensifies concerning environmental, social, and governance dimensions, aiming to foster the generation of long-term financial value (Schoenmaker & Schramade, 2019), (de Carvalho Ferreira, Sobreiro, Kimura, & de Moraes Barboza, 2016), and (Dyllick & Muff, 2016). The stakeholder's theory (Freeman, 1984) indicates that making socially responsible investments yields a beneficial impact on financial performance. The resource-based theory, as presented by (Russo & Fouts, 1997) aligns with stakeholder theory, suggesting that investments in ESG factors provide firms with a competitive edge (Azmi, Hassan, Houston, & Karim, 2021). In addition, the firm's social performance efforts preserve its stock, function as a buffer against unfavorable market reactions (Godfrey, 2005; Nagy, et el., 2016), and improve its marketable brand image and reputation. Additionally, companies demonstrating robust ESG performance typically experience greater stability in their stock prices and maintain consistent profitability (Nagy, et el., 2016). Finally, ESG risks must be taken into account by banks in their risk management frameworks due to increased investor demand for sustainable goods and regulatory pressure.

In contrast to the stakeholder theory, the trade-off theory (Friedman, 1970) posits that ESG investments have the potential to be allocated towards more financially rewarding ventures, aligning with the core goal of a corporation. This view is alternatively supported by agency theory (Jensen, 1986), the argument posits that managers, serving as agents of the firm's owners, prioritize the best interests of the owners rather than solely focusing on shareholders and they invest in social activities not with the objective of gaining high profits but to earn non-monetary benefits and social claims for themselves (Azmi et. el., 2021). There exist numerous research studies, the majority of which align with stakeholders' theory, albeit a few outliers presenting conflicting results. Each study is underpinned by empirical data, resulting in inconclusive findings and underscoring the necessity for further empirical investigations. This study seeks to investigate how ESG risk affects the financial performance of the financial sector in India. While many studies have examined the relationship between ESG investment and financial outcomes in companies, there is a notable gap in the literature regarding the impact of ESG risk on the performance of financial industry entities listed on the Indian stock market. The paper is structured into four sections. Section one serves as an introduction, outlining the paper's relevance. Section two charts out the related literature; section three elaborates on the research design and methodology; section four reports result and discuss the discussion; and finally, section five concludes the paper.

2. Review of Related Literature

i) The Impact of ESG on the Bank's Performance

Bhaskaran, Sujit, & Mongia (2023) argues banks that possess adequate capital tend to allocate resources towards social undertakings, unlike riskier banks, which dedicate fewer resources to such initiatives. The study reveals that banks exhibiting a significant presence in social and governance endeavors experience favorable market reception and enhanced market worth. Therefore, there is a positive impact of social and governance initiatives on financial performance of banks.

Galletta, et. el., (2023) examines the influence of ESG scores on banks' operational risk and identifies a positive correlation between ESG scores and banks' operational risk. The analysis is conducted using data from a sample spanning 35 countries over the period from 2011 to 2020.

Singh & Rastogi (2022) examines the moderating effect of ESG and ICT expenditure on bank's valuation. The study finds positive impact of ESG on bank's valuation when controlling for ICT. Low ICT expenditure with increased level of ESG shows negative impact on bank's valuation. Whereas, high ICT expenditure leads to positive impact of ESG on bank's valuation. Therefore, information and communication technology (ICT) spending exerts a moderating influence on the relationship between Environmental, Social, and Governance (ESG) factors and the financial evaluation of banks in a favorable manner. The research employed the Panel Data Regression technique, with Tobin's Q and market capitalization as endogenous factors, while ESG and ICT expenses were considered as the primary exogenous variables. Additionally, the interaction term of ESG and ICT was included as an exogenous variable in the analysis.

Menicucci & Paolucci (2022) examines While, the social pillar has negative relationship with accounting performance. The overall impact of ESG expenditure is negatively correlated with operational and market performance. The study uses 10 dimensions of ESG pillars and BP indicators during the period 2016–2020 for 105 Italian banks.

Ersoy, et. el., (2022) investigates the impact of ESG scores on the market value of commercial banks of USA and finds there is non-linear relationship between social pillar score and market value of the bank while the relationship between market value and environmental pillar score is negative. The research utilized linear and non-linear panel regression models to analyze data from 2016 to 2020, taking into account the impact of Covid-19.

