

Sustainable Banking in India: An Empirical Study of ESG Scores and Financial Performance

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Abstract

The research study on the relationship between ESG scores and financial performance in the banking sector of India reveals significant insights into the dynamics of sustainable finance. The analysis, conducted using data from eight banking companies over a five-year period, indicates a weak negative correlation between ESG scores and the compound annual growth rate (CAGR) of stock prices. Conversely, moderate positive correlations are observed between ESG scores and the CAGR of both return on assets (ROA) and return on equity (ROE). Regression analysis reinforces these findings, highlighting a weak linear relationship between ESG scores and financial metrics. Theoretical implications suggest alignment with stakeholder theory, agency theory, and institutional theory, emphasizing the importance of considering stakeholder interests, aligning incentives, and navigating institutional pressures. Managerial implications underscore the need for strategic integration of ESG factors into decision-making processes, stakeholder engagement, and investment in ESG education and training programs. The study identifies limitations, including inadequate ESG data availability and sector-specific focus, and suggests future research directions exploring diverse sectors and financial indicators beyond banking. Overall, the research contributes to advancing our understanding of sustainable finance and its implications for long-term value creation.

Keywords: ESG, ROE, ROA, Stocks, and CAGR.

I. Introduction

Sustainable finance today plays a key importance in the all the global economic activities. The importance of the sustainable finance first rooted from the year 1992, Earth Summit in Rio de Janeiro from a group of visionary leaders which was introduced as the United Nations Environment Programme Finance Initiative (UNEP FI) As the main source of financing lies within the realm of banking which encourages various business activities. As such these activities have direct impact on the environmental and societies at large. With increase in the environmental and societal challenges in the recent years it has come as a collective effort for the nations to address these issues. Financial Institution plays a crucial role in the addressing these challenges, the concept of sustainable finance which is rooted in the sustainable development is seen an imperative measures to take into consideration for financing business activities. In turn the research paper works to study how sustainable finance have a positive impact on the Banking institution's financial performance.

The term Sustainable Banking is associated to the Ethical banking which embeds the practices of CSR, transparency and correct report of the business activities, and the governance structure. The ESG

(Environment, Social, Governance) scores takes into consideration of these parameters while providing scoring to the institution. The research paper basis its sustainable finance metrics for the banking institution from the CRISIL's ESG score. The ESG scores are calculated based on the assessment of 600 key performance indicators for companies across various sectors. Some of the parameters taken for ESG scoring of Banks/NBFs are financed emission and negative sector exposure, funding to green projects, rural and semi-urban reach Priority sector lending etc. The percentage weightage provided for the Environment is 35%, Social 25% and Governance 40% Therefore the paper aims to study on the ESG (Economic, Social, Governance) scores of banking institutions in India which are related to the sustainable practices and how the adoption of these parameters has an impact on its financial performance. The paper analyzes on three financial performance metrics based on 5 years data on the stock performance, Return on Asset (ROA) and Return on Equity (ROE)

