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Sustainability in Banking: Integrating ESG into Business Strategy

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Abstract: Sustainability in banking has been one of the strategies used as the underpinning idea how the banks work and create long-run value in a unique way by integrating (Environmental, Social and Governance (ESG) Practices. We focus on six major Indian banks spread across public and private entities; among those banks, it clearly identifies a positive relationship between ESG performance and key financial indicators such as ROA, ROE, and changes in stock prices. The regression results show that there is a strong association between ESG scores and financial performance, while larger banks with high total assets are less likely to be profitable. Despite all these benefits, however, challenges persist in the form of standardizing ESG metrics, which complicate cross-bank comparisons and reporting. The results showed that, ESG integration is not just about following regulatory requirements but can also turn out to be a source of long-term profitability and investor confidence. The future research should develop standardized frameworks to quantify the financial returns of ESG practices in banking.

1. Introduction

Today, financial institutions are recognized not just as 'intermediaries of money' but also as catalysts of a sustainable world. Among the most active leaders in this transition is the integration of ESG factors within the core strategies of banks (Alkaraan *et al*., 2022). These principles will guide the assessment for sustainability and ethical impact that an organization's operations, investments, and loans have on their activities (Gasperini, 2019). Banks, formerly regarded as financial organizations that generally aim to make profits, are gradually incorporating a more varied approach toward business models and showing greater consideration for the environmental and social implications of work. This is not brought about by the internal policy change but more by regulatory pressures, stakeholder demands, and the heightened awareness of climate-related financial risks (Yip & Bocken, 2018). The new rules on sustainability have taken centre stage in most industries and, hence, banking cannot be left behind. Adopting the ESG principles is not a choice but a compulsion for banks as they are continuously held accountable for their respective contributions to the degradation of the environment and social inequalities (Puaschunder, 2023). Transition into a more sustainable business model means embedding the ESG criteria into the core part of banking activities such as lending, investments, and managing risks (Ziolo *et al.,* 2021).

Environmental factors centre on how banking operations and portfolio companies affect nature (Thompson & Cowton, 2004). It is therefore concerned with issues of how human activities affect the climate, raw material usage, as well as post-activity waste. With the risk that environmental factors have in view, banks are now realizing the enormous loss of funds they are likely to incur if they opt to overlook these risks, especially since climate change disrupts the markets around the world, global supply chains, and economic stability (Feyen *et al.*, 2021). Social Factors discuss how the banks affect people directly or indirectly on issues related to labour, human rights, and community (Watts, 2005). Banks play an effective role in bringing about social imbalances when they provide a financial service opportunity to the underserved and contribute towards the welfare of society (Benedikter, 2010; Ji *et al.*, 2022). Responsible banking (Kandpal *et al.*, 2024) includes making communities and the organization they work in diverse and inclusive. Governance incorporates the factors of corporate leadership, transparency, and accountability (Ijeoma & A, 2013). Governance can ensure the ethical operation of banks through sharp oversight with practices considering the stakeholders' interests (Rovera, 2022). Strong governance is important for making banks profitable, yet responsible stewards of resources managed in the context of ESG.

Moreover, governments and regulatory agencies across the world are increasingly step in to ensure that ESG issues form the core of business strategy for a banking sector. The regulatory forces have picked up the pace over the past few years. While the rules are strictly on environmental risk, they also assume quite a level of social governance issues forcing revaluation of positions in society by banks. For instance, at the European Union level, the Sustainable Finance Disclosure Regulation (SFDR) and the Taxonomy Regulation mandate financial institutions to report on their activities' alignment with sustainability objectives in order to clear up for stakeholders and avoid greenwashing (Och, 2020). The frameworks guide activity definitions and measures for sustaining-associated activities so banks operate and march in unison with the global set of goals, such as the Paris Agreement and the United Nations SDGs (Upadhyay, 2021). Similarly, in the United States, the Securities and Exchange Commission (SEC) has proposed rules that will require public companies, including banks, to disclose climate-related financial risks (Carattini *et al.*, 2022). So, the momentum of regulations highlights the growing importance of ESG integration as essential for compliance.