Izcan & Bektas (2022) examines how corporate social responsibility and ESG scores relate to firm-specific risk within 31 Eurozone banks from 2002 to 2019. It employs the Carhart four-factor model and quantile regression to delve into this relationship. The research reveals a negative correlation between the comprehensive ESG scores and bank-specific risk, particularly among medium to high-risk banks. When analyzed separately, both

the environmental and governance pillars exhibit a negative relationship with bank-specific risk, whereas no significant relationship was observed for the social pillar.

Dragomir, et. el., (2022) examines the impact ESG performance on FP and finds environmental pillar has negative relationship with FP while social responsibility expenditures and better governance has positive response on earning per share and market returns. The study was undertaken using a substantial sample comprising 333 banks situated across 53 countries spanning Europe, America, and Asia. The analysis encompassed data from both before and during the Covid-19 pandemic, providing a comprehensive perspective on the effects of this global crisis on the banking sector across diverse regions.

Maama (2021) delves into the influence of ESG reporting on the financial sustainability of banks and uncovers a negative association between overall ESG reporting and banks' financial sustainability. However, when examining individual ESG pillars, the results vary: environmental reporting exhibits a detrimental effect on bank sustainability, whereas governance and social reporting are linked to a positive impact on bank sustainability. The study uses 10 years data of all banks in Ghana wherein return on assets (ROA) and net interest margin (NIM) indicators were used to measure financial sustainability and the banks' ESG reporting practices were extracted from the annual report using content analysis.

Azmi, et. el., (2021) examines the relationship between ESG activity and bank value. The study finds a non-linear relationship between ESG activity and bank value indicating diminishing returns to scale. However, overall ESG activity is negatively related with bank value. The environmental pillar has the positive effect on bank value. In particular, cash flows and efficiency are positively linked with ESG activity while cost of equity is negatively related with ESG activity. The study employed a sample comprising 251 banks from 44 emerging economies, covering the period from 2011 to 2017. To address potential endogeneity issues, it utilized System Generalized Method of Moments (GMM) estimation, ensuring robustness in the analysis of the relationship between ESG reporting and bank financial sustainability.

Buallay A. (2020) examines how ESG or sustainability reporting influences the operational, financial, and market performance of both manufacturing and banking sectors. The study compares the manufacturing and banking sectors and reveals a positive correlation between ESG factors and operational, financial, and market performance within the manufacturing sector. Conversely, it identifies a negative correlation in the banking sector. The study analyzes a dataset comprising 11,705 observations drawn from 932 manufacturing firms and 530 listed banks across 80 countries over the period from 2008 to 2017. Key indicators such as Return on Equity (ROE), Return on Assets (ROA), and Tobin's Q are employed to assess financial and market performance.

Di Tommaso and Thornton (2020) investigated the effects of ESG scores on the risk-taking behavior and bank valuation of European banks. The research revealed a negative correlation between high ESG scores and bank valuation.ii) Impact of ESG on Banks' Performance in Regional Blocs

M. Buallay, et al., (2023) investigates the relationship between the level of sustainability reporting in banks and financial services' performance (operational, financial and market) and finds negative relationship between ESG and banks performance. The study utilizes a sample from seven regions (Asia, Europe, MENA, Africa, North and South America), encompassing data from 60 countries for the period spanning 2008 to 2017, with a total of 4458 observations. It employs Return on Assets (ROA), Return on Equity (ROE), and Tobin's Q as proxies for operational performance, financial performance, and market performance, respectively. Additionally, bank-specific and macroeconomic indicators are incorporated as control variables.

El Khoury, et. el., (2023) investigates the influence of ESG factors on bank performance specifically within the Middle East, North Africa, and Turkey (MENAT) region. It uncovers a convex relationship between the environmental pillar and market performance, indicating that as environmental considerations increase, market performance initially rises sharply before leveling off. Conversely, it identifies a concave relationship between governance and accounting performance, suggesting that improvements in governance initially lead to substantial gains in accounting performance, which then taper off. Furthermore, the researchers uncovered a non-linear relationship between ESG factors and financial performance. This suggests that ESG investments provide advantages only up to a certain point, beyond which they cease to contribute positively to financial performance. The discovery is original. Researchers examined data from 46 banks that were publicly traded between 2007 and 2019. The study evaluated accounting and market performance indicators such as Return on Assets, Return on Equity, and Tobin's Q. This analysis considered various factors including bank-specific characteristics, macroeconomic conditions, and financial development variables.