II. Review of Literature

Sustainable finance gained much attention in the year 1990s where banks shifted its focus on intergrating societal concerns into investment processes (Dhafer Saidane and Sana Ben Abdallah, 2021) and the concept of sustainable finance closely associates to CSR activities of the companies with other guiding principles of transparency, accountability, ethical behavior, stakeholder recognition and respect for laws and human rights. (Aris Bachtiar1, Yunieta Anny Nainggola, 2023) It was proved that sustainable finance has a significant positive impact on the performance variables of the net interest margins, CAR (capital adequacy ratio), and significant negative impact on NPL ratio (Non-performing loans). The social and the governance pillar of the ESG parameters had significant positive relationship. (Walter Heikki Petrus Bachman, 2022) The integration of ESG considerations into business strategies can help in mitigating risks associated to with environmental and social issues regarding regulatory compliance, reputation and supply chain disruptions. (Andreas Alessandro, Ghozali Maski, Farah Wulandari Pangestuty, 2023) The (Deergha Sharma and Pawan Kumar,2023) environment dimension was the most significant, with indicators such as emissions, waste, and energy to be most significant on the sustainable banking performance while financial dimension with indicators such as remittance collection and dividend policy received low importance. (Taslima Julia, Salina Kassim, 2019) The framework places a strong emphasis on preserving faith, life, intelligence, prosperity, and riches. It is founded on Islamic teachings. Green banking is consistent with these ideals and impacts banks' observance of moral and environmental standards. The relationship between sustainability performance and financial performance (Herenia Gutiérrez-Ponce, Sigit Arie Wibowo, 2023) where there was negative correlation to the dependent variables (ROA, ROE and TQ) of ESG. However, the ESG pillars (Environment, Social and Governance) yielded different results. It acclaims how ESG reporting provides various stakeholders including the investors, policy makers, academics and assurance providers with information to make responsible decisions. Sustainable banking products and services such as green mortgages and sustainability linked bonds have positive impact on the corporate financial performance in the banking sector. The aim of (Beata Zyznarska-Dworczak's 2023) research on sustainability performance efficiency in the banking sector indicate that several factors, including Economic, Cultural and Social aspects, Industry Maturity, Stakeholder's Expectations, Organizational Strategies, Collaboration and Knowledge Sharing, and Market Competition, influence the implementation of sustainability performance in banks. (Edward Attah-Botchwey, Michael Gift Soku, David Mensah Awadzie,2022) The economic, social and governance reporting in the financial statement had significant positive association which increases the banks'

performance in long term. (Additionally, the effect of sustainable banking (based on sustainability indicator of GRI reporting) and bank characteristics (bank size, bank age, ownership structure etc) to its financial and non-financial indicators was studied and it showed that the sustainable dimensions such as society, staffs, environment, management gave varied effect with negative impact to the banks financial performance. (Handajani, Akram & Rifai, 2021) It intels productivity of sustainable banks are mostly affected by the external factors such as changes in the government policies, technology development, and economic environment. Revenue diversification had significant impact for banks in terms of efficiency from NII, GDP and Capitalization while NPL had negative impact on banks performance and recommends to construct prudential framework and support sustainability (Zhikang Xie , Xinglin Liu , Hina Najam , Qinghua Fu , Jawad Abbas , Ubaldo Comite Laura Mariana Cismas and Andra Miculescu, 2022). The relationship between factors impacting the disclosure of environmental, social, and governance (ESG) components in banking sector organizations and highlights the significance of policy instruments from pertinent ministries and establishments to tackle issues related to sustainable finance and indicates that a company's financial performance is the primary factor influencing its compliance with ESG duties (Azvani Aulia, Fiona Febriyant, Lita Permata Umi, 2023). There exist a possible effects of ESG performance on profitability and value creation. All of these elements work together to help us comprehend how financial performance and ESG disclosure relate to one another in the banking industry.

III. Research Methodology

The study's focus is on the analysis of ESG scores and how sustainable banking practices affect the financial performance of Indian banks. It covers several important areas as highlighted below. The research will encompass a thorough examination of the environmental, social, and governance (ESG) scores of the Indian financial institutions. The scores pertains to social responsibility (such as financial inclusion, community involvement, and carbon footprint reduction), environmental sustainability (such as investments in renewable energy), and governance (such as board composition and transparency). Consequently, using important indicators including return on equity (ROE), return on assets (ROA), and Stock price data of past 5 years, the study will evaluate the financial performance of Indian banks. To assess the overall financial performance and health of the banks, the paper examines financial statements, annual reports, and other pertinent financial data from Money Control, Bombay Stock Exchange websites.. The study's main goal is to investigate the relationship between ESG scores and financial performance metrics in the Indian banking sector. This will involve conducting statistical analysis, regression modeling, and correlation studies to determine the extent to which ESG practices impact financial outcomes.