Besides regulatory pressures, there are demands from various stakeholders like investors and customers, employees, and society at large that banks should bring more transparency and accountability in ESG practices. Many institutional investors, including pension funds and asset managers, are now including ESG criteria in their investment decisions (Ji *et al.*, 2022). Instead, such investors are concerned not only with the returns available in the short term but also with the long-term sustainability of the companies into which they invest. Such investors realize that the banks that conduct good practices based on ESG criteria are well placed to control the risks and exploit new opportunities for long-term value creation. Now, increasingly, customers are banking with institutions that share their values. Conscious consumers are increasingly likely to bank with sustainability and ethics-focused banks; this has given birth to "green banking" initiatives (Chandran *et al.*, 2024). These include green loans and eco-friendly investment products up to community-based projects for society and the environment (Srivastava *et al.,* 2022). The consequence for a bank failing to meet these expectations is loss of market share and loss of reputation.

The integration of ESG into the banking operations process is a holistic approach touching every aspect of the business (Alkaraan *et al.*, 2022). Gradually, it shifted from the boardroom to frontline operations, and where today, banks increasingly come to embed ESG principles in their everyday affairs in the forms of lending practice, investment, and even the management of the bank's own environmental footprint. Perhaps the most salient area of ESG integration in lending and investment decisions (Ji *et al.*, 2022) is its advocacy of ESG criteria to integrate risk assessment to ensure that financed projects are aligned with the agenda for sustainable development. This explains why banks are more likely to support businesses and initiatives contributing to clear energy, carbon emission reduction, and common social welfare (Monasterolo *et al*., 2024). Alignment has also been achieved in banks' efforts toward a lower operational carbon footprint through sustainable practices in their offices, data centers, and supply chains. Most of the world's leading banks have pledged to become net zero by a certain date; they do this by shifting to renewable energy sources and facilitating energy efficiency as well as waste reduction (Weber & Imam, 2024).

2. Literature Review

2.1. Sustainability in Banking and ESG Integration

The integration of ESG principles into banking practices is one of the fastest-moving concepts over the past two decades. The role that the banking industry plays in the allocation of capital has positioned this industry as one of the most active players in global confrontations regarding climate change, social inequality, and problems of governance. This literature review draws upon extant knowledge bases surrounding the sustainability of banking with a focus on ESG principles and their integration-of the affiliated issues, advantages, and emerging gaps in research.

2.2. Historical Background of ESG in Banking

The discourse on ESG in banks could trace its history as far as the concept of Corporate Social Responsibility (CSR) goes, which called upon the banks to think beyond their motive of profit maximization and, at least in macro terms, of their wider societal and environmental value (Herzig & Moon, 2013). CSR forms the precursor of ESG as it involves the belief in ethical business practices, community engagement, and philanthropy. However, with the increasingly urgent environmental issues and the financial crisis in 2008, weaknesses in governance practices were brought into the limelight, and the focus turned to a more holistic framework that incorporated environmental and social factors together with governance (Weber & Imam, 2024). ESG was formalized, hence, as a structured approach to sustainability, and a lot of scholars began placing stress on their importance in banking.

As mentioned by Ye *et al*. (2021), banks can occupy a strategic position in the promotion of sustainable development in the unique financial intermediation role that they play. In giving ESG criteria an opportunity to be integrated into lending and investment decisions, banks can advance industries and projects that contribute to environmental protection, social welfare, and ethical governance (Park & Kim, 2020). This motivated further research on the practical aspects of ESG integration into banking.

Research studies have pointed out that the importance of ESG factors in determining long-term financial performance could be a means of lessening the risks associated with environmental degradation, social unrest, and governance failures (Oprean-Stan *et al*., 2020). For instance, Kalfaoglou, (2021) contend that incorporating ESG into risk evaluations enables banks to know and anticipate climate-related financial risks of extreme weather events' destruction of the global economy. Simultaneously, through the integration of ESG, banks will steer clear from risk investments in sectors with high concentration that is engaged in fossil fuels and arms manufacturing industries. Today, these factors have more stringent regulation scrutiny and by members of the public.

Further, Zumente & Bistrova, (2021) have empirical evidence that companies with a healthy ESG practice maintain better financial performance over the long term than their peers.
Governments and regulatory bodies have increasingly begun to realize the strategic importance of sustainable finance in tackling global challenges such as climate change. This is the case of the Sustainable Finance Disclosure Regulation (SFDR) within the European Union, which focuses on some aspects of a regulatory framework set forth to encourage transparency and accountability in ESG reporting. Such frameworks make banks disclose how their financial activities bear alignment with the sustainability goals while encouraging responsible investing and lending practices. However, other researchers note that inconsistent ESG metrics and reporting standards are a big problem for banks. According to Singhania and Saini, (2022), lack of world-class standard in measuring ESG performance causes banks considerable difficulties in evaluating their sustainability initiatives.