Aras & Haciogl (2022) in their study explores how ESG performance, focusing on ESG materiality, influences firm value and identifies a positive correlation between ESG materiality and firm value, both in terms of market and book value. They utilized a multi-layered methodology, initially determining the ESG score based on ESG materiality and then, the study examined how ESG materiality influences firm value using dynamic methodologies like the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) and entropy techniques. The study uses sample of OECD countries' banks during 2016–2020 for 1115 bank-year observations.

Bătae, et. el., (2021) investigates the relationship between ESG pillars and the financial performance of banks following the 2008 financial crisis. It reveals a positive link between the environmental pillar, such as emission reduction efforts, and financial performance. Conversely, socially responsible policies and corporate

governance are observed to have a negative correlation with financial performance and the market value of banks. The research is conducted using data from 39 European banks between 2010 and 2019.
Daszyńska-Żygadło, Słoński, & Dziadkowiec (2021) the study investigated the correlation between ESG factors and corporate financial performance. It discovered a negative association between environmental and social indicators, but a positive relationship with governance indicators. Moreover, the study classified banks into clusters according to the cultural context of their host countries, proposing that operational characteristics and prevailing cultural norms impact the diverse connections between corporate social performance (CSP) and financial performance (CFP) among different banks. Employing regression analysis, the research analyzed a sample of banks from various regions worldwide spanning the period from 2009 to 2016.
Buallay, Fadel, Al-Ajmi, & Saudagaran (2020) the study explores the connection between ESG factors and bank performance, revealing a positive correlation between ESG and both financial and market performance. However, it notes that socially responsible investments have a negative effect on a bank's profitability and value. The research is based on a sample of 59 listed banks operating in emerging economies of the Middle East and North Africa (MENA) region over a decade-long period from 2008 to 2017. Performance indicators such as Return on Assets (ROA), Return on Equity (ROE), and Tobin's Q were employed to assess performance, while controlling for bank- and country-specific variables.
Niţescu & Cristea, (2020) investigates how sustainability strategies affect the performance of Romanian banks, revealing a positive correlation between sustainability strategies and bank performance. Bank performance is assessed through various metrics like return on assets, leverage multiplier, credit-deposit ratio, and the size of the management team. Additionally, the evaluation considers macroeconomic factors such as unemployment rate, inflation rate, and GDP growth rate for comparative analysis.

ii) Impact of ESG on Banks' Performance in context of developed and developing countries

Buallay, Fadel, Alajmi, & Saudagaran (2021), investigates the correlation between sustainability reporting and bank performance following the financial crisis. It reveals a positive association between ESG factors and both accounting and market-based performance in developed countries. On the flip side, in developing nations, there exists an adverse correlation between ESG (Environmental, Social, and Governance) factors and bank performance. The research encompasses 882 banks spanning both developed and developing countries during the period from 2009 to 2020, following the 2008 financial crisis. Performance metrics such as return on assets, return on equity, and Tobin's Q were employed to gauge bank performance while adjusting for country-specific macroeconomic factors. The findings of the study offer partial backing to the value creation theory.
Chang, Liang, & Liu (2021) investigates how ESG factors influence the cost efficiency of Asian banks, distinguishing between those in developed and developing economies. It discovers that in developed economies, the cost efficiency of banks is positively associated with environmental activities and expenditure. Conversely, in developing economies, there's a positive correlation with higher social and governance activities. However, when considering overall meta-frontier cost efficiency (MCE), developed Asian economies outperform in relation to ESG activities.The research employs a two-step methodology comprising stochastic frontier analysis (SFA) and stochastic meta-frontier analysis (SMF) on a sample comprising a total of 145 banks. Among these, 60 banks are from developed Asian economies, while 85 are from developing economies. The study covers the period from 2015 to 2018.
Buallay A. M. (2020) investigates the correlation between sustainability reporting and bank performance. It reveals a positive association between Environmental, Social, and Governance (ESG) factors and banks' market performance in developed countries, but a negative correlation with market performance in developing countries. Conversely, there's a negative relationship observed between sustainability reporting and banks' financial performance in developing nations. Conversely, in developing countries, there exists a positive correlation between ESG factors and a bank's financial performance, while there is a negative correlation with market performance. The study encompasses 232 banks from both developed and developing countries over the period from 2009 to 2016. Performance metrics including return on assets, return on equity, and Tobin's Q were utilized to gauge bank performance, while also accounting for country-specific macroeconomic variables. The study provides partial support for the value creation theory.