IV. Data Analysis

Regression Analysis - ESG Scores to Stocks CAGR

Hypothesis Testing - Relationship between ESG Scores and Banks Stock Prices

Null Hypothesis (H0): There is no significant relationship between the predictor variable (ESG Score) and the dependent variable (Stocks)

Alternate Hypothesis (H1): There is a significant relationship between the predictor variables (ESG Score) and the dependent variable (Stocks)

SUMMARY OUTPUT ESG Scores to Stocks CAGR								
Regression Statistics								
Multiple R	0.3317							
	138							
R Square	0.1100							
	3404							
Adjusted R Square	-							
	0.0382							
	936							
Standard Error	0.1406							
	6913							
Observations	8							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	0.01467	0.0146	0.7418	0.42215			
		921	7921	3092	531			
Residual	6	0.11872	0.0197					
		683	8781					
Total	7	0.13340						
		604						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.3992	0.46822	0.8527	0.4265	-	1.5449	-	1.54497
	7238	422	3757	284	0.74643	7577	0.74643	577
					1		1	
Average of ESG Score	-	0.00758	-	0.4221	-	0.0120	-	0.01202
	0.0065	575	0.8612	5531	0.02509	2808	0.02509	808
	336		961		52		52	

The regression analysis for ESG scores to Stocks provides us with the information on the correlation coefficient value denoted by Multiple R = 0.33 This shows the same correlation analysis of weak linear relationship. The R square= 0.11 (11%) intel that only 11% of Stocks (dependent variable) can be explained by the ESG score (Independent variable)

Significance F of P value= 0.422 which is higher than alpha 0.05 we will accept the H0= There is no significant relationship between the predictor variable (ESG Score) and the dependent variable (Stocks). The coefficient with constant 0.399 and ESG score at -0.0065 intels change in stocks towards that degree at -0.0065. The linear regression equation; $Y = 0.33 + -0.0065X$.

ESG Score to CAGR ROA

Hypothesis Testing - Relationship between ESG Scores and Banks ROA

Null Hypothesis (H0): There is no significant relationship between the predictor variable (ESG Score) and the dependent variable (ROA)

Alternate Hypothesis (H1): There is a significant relationship between the predictor variables (ESG Score) and the dependent variable (ROA).

SUMMARY OUTPUT								
ESG Score to CAGR ROA								
Regression Statistics								
Multiple R	0.3486							
	4037							
R Square	0.1215							
	5011							
Adjusted R Square	-							
	0.0248							
	582							
Standard Error	0.2572							
	5218							
Observations	8							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	0.054942	0.0549	0.8302	0.397339			
		41	4241	1312	29			
Residual	6	0.397072	0.0661					
		12	7869					
Total	7	0.452014						
		53						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-	0.856276	-	0.4235	-	1.3601	-	1.36013
	0.7350	71	0.8584	9114	2.830329	3821	2.83032	821
	954		788		1		91	
Average of ESG Score	0.0126	0.013872	0.9111	0.3973	-	0.0465	-	0.04658
	4019	63	6032	3929	0.021304	8529	0.02130	529
					9		49	

The regression analysis for ESG scores to ROA stipulates the information on the correlation coefficient value denoted by Multiple R = 0.34 This shows correlation analysis of weak linear relationship. The R square= 0.12 (12%) intel that only 11% of ROA (dependent variable) can be explained by the ESG score (Independent variable). Significance F of P value= 0.39 which is higher than alpha 0.05 we will accept the H0= There is no significant relationship between the predictor variable (ESG Score) and the dependent variable (ROA). The coefficient with constant -0.735 and ESG score at 0.0126 intels change in ROA with towards that degree at 0.0126 . The linear regression equation; $Y = -0.735 + 0.0126X$.

ESG Score to CAGR ROE

Hypothesis Testing - Relationship between ESG Scores and Banks ROE

Null Hypothesis (H0): There is no significant relationship between the predictor variable (ESG Score) and the dependent variable (ROE)

Alternate Hypothesis (H1): There is a significant relationship between the predictor variables (ESG Score) and the dependent variable (ROE).