Several other researchers point out that inconsistent ESG metrics and reporting standards are a significant problem for banks. This creates inconsistency in the process of reporting and troubles investors as well as other stakeholders who depend on these data for their decisions. While most of the literature in the contemporary period is more focused on qualitative issues concerning the adoption of ESG integration in investment research, increasing attention is now being given to financial gains that would accrue through the adoption of ESG principles. Taliento *et al.* (2019) concluded that the bottom line of companies that were more sophisticated on ESG practices would likely result in positive comparisons for lower capital costs and enhanced reputational values and increased operational efficiencies. These results imply that ESG integration can result in better financial performance for the bank, especially from a long-term profitability perspective. Yet, it is very complex to quantify the financial benefit arising from the integration of ESG considerations, as highlighted by Kotsantonis *et al.* (2016).

There is ample evidence proving that good ESG practices bear positive financial performance; however, the challenge remains in developing a standardised framework for quantifying benefits arising from such practices. Much of the earlier work hinges upon case studies or datasets that are lacking in the context of understanding systematic contributions of ESG integration to financial success across different banking institutions and market contexts.

2.3. Research Gap

Even though several studies analyse the qualitative elements of ESG, that is, reputation building and compliance with regulations, there are only few empirical works that assist in quantifying the financial payback on ESG investment for banks. The standardization of ESG metrics, to date, remains a critical challenge, thus making it hard to establish economic value added by sustainable banking practices (Cort & Esty, 2020). This gap will require further study into the development of sound, widely applicable measurement frameworks of ESG. Therefore, the current literature yields rich findings on ESG in banking-especially when one considers the relationship between risk management, regulatory compliance, and long-term financial performance. However, there is a very major challenge remaining from standardizing ESG measures to the financial benefits associated with such practices. There is, therefore, a need for subsequent research into how systematic measures of financial returns on investments in ESG can be designed and developed into standard frameworks by which to assess bottom-line impact of sustainability initiatives on a bank's bottom line.

3. Research Objectives

The present study examines relatively under-researched areas as an attempt to fill the identified gaps in literature to deepen understanding of the financial and operational impacts of ESG integration within the banking sector. The focus is on the development of standardized ESG measurement frameworks and related financial outcomes from sustainable banking practices.

RQ1: How can banks systematically measure the financial performance and long-term benefits of integrating ESG factors into their business strategies and operations?

RQ2: What are the key challenges and opportunities for standardizing ESG metrics in the banking sector, and how do these impact the effectiveness of sustainability reporting and risk management?

4. Methodology

The study adopted quantitative research method to analyze the integration of Environmental, Social, and Governance factors with financial performance in the Indian banking sector. A causal-comparative research design was used to explain how ESG factors affect financial outcomes by focusing on profitability, risk management, and sustainable long-term performance. Considering the scope of this research, six top Indian banks have been selected, comprising both public and private sector organizations. The selected banks are

1. State Bank of India(SBI): It is the biggest public sector bank in India with the highest level of participation in sustainable finance initiatives.
2. Punjab National Bank (PNB): The second leading bank is a public sector bank, and it has made tremendous contributions to CSR and sustainability.
3. HDFC Bank: HDFC Bank is a private sector bank that is actively following ESG practices, primarily in the context of governance and social responsibility.
4. ICICI Bank: A private major bank has made sustainability a part of its business model through various green initiatives.
5. Axis Bank: This bank is focusing on sustainable sustainability and lending that are environment friendly.
6. Kotak Mahindra Bank: One of India's private major banks is well known for leadership in corporate governance and responsible investment approach.

The criterion for the selection is the significant market presence these banks hold as well as their commitment to ESG initiatives. Publicly available ESG reports, and sustainability disclosures of these banks indicate incorporation of these practices. They are a quintessential representation of the Indian banking sector, ensuring a balance between public and private institutions for purposeful comparison.

Data Collection for this study is based on secondary sources. For ESG scores, the selected banks' ESG scores are obtained from recognized ESG rating agencies, such as MSCI (Morgan Stanley Capital International) (Deng, 2021) and Sustainalytics (Xiong, 2021), whereas for financial data, including Return on Assets (ROA), Return on Equity, and stock performance, databases like Bloomberg and Thomson Reuters are used. Annual financial reports available on the banks' websites also serve as complementary data in terms of financial performance and ESG activities.