2.1. Research Hypothesis

The fundamental philosophy behind the idea of an ESG domain is stakeholder theory, as postulated by Freeman E. R. (2010). According to Freeman & McVea (2001), Businesses ought to make decisions that align with the interests of different groups and individuals, known as stakeholders. At its essence, this theory suggests that a company can increase its value in the long term by meeting the needs of its stakeholders. As stakeholders place greater importance on the sustainable performance of the company, often evaluated through its Environmental, Social, and Governance (ESG) performance or ESG score, the company can attain sustainable growth (Clarkson, Li, Richardson, & Vasvari, 2008), to cultivate trust among stakeholders and enhance the financial standing of management, it's imperative to integrate social, environmental, and governance considerations into corporate strategies (Kim, Park, & Weir, 2012), it is believed that corporations may employ two different kinds of strategies. The first is to be dedicated to socially and environmentally responsible conduct and spend a sufficient number of resources on implementing corporate ESG practices. Therefore, these businesses may have a beneficial and favorable impact on long-term growth and development,

resulting in increased financial performance and social legitimacy. Firms that adopt this approach are often labeled as "greenwashing" companies. An alternative strategy in ESG practices involves proactively engaging in responsible actions. While this initiative aims to enhance the company's reputation, it may not substantially contribute to the broader governance framework for social and environmental responsibility. Hence, companies risk undermining their credibility and may not achieve an optimal level of profit in the medium to long term (Wang & Sarkis, 2017). Given the escalating concerns surrounding environmental, social, and governance issues, society is increasingly focused on establishing robust ESG frameworks. In India, prominent banks and financial institutions have increasingly intensified their ESG initiatives in recent years. ESG governance enables them to attract potential customers and investors while also motivating firms to champion environmentally sustainable practices, uphold corporate governance standards, disclose non-financial information, and embrace socially and ecologically responsible behavior. Consequently, positive engagements with stakeholders enhance firms' financial performance, while on the flip side, failure to comply with environmental, social, and governance regulations for achieving sustainable development adversely affects the firm's financial performance. Therefore, this study capitalized on this opportunity to examine the ESG risk score as a proxy of corporate sustainability risk and financial performance (accounting-based measures) relations for the banking sector of the Indian economy. Hence, this study posits the following hypotheses:

H1: The ESG risk score has a negative impact on the return on assets (ROA) of Indian banks.
H2: The ESG risk score has a negative impact on the return on capital employed (ROCE) of Indian banks.
H3: The ESG risk score has a negative impact on the return on equity (ROE) of Indian banks.

3. Research Design

3.1. Selection of Samples, Variables and Data Sources

In this study, the S&P BSE Financial Services Index, which comprises 136 financial sector companies, including banks, insurance, and diversified financial services firms, is used to collect sample data on banks. Initially, a sample of 33 banks from both the public and private sectors was selected. Following screening, 5 banks were excluded due to data availability issues, and an additional 3 banks were removed after being identified as outliers. In the end, a cross-sectional sample comprising 25 banks listed on the Indian stock exchange was chosen for this study to examine the impact of ESG risk on the financial performance of banks. The ESG risk ratings were obtained from the sustainalytics website, retrieved on December 31, 2022. Financial variable data for the fiscal year 2021-2022 was collected from the Prowess IQ database managed by the Centre for Monitoring Indian Economy Pvt. Ltd. (CMIE). Table 1 presents the list of banks included in the study sample.

Table 1: List of Sample Banks

Sr. No.	Banks	Sr. No.	Banks
1	AU Small Finance Bank Limited	14	Indian Overseas Bank
2	Axis Bank Limited	15	IndusInd Bank Limited
3	Bandhan Bank Limited	16	Kotak Mahindra Bank Limited
4	Bank of Baroda	17	Punjab and Sind Bank
5	Bank of India	18	Punjab National Bank
6	Bank of Maharashtra	19	RBL Bank Limited
7	Canara Bank	20	State Bank of India
8	Central Bank Of India	21	The Federal Bank Limited
9	City Union Bank Limited	22	The Karur Vysya Bank Limited
10	HDFC Bank Limited	23	UCO Bank
11	ICICI Bank Limited	24	Union Bank of India
12	IDBI Bank Limited	25	YES Bank Limited
13	Indian Bank		

Source: Authors' Compilation **(**BSE of India).