SUMMARY OUTPUT								
ESG Score to CAGR ROE								
Regression Statistics								
Multiple R	0.33701104							
R Square	0.11357644							
Adjusted R Square	-0.0341608							
Standard Error	0.26320974							

Observations	8							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	0.05326012	0.05326012	0.76877317	0.4143197			
Residual	6	0.41567621	0.06927937					

Total	7	0.46893633						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-0.7375058	0.87610674	-0.8417991	0.43216613	-2.8812618	1.40625014	-2.8812618	1.40625014
Average of ESG Score	0.01244517	0.0141939	0.87679711	0.4143197	-0.022286	0.04717638	-0.022286	0.04717638

The regression analysis for ESG scores to ROE intel on the correlation coefficient value denoted by Multiple R = 0.34 the correlation analysis of a weak linear relationship. The R square= 0.11 (11%) intel that only 11% of ROE (dependent variable) can be explained by the ESG score (Independent variable).

Significance F of P value= 0.41 which is higher than alpha 0.05 we will accept the H_0 = There is no significant relationship between the predictor variable (ESG Score) and the dependent variable (ROE). The coefficient with constant -0.737 and ESG score at 0.0126 intels change in ROE with towards that degree at 0.0124. The linear regression equation; $Y = -0.737 + 0.0124X$

V. Research Outcome and Findings

The analysis conducted on the relationship between ESG scores and financial performance metrics offers insights into the dynamics of ESG scores to the performance metrics. A weak negative correlation between ESG scores and the CAGR of stock prices was observed, indicating that higher ESG scores may marginally correspond to lower growth rates in stock prices. Conversely, a moderate positive correlation emerged between ESG scores and the CAGR of Return on Assets (ROA), this observation suggested that banks with stronger ESG performance might witness relatively higher growth rates in their return on assets. Similarly, a comparable moderate positive correlation was noted between ESG scores and the CAGR of Return on Equity (ROE), hinting at the potential for enhanced profitability among banks prioritizing ESG factors. The subsequent regression analysis reinforced these observations. For the relationship between ESG scores and stock prices, a weak linear relationship was confirmed, with only 11% of stock price variations attributable to ESG scores. Moreover, while a slight negative impact of ESG scores on stocks was suggested by the regression coefficient, no significant relationship was established through the significance test. Similarly, the regression analysis for the association between ESG scores and ROA/ROE indicated weak linear relationships, with 11% of variations in ROA/ROE explained by ESG scores. However, the significance tests failed to identify significant relationships between ESG scores and ROA/ROE, indicating other potential influential factors on these financial metrics.

While a discernible association between ESG scores and financial performance metrics was observed, its strength remained modest, suggesting that additional factors may significantly shape financial outcomes in the banking sectors.

VI. Conclusion

The analysis reveals nuanced insights into the relationship between ESG scores and financial performance metrics within the banking sector. While a weak negative correlation is observed between ESG scores and stock price growth, moderate positive correlations are found with Return on Assets (ROA) and Return on Equity (ROE). However, regression analyses suggest that only a modest portion of the variation in financial metrics can be explained by ESG scores, with no significant relationships established. From a managerial standpoint, proactive integration of ESG factors into decision-making processes, stakeholder engagement, and investment in ESG education are vital for enhancing long-term sustainability and competitiveness. Limitations include the scarcity and subjectivity of ESG data, as well as the focus solely on the banking sector. Overall, while the study provides valuable insights, further research incorporating a broader range of industries and ESG metrics is warranted to enrich our understanding of the ESG-finance nexus.