SPSS 29.V were used to analyze data. Multiple regression model, factor analysis, correlation, and ANOVA were applied to ascertain whether the ESG factors have significant influence on financial performance. Independent variables representing ESG scores are analyzed against dependent variables-the financial metrics-to control the effects such as size of a bank, market capitalization, and economic conditions. The three regression models will also be used to test if higher ESG scores are linked with better performance in terms of financial performance and, thereby, help understand the benefits of sustainability within the banking industry. Descriptive statistics and correlation analysis will summarize the data while finding relationships.

5. Results

The data were processed with the use of descriptive statistics and regression models to evaluate the relationship between ESG integration and financial performance of the selected Indian banks and focus on the key financial metrics on which compared: ROA, ROE, changes in stock prices, and ESG scores, which shed light on whether sustainability practices influence bank profitability and market performance.

Table 1: Financial Performance and ESG Score of Banks

Bank	ESG Score (2022)	ROA (%)	ROE (%)	Stock Price Change (%)	Total Assets (INR Crores)
State Bank of India	75	0.7	10.5	12.5	4500000
Punjab National Bank	68	0.4	8.3	8.9	800000
HDFC Bank	80	1.8	15	18.2	1700000
ICICI Bank	78	1.5	13.5	15.6	1300000
Axis Bank	74	1.3	12.8	14.3	1000000
Kotak Mahindra Bank	82	1.9	16.2	19.4	900000

Table 1 provides the information regarding six selected Indian banks, ESG scores, scores concerning Return on Assets (ROA), Return on Equity (ROE), and change in stock price, all along with total assets. It emphasizes the ESG performance namely financials for both public sector and private sector banks. Such banks include Kotak Mahindra Bank with an ESG score of 82 and HDFC Bank with an ESG score of 80. The banks have had higher ROA at 1.9% for Kotak Mahindra Bank and 1.8% for HDFC Bank, meaning the banks are using the assets effectively for creating a profit. Punjab National Bank, or PNB, that has the lowest ESG score at 68, has a much lower ROA at 0.4%, its profitability being less efficient. Similarly, the profitability in relation to shareholders' equity is measured by ROE. Its value is highest for Kotak Mahindra Bank at 16.2%, and HDFC Bank at 15%, which reflects stronger returns for the shareholders as compared with Punjab National Bank at 8.3%.

They also perform better in the market, and this is reflected by a better change in the stock price. Kotak Mahindra Bank and HDFC Bank perform the best with a change in the stock price of 19.4% and 18.2%, respectively while Punjab National Bank changes as low as 8.9%. This will be interpreted to mean that those banks that perform better in the ESG parameters are better perceived by the investors, thus means better growth in their stock prices.

Moreover, the largest asset base is in the State Bank of India (SBI), yet it is not the most profitable. The above observation would mean that large assets are not a guarantee for better financial performance, and ROA and ROE are relatively lower for the larger public sector banks like SBI and PNB compared to their private counterparts. The findings reveal that strong ESG practices have a positive relationship with improved financial performance, and sustainability is increasingly becoming a driver of profitability and market value in the banking industry.

Table 2: Regression Results of six selected Banks

Variables	Coefficients	Standard Error	t-Statistic	P-Value
Constant	-6.9432	1.033	-6.723	0.007
ESG Score (2022)	0.111	0.013	8.226	0.004
Total Assets (INR Crores)	-1.46E-07	4.78E-08	-3.054	0.055

Source: Author Calculation

The result shows that ESG scores are positively statistically significant with the financial performance in terms of ROA of selected Indian banks. However, the total assets on ROA have a negative but not strongly significant effect. This indicates that although size plays some role, the integrative aspect as represented by ESG scores is more crucial for the profitability. The regression model yields a high R-squared value of 96.2%, which implies that most variance in ROA can be explained by ESG scores and total assets of banks, which further proves the importance of such factors while doing financial performance analysis.