3.2 Selection of Dependent Variables

The dependent variables in this study utilize accounting-based financial performance measurement indicators, including ROA, ROE, and ROCE. ROA and ROE are commonly employed as proxies for evaluating corporate financial performance in business research (Bhaskaran, Ting, Sukumaran, & Sumod, 2020); (Lucia, Pazienza, & Bartlett, 2020); (Chairani & Siregar, 2021); (Naeem, Ullah, Shahid, & Kakakhel, 2022), Return on Capital Employed (ROCE) was included in their research study (Zhao et al., 2018); (Chelawat & Trivedi, 2016).

3.3 Independent Variables

In this study, the explanatory variable is incorporated into the ESG risk score as a proxy of ESG risk, which is collected from the official database of the Sustainable Analytics Incorporation, an organisation among those ESG score publishers that is used by many researchers in academia as well as industry analysts. A study

conducted by Saini, Dhingra & Yadav (2023) to investigate the impact of ESG risk on the financial performance of Indian financial firms, the study utilizes the ESG risk score as a proxy for ESG risk.

3.4 Control Variables

Furthermore, this research incorporates control variables to account for irrelevant factors. Specifically, it includes the natural logarithm of total assets (LnSize) to control for bank size. The incorporation of the debt-to-equity ratio (D/E Ratio) is aimed at controlling for financial risk. A higher leverage ratio intuitively suggests greater financial risk due to potentially poor financial performance of banks.

3.5 Model Specification

This study aims to investigate the influence of ESG risk on the financial performance of Indian banks. It aligns with previous research conducted by Chairani & Siregar (2021); (Naeem, Ullah, Shahid, & Kakakhel, 2022); (Saini, Dhingra, & Yadav, 2022), financial performance measures utilized in this study are derived from accounting-based variables, including ROA, ROCE, and ROE. Next, we formulated the following models to assess the influence of ESG risk on the financial performance of Indian banks listed on the Indian Stock Exchange.

$(ROA)_i = \beta_0 + \beta_1 (ESG\ Risk)i + \beta_2 (D/E\ Ratio)i + \beta_3 (LnSize)i + \varepsilon_0$

$(ROCE)_i = \beta_0 + \beta_1 (ESG\ Risk)i + \beta_2 (D/E\ Ratio)i + \beta_3 (LnSize)i + \varepsilon_0$

$(ROA)_i = \beta_0 + \beta_1 (ESG\ Risk)i + \beta_2 (D/E\ Ratio)i + \beta_3 (LnSize)i + \varepsilon_0$

In the models, $(ROA)_i$, (ROCE)i, and $(ROE)_i$ are the return on assets, return on capital employed, and return on equity of the eighth listed bank in fiscal year 2022, while 0*, 1* and *3 are the* intercept and slops of the equation, also known as coefficients of ESG risk, D/E ratio, and size of the banks.

4. Results and Discussion

4.1 Descriptive Statistics

Table 2 presents the descriptive statistics results for each variable. It is evident from the table that the average value of ROCE stands at 4.145, accompanied by a standard deviation of 3.411. This indicates a relatively limited variability within the sample. Meanwhile, the mean values of ROA and ROE are calculated to be 0.634 and 6.904, with standard deviations of 0.690 and 5.933, respectively. This suggests that the distribution of ROA and ROE among the banks is relatively focused. Similarly, the mean values of ESG Risk, debt-to-equity ratio, and the natural logarithm of total assets (Ln Size) is recorded as 33.594, 0.878, and 15.264, while their corresponding standard deviations are 7.057, 0.526, and 1.414. These standard deviation values are lower than their respective means, suggesting a relatively concentrated distribution within the sample. The descriptive statistics reveal that, except for ROA, the standard deviation is lower than the mean across all variables. This implies a degree of uniformity within the data, which bodes well for result estimation.