VII. References

1. Adu, Douglas A., “Sustainable banking initiatives, environmental disclosure and financial performance: The moderating impact of corporate governance mechanisms” ,Business Strategy and the Environment | 2022

2. Andreas Alessandro, Ghozali Maski, Farah Wulandari Pangesty, **“The Implementation of Sustainable Finance: A Case Study in Bank Performance”**, -**International Journal of Accounting and Finance in Asia Pasific**-Vol. 6, Iss: 1| 2023
3. Akuntansi | 2023 Banani, Ade Sunarko, Bambang, **“Nexus between Green Finance, Creativity, Energy Accounting and Financial Performance: Banks Sustainability Analysis from Developing Country”** **International Journal of Energy Economics and Policy** | 2022
4. Aulia, Azwani Febriyanti, Fiona, **“Trend Analysis Of ESG Disclosure On Green Finance Performance In Indonesia, Malaysia & Singapore Exchanges”** JAK (Jurnal Akuntansi) Kajian Ilmiah
5. Bătae, Oana Marina, **“Environmental, social, governance (ESG), and financial performance of European banks”** **Journal of Accounting and Management Information Systems** | 2020
6. Beata Zyznarska-Dworczak, **“Sustainability performance efficiency in the banking sector”**, **Ekonomiska Istrazivanja-economic Research (Ekonomiska Istrazivanja-economic Research)**-Vol. 36, Iss: 3 | 2023
7. Botchwey, Edward Attah, **“Sustainability Reporting And The Financial Performance Of Banks In Africa”** **Pressacademia** | 2022
8. Hamed, Ruba, **“The Role of Internal Control Systems in Ensuring Financial Performance Sustainability”** **Sustainability** | 2023
9. Handajani, Lilik, Akram, Akram, **“Sustainable Banking and Bank Performance”**, **Jurnal Ilmiah Akuntansi dan Bisnis** | 2021
10. Herenia Gutiérrez-Ponce, Sigit Arie Wibowo, **“Do Sustainability Activities Affect the Financial Performance of Banks? The Case of Indonesian Banks”**, **Sustainability**-Vol. 15, Iss: 8, pp 6892-6892 | 2023
11. Julia, Taslima, Kassim, Salina, **“Exploring green banking performance of Islamic banks vs conventional banks in Bangladesh based on Maqasid Shariah framework”** **Journal of Islamic Marketing** | 2019
12. Khanchel, Imen, Lassoued, Naima, **“Sustainability and firm performance: the role of environmental, social and governance disclosure and green innovation”**, **Management Decision** | 2023
13. Milind S. Ladaniya, **“Sustainable Finance: Banks, Sustainability, and Corporate Financial Performance”**, **Sustainable finance (Sustainable finance)**-pp 41-61 | 2023
14. Saidane, Dhafer, Abdallah, Sana Ben, **“Rethinking Finance in the Face of New Challenges”** **Critical Studies on Corporate Responsibility, Governance and Sustainability** | 2021
15. Sharma, Deerga, Kumar, Pawan, **“Prioritizing the attributes of sustainable banking performance”** **International Journal of Productivity and Performance Management** | 2023
16. Xie, Zhikang Liu, Xinglin, Najam, Hina, **“Achieving Financial Sustainability through Revenue Diversification: A Green Pathway for Financial Institutions in Asia”**, **Sustainability** | 2022
17. Walter Heikki Petrus BachmannM, **“ESG SCORES AND THE FINANCIAL PERFORMANCE OF EUROPEAN BANKS IN 2013-2021”**, 2022
18. Yadav, Mahender, Dhingra, Barkha, **“ESG risk and financial performance of the Indian financial firms”**, **International Journal of Governance and Financial Intermediation** | 2022
19. Yunieta Anny Nainggolan, **“Financing For Sustainability and Bank Performance: Case of G-20 Countries”**, **International Journal of Current Science Research and Review**-Vol. 06, Iss: 05 | 2023

20. Zhan, Shuyuan, “**ESG and Corporate Performance: A Review**”, SHS Web of Conferences | 2023
21. “**CRISIL’s ESG scoring methodology**”, <https://www.crisil.com>
22. “**ESG AND FINANCIAL PERFORMANCE: The Effects of the Implementation of Sustainable Finance on the decision-making of Financial Institutions**” |