Table 3: Correlation Matrix of Financial and ESG Variables

Particulars	ESG Score (2022)	ROA (%)	ROE (%)	Stock Price Change (%)	Total Assets (INR Crores)
ESG Score (2022)	1	0.919439	0.948322	0.97248	0.005678
ROA (%)	0.919439	1	0.991572	0.978574	-0.33682
ROE (%)	0.948322	0.991572	1	0.993421	-0.26259
Stock Price Change (%)	0.97248	0.978574	0.993421	1	-0.17659
Total Assets (INR Crores)	0.005678	-0.33682	-0.26259	-0.17659	1

Source: Author Calculation

Correlation analysis (Table 3) shows that there is a significant positive correlation between ESG scores and selected key financial performance indicators like ROA, ROE, and changes in the stock price. High ESG scores are strongly correlated with ROA at 0.919 and ROE at 0.948, where banks that have higher ESG score integration tend to be the most profitable and the one that utilizes assets and equity effectively in operations. Similarly, the high correlation between ESG scores and stock price changes (0.972) indicates investors reward sustainable practices and enjoy higher market valuation. However, total assets show weak negative correlation with both ROA (-0.337) and ROE (-0.263) as if larger banks are failing in efficiency and profitability. The results highlight that asset size is not a strong determinant of performance; ESG-focused banks are better off in terms of financial performance and attract more market confidence, which further strengthens the role of sustainability in the fostering of profitability and investor attractiveness for the banking industry.

Table 4: Factor Analysis

	ESG Score (2022)	ROA (%)	ROE (%)	Stock Price Change (%)
Component 1	-0.49195	-0.49846	-0.50404	-0.50543
Component 2	0.78456	-0.55751	-0.26639	0.051839

Soure: Author Calculation

Note:

Component 1 (negative loadings for all variables (**ESG Score**, **ROA**, **ROE**, and **Stock Price Change)**

Component 2: (positive loading for ESG Score (0.785) and mixed loadings for the financial metrics)

Factor analysis shows two principal components. Component 1 displays a negative loading for all variables, meaning that, presumably an inverse relationship prevails, in which higher ESG scores are positively correlated with lower financial performance in this component. Component 2 shows a strong positive loading on ESG Score (0.785); therefore, it captures the unique influence of ESG performance of the data separated from financial metrics. This indicates that the ESG factors on their own determine a significant portion of the variance; that is, they play a distinctive role in determining the performance of banks beyond the traditional finance one.

Table 5: Result of ANOVA Test

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Statistic	p-value
Between Groups	-	2	-	6.23	0.085
Within Groups	-	3	-	-	-
Total	-	5	-	-	-

Source: Author Calculation

The ANOVA test examined whether there were differences in ROA between three categories of banks, based on their ESG scores: Low ≤ 70, Medium 71-79, High ≥ 80. The ANOVA test produced an F-statistic of 6.23, and the corresponding p-value is 0.085. Although the F-statistic indicates that the ROA data from the three groups differs at some level of significance, the p-value > 0.05 so at the 5% level, the differences are not statistically significant. Hence this would suggest although it may differ in terms of profitability based on ESG performance in the sample, the difference is not big enough to weigh much up.

6. Discussion

The findings developed from this study further strengthen the importance of ESG integration while enhancing the financial performance of Indian banks. Such an analysis, across six major banks, depicts a direct relationship existing between sustainable practices and profitability as indicated by various financial metrics such as ROA, ROE, and the changes in stock prices. It therefore falls within a growing body of literature touting the positive impact of ESG on financial outcomes both short and long term and serves as supporting evidence to the work by Ng *et al.* (2020) that found that companies with good ESG practices outperform peers over time.

Banks with good ESG scores bettered their counterparts on such criteria as profitability and market valuation: Kotak Mahindra Bank and HDFC Bank, for instance. At the top is Kotak Mahindra Bank, holding an ESG score of 82, with ROA of 1.9% and a change in stock price at 19.4%, while PNB, with the lowest ESG score at 68, trails at 0.4% ROA, and 8.9% in its stock price change (Table 1). These findings support the views of Chiaramonte *et al.* (2021), which stated that ESG integration by banks, notably in their lending and investment activities, helps in achieving long-term growth and profitability.

The regression results in Table 2 further support the positive association between the ESG scores and financial performance. These findings are aligned with earlier works, such as Ziolo *et al.* (2019), who argued that incorporating ESG factors into the analysis supports banks in staying away from environmentally and socially hazardous investments, which would eventually imply good long-term financial stability. A statistically significant positive coefficient on the ESG score is at 0.111, p-value = 0.004, which shows that higher ESG scores correspond to better ROA, thus emphasizing the profitability of sustainable business models at the banks.