Table 2: Descriptive Statistics of Continuous Variables

Variables	N	Minimum	Maximum	Mean	Std. Dev.
ROCE	25	-2.110	9.040	4.145	3.411
ROA	25	-0.820	1.880	0.634	0.690
ROE	25	-7.490	16.400	6.904	5.933
ESGRISK	25	19.815	47.398	33.594	7.057
D/E Ratio (Leverage)	25	-0.141	1.898	0.878	0.526
Log Total Assets	25	13.330	17.727	15.264	1.141

Source: Authors' Compilation

4.2. Correlation Analysis

Table 3 shows the Pearson correlation coefficient matrix of the entire dependent, independent, and control variables. As evident in Table 3, there is a strong positive correlation between ROCE and both ROA and ROE, whereas there is a negative correlation with ESG risk. This suggests that as the financial performance of banks improves, corporate ESG risk tends to increase as well. The control variable size is positively correlated with all accounting-based financial performance variables, i.e., ROCE, ROA, and ROE, while leverage (debt to equity ratio) is negatively correlated with them. This shows that if banking firms use more and more debt to equity to increase their financial performance, it also increases financial risk as well as ESG risk for the banks.

Table 3: Correlation matrix

Variables	ROCE	ROA	ROE	ESGRISK	Leverage	Ln(SIZE)
ROCE	1					
ROA	.883**	1				
ROE	.946**	.911**	1			
ESGRISK	-.179	-.472*	-.199	1		
D/E Ratio (Leverage)	-.302	-.049	-.028	-.146	1	
LnSIZE (Log Total Assets)	.041	.056	.186	.253	.182	1

Notes: ** represents correlation that is significant at the 0.01 level (2-tailed), and *represents correlation that is significant at the 0.05 level (2-tailed).

4.3 Regression Analysis

Table 4 shows the empirical results of ESG risk and the firm's financial performance. In the Ordinary Least Square (OLS) regression model with ROA as the dependent variable, there is a significant negative correlation between ESG risk and ROA (p-value<0.01), while firm size, as measured by the logarithm of total assets, shows a positive correlation but lacks statistical significance. The debt-to-equity ratio, serving as a proxy for financial risk, exhibits a significant negative correlation with ROA (p-value 0.01).

Table 4: Estimation Results of Ordinary Least Squares Models

Dependent Variable	ROA	ROCE	ROE
ESG RISK	-0.051*** (-0.013)	-0.166** (-0.0684)	-0.178* (-0.0956)
Ln (SIZE)	0.114 (-0.107)	0.453 (-0.562)	1.799** (-0.787)
D/E RATIO	-0.701*** (-0.192)	-3.500*** (-1.011)	-3.427** (-1.415)
Constant	1.522 (-1.629)	6.92 (-8.583)	-8.227 -12.01
Observations	25	25	25
R-squared	0.666	0.557	0.506

Note: The values in brackets are the standard errors corresponding to the coefficients: ***represents p 0.01, ** represents p 0.05, and * represents p 0.1.

The regression findings suggest that when ROCE is the dependent variable, there is a significant negative correlation between ESG risk and accounting profitability measures, particularly return on capital employed (ROCE), with a p-value of less than 0.05. However, firm size, as measured by the natural logarithm of total assets, demonstrates a positive correlation with ROCE but lacks statistical significance. The debt-to-equity ratio, acting as an indicator of financial risk, displays a notable negative correlation with ROCE, with a p-value of less than 0.01, indicating statistical significance.

Likewise, in the OLS regression model with return on equity (ROE) as the dependent variable, ESG risk demonstrates a significant negative correlation with ROE, with a p-value of less than 0.10. Additionally, the debt-to-equity ratio shows a significant negative correlation with ROE, with a p-value of less than 0.05. Conversely, the natural logarithm of total assets, which represents firm size, exhibits a significant positive correlation with ROE, with a p-value of less than 0.05.

5. Discussion

This study aims to analyze how ESG risk influences the financial performance of banking firms in India. It emphasizes the significance of ESG risk in determining overall bank performance alongside traditional financial measures. This research is grounded in Freeman's concept of stakeholder wealth maximization, which underscores the importance of taking into account the interests of all stakeholders. The ongoing debate regarding prioritizing profits versus societal development has prompted scholars to explore the topic further. In India, there is recognition of the country's strong tradition of social responsibility, which forms the basis for examining how ESG risk impacts corporate financial performance. The study formulated three hypotheses to achieve its objectives:

H1: The ESG risk score negatively affects the return on assets (ROA) of Indian banks**.**
H2: The ESG risk score negatively affects the return on capital employed (ROCE) of Indian banks.
H3: The ESG risk score negatively affects the return on equity (ROE) of Indian banks.