Interestingly, the regression analysis also reflected that total assets have a weak negative coefficient at (-1.46e-07, p-value = 0.055), which meant that although size does not necessarily mean larger-sized banks like SBI enjoy higher profitability levels. It assures to previous studies, which has shown that size itself does not act as an effective determinant of profitability. In fact, higher inefficiencies and complexities in operational workflows happen to hound larger banks, and those would minimize the effective utilization of assets, especially in case of less robust ESG integration.

Table 3 delivers the correlation matrix between ESG scores and other financial metrics. It shows a strong positive correlation between ESG scores and most key financial metrics, like ROA (0.919), ROE (0.948), and changes in stock prices (0.972). These correlations indicate that banks with a good record of ESG practices are generally more profitable and have better repute under consideration of investors, as exhibited by more returns on equity and efficient stock market performances. This result is not inconsistent with Taliento *et al.* (2019), who postulate that ESG integration decreased capital costs, increased reputational value, and contributes to the kind of operational efficiencies.

However, the poor negative correlation between total assets and both ROA (-0.337) and ROE (-0.263) in either case shows that a higher asset base does not necessarily reflect higher profitability. The results indicate inefficiencies that the larger banks must face and mark the growing need for ESG-driven strategies over size per se as an influential driver of financial prosperity.

Factor analysis (Table 4) yields two main components that further explain the interaction of ESG scores and financial performance. Component 1 has negative loadings across all variables, meaning there may be trade-offs or that integration is complex in terms of impacting financial performance and how at times financial performance is inversely related to ESG scores. In contrast, Component 2 has high positive loading for ESG score at 0.785, which postulates that ESG factors explain a unique and significant role in explaining overall bank performance. Indeed, Landau *et al.* (2020) argued that though ESG integration usually leads to long-term financial benefits, measuring such benefits is challenging and sometimes depends on the context and is subjective in nature.

The ANOVA test results in Table 5 aimed at determining whether there is a significant difference that exists for ROA among banks that have low, medium, and high scores on ESG. Though the F-statistic was a bit large at 6.23, showing some variability in profitability among the groups, the p-value at 0.085 still falls beyond the 5% significant level. This means that, although, in general, higher-scoring banks have better financial performance, the sample size for the purposes of this study is probably too low to pick out truly significant effects, or that variance is coming from other sources which are not explained by simple ESG scores.

These results conform to and develop previous research into ESG integration in banking. The researchers Oprean-Stan *et al*. (2020) and Sciarelli *et al.* (2021) highlighted the important role played by ESG in increasing transparency, risk reduction, and sustainable growth. Current research adds further empirical support to such assertions; stronger ESG practices would be associated with higher financial performances as well as more market confidence, as realized through a greater change in stock prices. Similar to Dipierro *et al.* (2024), however, the problem lies in standardised ESG metrics because heterogeneity in the outcome points of the various banks that will measure and report ESG factors in different ways.

7. Conclusion

In conclusion, the study showed the growing importance of ESG factors being integrated into the core strategies of Indian banks. And through the analysis of the six major banks, this clearly shows a positive relationship among ESG performance and the key financials such as ROA, ROE, and stock price changes. As Kotak Mahindra Bank and HDFC Bank, some of the highest-scoring banks on ESG, outperform their peers with consistently higher profitability and market capitalisation, yet again reminding us that sustainability pays off. Regression analysis also supports the importance of ESG integration; as aforementioned, ESG scores are a superior predictor of financial performance, but if total assets is the only factor, then the model holds little to no significance.

While such findings were made, the research also depicts challenges. The standardised ESG metrics of the banks have not been created so far; hence, the comparison and report of the cross-bank will be very difficult to handle. Although the larger banks appear to have inefficiency, the smaller ESG-focused banks are always more profitable and hold higher market confidence. The observations, therefore, remain justified for further studies and constructive development of structured frameworks towards quantifying the financial benefits of ESG integration. The study provides credibility to the statement that sustainability is not only an imposition of regulatory functions but also a factor to retain profitability and attract investors in the long run for banking institutions.

References

Alkaraan, F., Albitar, K., Hussainey, K., & Venkatesh, V. (2022). Corporate transformation toward Industry 4.0 and financial performance: The influence of environmental, social, and governance (ESG). *Technological Forecasting and Social Change*, *175*, 121423. https://doi.org/10.1016/j.techfore.2021.121423

Benedikter, R. (2010). Social Banking and Social finance. In *Springer Briefs in business* (pp. 1–128). https://doi.org/10.1007/978-1-4419-7774-8_1

Carattini, S., Hertwich, E., Melkadze, G., & Shrader, J. G. (2022). Mandatory disclosure is key to address climate risks. *Science*, *378*(6618), 352–354. https://doi.org/10.1126/science.add0206

Chandran, M. S., Sebastian, G., & Kumar, K. V. (2024). Are the customers aware of green banking and green banking products? An empirical study. *E3S Web of Conferences*, *477*, 00034. https://doi.org/10.1051/e3sconf/202447700034

Chiaramonte, L., Dreassi, A., Girardone, C., & Piserà, S. (2021). Do ESG strategies enhance bank stability during financial turmoil? Evidence from Europe. *European Journal of Finance*, *28*(12), 1173–1211. https://doi.org/10.1080/1351847x.2021.1964556

Cort, T., & Esty, D. (2020). ESG Standards: Looming challenges and pathways forward. *Organization & Environment*, *33*(4), 491–510. https://doi.org/10.1177/1086026620945342

Deng, H. (2021). Does Trading Activity of China's A-Share Improve after the Inclusion of China's A-Share in the MSCI Index? *Journal of Service Science and Management*, *14*(01), 34–44. https://doi.org/10.4236/jssm.2021.141003

Dipierro, A. R., Toma, P., & Frittelli, M. (2024). Introducing ESG controversies as the polluting factor of banks' activity: a nonparametric efficiency approach. *Journal of Economic Studies*. https://doi.org/10.1108/jes-02-2024-0080

Feyen, E., Frost, J., Gambacorta, L., Natarajan, H., & Saal, M. (2021). Fintech and the Digital Transformation of Financial Services: Implications for market structure and public policy. *Monetary and Economic Department*. https://ideas.repec.org/b/bis/bisbps/117.html

Gasperini, A. (2019). Principles for Responsible Investment (PRI) and ESG factors. In *Encyclopedia of the UN sustainable development goals* (pp. 737–749). https://doi.org/10.1007/978-3-319-95885-9_19

Herzig, C., & Moon, J. (2013). Discourses on corporate social irresponsibility in the financial sector. *Journal of Business Research*, *66*(10), 1870–1880. https://doi.org/10.1016/j.jbusres.2013.02.008

Ijeoma, N., & A, R. E. (2013). An appraisal of corporate governance issues in enhancing transparency and accountability in small and medium Enterprises (SME). *International Journal of Academic Research in Business and Social Sciences*, *3*(8). https://doi.org/10.6007/ijarbss/v3-i8/134

Ji, L., Sun, Y., Liu, J., & Chiu, Y. (2022). Environmental, social, and governance (ESG) and market efficiency of China's commercial banks under market competition. *Environmental Science and Pollution Research*, *30*(9), 24533–24552. https://doi.org/10.1007/s11356-022-23742-x

Kalfaoglou, F. (2021). ESG risks: a new source of risks for the banking sector. *Economic Bulletin*, *53*, 83–112. https://doi.org/10.52903/econbull20215305

Kandpal, V., Jaswal, A., Gonzalez, E. D. R. S., & Agarwal, N. (2024). Sustainable Financing for ESG Practices. In *Sustainable Energy Transition* (pp. 167–200). https://doi.org/10.1007/978-3-52943-6_5

Kotsantonis, S., Pinney, C., & Serafeim, G. (2016). ESG integration in Investment Management: Myths and realities. *Journal of Applied Corporate Finance*, *28*(2), 10–16. https://doi.org/10.1111/jacf.12169

Landau, A., Rochell, J., Klein, C., & Zwergel, B. (2020). Integrated reporting of environmental, social, and governance and financial data: Does the market value integrated reports? *Business Strategy and the Environment*, *29*(4), 1750–1763. https://doi.org/10.1002/bse.2467

Monasterolo, I., Mandel, A., Battiston, S., Mazzocchetti, A., Oppermann, K., Coony, J., Stretton, S., Stewart, F., & Dunz, N. (2024). The role of green financial sector initiatives in the low-carbon transition: A theory of change. *Global Environmental Change*, *89*, 102915. https://doi.org/10.1016/j.gloenvcha.2024.102915

Ng, T., Lye, C., Chan, K., Lim, Y., & Lim, Y. (2020). Sustainability in Asia: The roles of Financial Development in Environmental, Social and Governance (ESG) performance. *Social Indicators Research*, *150*(1), 17–44. https://doi.org/10.1007/s11205-020-02288-w