The empirical findings uphold all three hypotheses, demonstrating a significant negative correlation between ESG risk and ROA, ROCE, and ROE at various levels of significance, including 1%, 5%, and 10%. These findings are in line with a stakeholder-oriented management approach. The increasing societal awareness, apprehensions regarding financial statement integrity, and investors' perception of ESG risk's impact on firm performance have contributed to heightened capital costs and volatility. To enhance financial performance and gain stakeholder trust, firms must effectively manage ESG risk. Additionally, the study reveals a positive relationship between a company's sustainability risk and its financial performance, indicating that stronger sustainability profiles lead to increased profitability. Therefore, ESG risk significantly impacts the financial performance of banking firms in India, underscoring investor attention to ESG performance. Banks should

adhere to ESG guidelines and improve their ESG profiles. This implies that financial institutions could gain advantages by adapting their business practices to conform to ESG standards.

6. Contribution of the Study

This study makes a significant contribution to the existing literature by investigating the impact of environmental, social, and governance (ESG) risk on the banking sector in emerging economies, with a particular emphasis on India. The insights gleaned from this study can serve as a valuable foundation for researchers to explore similar aspects related to ESG risk in other developing nations undergoing significant development. Through empirical analysis, the study enhances our understanding of whether ESG factors contribute to enhanced financial performance, particularly within the banking sector of developing countries like India. Furthermore, the study identifies the primary ESG risks that significantly influence the financial success of banks in India. The results undeniably show a pronounced adverse impact of ESG risk on the financial performance of the banking sector in India.

7. Conclusion

The aim of this investigation is to examine the influence of Environmental, Social, and Governance (ESG) risks on the financial outcomes of banks that are active in the Indian market. The findings are consistent with earlier research conducted by Galant and Cadez (2017), Di Tommaso and Thornton (2020), and Tampakoudis et al. (2021), indicating that there might be an adverse effect on the financial outcomes of banks due to ESG initiatives. Similarly, in line with findings from Demirguç-Kunt et el., (2022) and Miah et el., (2022) Additionally, this study uncovers evidence of the detrimental effects of ESG risks on the Indian banking system. This phenomenon may be ascribed to the capacity of banks with a focus on Environmental, Social, and Governance (ESG) factors to draw in investors and clients who are socially mindful, as highlighted by Amel-Zadeh & Serafeim and Pedersen et al. (2021). Furthermore, the research investigates the impact of bank size, as indicated by the natural logarithm of overall assets, on the financial performance. Despite observing a favorable association, there is an absence of statistical significance. Nonetheless, the size of a bank demonstrates a noteworthy inverse relationship with financial risk. To bolster these findings, future research is encouraged to conduct a more comprehensive analysis. This could involve expanding the sample size, exploring alternative metrics of profitability and performance, and employing advanced research methodologies. Such studies would contribute to the existing body of literature on ESG risk and bank performance, particularly in the Indian context. The outcomes of this study have implications for executives in the corporate sector as well as government officials, underscoring the significance of prudent investment practices and decision-making in Environmental, Social, and Governance (ESG) projects. Through the integration of ESG factors in their activities, organizations are poised to realize enhanced financial performance over the long term.

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Annexure

Normality Test

- **Skewness and Kurtosis tests for Normality**

Skewness/Kurtosis tests for Normality					
		------ joint ------			
Variable	Obs	Pr (Skewness)	Pr (Kurtosis)	adj_chi2(2)	Prob>chi2
Residual	17	0.451	0.486	1.16	0.56

- **Shapiro-Wilk W test for normal data**

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	z	Prob>z
Residual	17	0.948	1.094	0.179	0.429

- **Jarque-Bera normality test**

jb resid
Jarque-Bera normality test: 0.9099, Chi(2): 0.6345
Jarque-Bera test for Ho: normality

- **Multi-collinearity Test**

Variance inflation factor		
	VIF	**Tolerance**
ESG RISK	1.050	0.952
Ln (SIZE)	1.035	0.966
D/E RATIO	1.033	0.968
MEAN VIF	**1.039**	.

- **Heteroskedasticity**

Breusch-Pagan/CCook-Weisberg test for heteroscedasticity
Ho: Constant variance

Variables: fitted values of ROA
Chi2 (1) = 0.01
Prob > chi2 = 0.9384
Breusch-Pagan/CCook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of ROCE
Chi2 (1) = 0.19
Prob > chi2 = 0.6627
Breusch-Pagan/Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of ROE
chi2 (1) = 0.48
Prob > chi2 = 0.4884