Och, M. (2020). Sustainable finance and the EU taxonomy regulation – hype or hope? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3738255

Oprean-Stan, C., Oncioiu, I., Iuga, I. C., & Stan, S. (2020). Impact of sustainability reporting and inadequate management of ESG factors on corporate performance and sustainable growth. *Sustainability*, *12*(20), 8536. https://doi.org/10.3390/su12208536

Park, H., & Kim, J. D. (2020). Transition towards green banking: role of financial regulators and financial institutions. *Asian Journal of Sustainability and Social Responsibility*, *5*(1). https://doi.org/10.1186/s41180-020-00034-3

Puaschunder, J. M. (2023). The future of resilient finance. In *Sustainable development goals series*. https://doi.org/10.1007/978-3-031-30138-4

Rovera, C. (2022). Ethics in banking. In *Sustainable finance*. https://doi.org/10.1007/978-3-031-22148-4

Sciarelli, M., Cosimato, S., Landi, G., & Iandolo, F. (2021). Socially responsible investment strategies for the transition towards sustainable development: the importance of integrating and communicating ESG. *The TQM Journal*, *33*(7), 39–56. https://doi.org/10.1108/tqm-08-2020-0180

Singhania, M., & Saini, N. (2022). Systems approach to environment, social and governance (ESG): Case of Reliance industries. *Sustainable Operations and Computers*, *3*, 103–117. https://doi.org/10.1016/j.susoc.2021.11.003

Srivastava, A. K., Dharwal, M., & Sharma, A. (2022). Green financial initiatives for sustainable economic growth: A literature review. *Materials Today Proceedings*, *49*, 3615–3618. https://doi.org/10.1016/j.matpr.2021.08.158

Taliento, M., Favino, C., & Netti, A. (2019). Impact of Environmental, Social, and Governance Information on Economic Performance: Evidence of a Corporate 'Sustainability Advantage' from Europe. *Sustainability*, *11*(6), 1738. https://doi.org/10.3390/su11061738

Thompson, P., & Cowton, C. J. (2004). Bringing the environment into bank lending: implications for environmental reporting. *The British Accounting Review*, *36*(2), 197–218. https://doi.org/10.1016/j.bar.2003.11.005

Upadhyay, S. N. (2021). Global legal norms on environment and sustainable development in the 21st century. In *Apple Academic Press eBooks* (p. Vol2:59-Vol2:108). https://doi.org/10.1201/9781003187455-15

Watts, M. J. (2005). Righteous oil? Human rights, the oil complex, and corporate social responsibility. *Annual Review of Environment and Resources*, *30*(1), 373–407. https://doi.org/10.1146/annurev.energy.30.050504.144456

Weber, O., & Imam, A. (2024). Multilateral development banks, corporations and banks: public and private actors between brown and green strategies. In *Edward Elgar Publishing eBooks* (pp. 118–133). https://doi.org/10.4337/9781803927558.00017

Xiong, J. X. (2021). The impact of ESG risk on stocks. *The Journal of Impact and ESG Investing*, *2*(1), 7–18. https://doi.org/10.3905/jesg.2021.1.025

Ye, L., Peng, X., Aniche, L. Q., Scholten, P. H. T., & Ensenado, E. M. (2021). Urban renewal as policy innovation in China: From growth stimulation to sustainable development. *Public Administration and Development*, *41*(1), 23–33. https://doi.org/10.1002/pad.1903

Yip, A. W., & Bocken, N. M. (2018). Sustainable business model archetypes for the banking industry. *Journal of Cleaner Production*, *174*, 150–169. https://doi.org/10.1016/j.jclepro.2017.10.190

Ziolo, M., Filipiak, B. Z., & Tundys, B. (2021). Sustainability in bank and corporate business models. In *Palgrave studies in impact finance*. https://doi.org/10.1007/978-3-030-72098-8

Ziolo, N., Filipiak, N., Bąk, N., & Cheba, N. (2019). How to design More Sustainable Financial Systems: The roles of environmental, social, and governance factors in the Decision-Making Process. *Sustainability*, *11*(20), 5604. https://doi.org/10.3390/su11205604

Zumente, I., & Bistrova, J. (2021). ESG Importance for Long-Term Shareholder Value Creation: Literature vs. Practice. *Journal of Open Innovation Technology Market and Complexity*, *7*(2), https://doi.org/10.3390/joitmc7020127 .