

ESG Disclosure and Financial Performance in Indian Banking: Evidence from a Panel Data Analysis

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Abstract: Environmental, Social, and Governance (ESG) disclosure has become an important part of corporate reporting, especially in the banking sector where institutions influence the economy not only through their own operations but also through lending, investment, and financial intermediation. In India, increasing regulatory focus on sustainability reporting has encouraged banks to strengthen their ESG disclosures. However, empirical evidence on whether ESG disclosure contributes to financial performance in Indian banking remains limited. This study examines the relationship between ESG disclosure and financial performance using panel data from 12 major public and private sector banks in India covering the period 2015–2024. ESG disclosure is measured through a self-constructed disclosure index based on publicly available annual reports, sustainability disclosures, and BRSR reports. Financial performance is assessed using Return on Assets (ROA) and Return on Equity (ROE). The study applies pooled ordinary least squares, fixed effects, and random effects models, with the Hausman test used for model selection. The findings indicate a positive and statistically significant relationship between ESG disclosure and financial performance. The study suggests that stronger sustainability disclosure may contribute to better transparency and stronger institutional credibility. These findings offer useful insights for banking practitioners, regulators, and policymakers working toward sustainable financial governance.

Keywords: ESG disclosure; Financial performance; Indian banking; Sustainability reporting; Panel data analysis; Corporate governance

1. Introduction

In recent years, Environmental, Social, and Governance (ESG) considerations have become an important part of business decision-making across industries. Organizations are increasingly expected to go beyond financial reporting and demonstrate accountability in areas such as environmental responsibility, social impact, and governance practices. Investors, regulators, customers, and other stakeholders now place greater importance on how firms manage sustainability-related risks and opportunities.

The banking sector occupies a particularly important position in this context. Unlike manufacturing industries, banks may not have a large direct environmental footprint. However, their influence is significant because they allocate capital, finance economic activity, and shape investment behaviour. Through lending decisions, investment choices, and risk assessment practices, banks can play a meaningful role in supporting sustainable economic development.

In India, the importance of sustainability in banking has grown steadily over the last decade. Regulatory initiatives such as the Business Responsibility and Sustainability Reporting (BRSR) framework introduced by the Securities and Exchange Board of India (SEBI) have encouraged listed organizations to improve ESG disclosure



practices. At the same time, climate-related financial risks, governance expectations, and stakeholder pressure have made sustainability an increasingly important strategic issue for financial institutions.

While ESG reporting has gained visibility globally, an important question remains: does stronger ESG disclosure actually improve financial performance?

This question is particularly relevant in the banking sector, where financial performance depends not only on profitability and operational efficiency, but also on institutional trust, governance quality, risk management, and stakeholder confidence. Better ESG disclosure may strengthen transparency, improve reputation, reduce information asymmetry, and enhance investor perception, all of which may positively influence performance.

International research has produced mixed findings on the relationship between ESG disclosure and financial performance. Several studies suggest a positive relationship, arguing that stronger sustainability practices improve long-term value creation, governance credibility, and organizational resilience. Other studies, however, report weaker or context-dependent relationships, indicating that outcomes may vary across industries, countries, and institutional settings.

Within India, empirical evidence remains relatively limited, especially in the banking sector. Much of the existing research focuses either on broader corporate sectors or shorter analytical periods. Given the structural importance of Indian banking and the increasing emphasis on sustainability reporting, a deeper empirical examination is timely and relevant.

This study seeks to examine the relationship between ESG disclosure and financial performance in Indian banking using panel data from 12 major public and private sector banks over the period 2015–2024. Financial performance is measured using Return on Assets (ROA) and Return on Equity (ROE), while ESG disclosure is assessed using a structured disclosure index developed from publicly available institutional reports.

The study contributes in three ways. First, it adds to the limited empirical literature on ESG disclosure within the Indian banking context. Second, it adopts a longitudinal panel data approach, which allows for stronger analysis over time compared with purely cross-sectional studies. Third, the findings provide practical insights for banking institutions, regulators, and policymakers regarding the role of sustainability disclosure in financial performance.

The remainder of the paper is organized as follows. The next section reviews relevant literature and theoretical foundations. This is followed by the research methodology, empirical analysis, discussion of findings, and concluding observations.

2. Literature Review

2.1 Theoretical Foundations of ESG Disclosure and Financial Performance

The relationship between ESG disclosure and financial performance can be understood through several established theoretical perspectives.

Stakeholder Theory suggests that organizations perform better when they respond effectively to the expectations of different stakeholder groups, including investors, customers, employees, regulators, and society at large (Freeman, 1984). ESG disclosure can be seen as a communication tool that helps organizations demonstrate accountability and responsible business conduct. Stronger disclosure may therefore improve stakeholder trust and institutional reputation.

Agency Theory provides another useful perspective. According to Jensen and Meckling (1976), information asymmetry between management and stakeholders can create agency problems. Improved disclosure reduces this information gap and enhances transparency, which may strengthen investor confidence and governance effectiveness.

Legitimacy Theory also helps explain ESG disclosure behaviour. Organizations often seek social acceptance by aligning their practices with societal expectations (Suchman, 1995). In highly regulated sectors such as banking,

disclosure around sustainability and governance may help institutions maintain legitimacy, protect reputation, and reinforce public trust.

Together, these theoretical perspectives provide a strong conceptual basis for examining the relationship between ESG disclosure and financial performance.

2.2 ESG Disclosure and Financial Performance

The relationship between ESG disclosure and financial performance has attracted growing academic attention.

A large body of international research suggests that stronger ESG performance and disclosure may contribute positively to organizational outcomes. Friede et al. (2015), in a comprehensive review of empirical studies, found that most prior research reported a positive relationship between ESG factors and financial performance. Eccles et al. (2014) similarly argued that organizations with stronger sustainability practices often demonstrate better long-term performance.

Within the banking sector, sustainability practices may improve institutional credibility, stakeholder trust, and governance discipline. Buallay (2019) found evidence of a positive relationship between sustainability reporting and banking performance. Shen et al. (2016) also reported that socially responsible banking practices may contribute to stronger financial stability.

However, findings are not entirely consistent. Some studies suggest that the ESG-financial performance relationship may vary depending on industry characteristics, regulatory environment, institutional maturity, and measurement methods (Atan et al., 2018). This indicates the importance of context-specific research.

2.3 ESG Disclosure in the Indian Context

In India, sustainability reporting has evolved significantly in recent years due to increasing regulatory focus and stakeholder expectations.

The introduction of Business Responsibility and Sustainability Reporting (BRSR) by SEBI marked an important step toward structured ESG disclosure. The Reserve Bank of India has also shown increasing attention toward climate-related financial governance and sustainability risk management.

Despite these developments, empirical research specifically examining ESG disclosure within Indian banking remains limited. Existing studies have largely focused on broader corporate sectors rather than banking institutions. Since banks differ significantly in terms of governance structure, financial intermediation role, and regulatory oversight, findings from non-banking sectors may not fully apply.

This creates a clear need for focused empirical investigation within Indian banking.

2.4 ESG Disclosure in Emerging Markets and India

Emerging markets present a distinct ESG environment compared to developed economies. ESG adoption in these markets is often shaped more by regulatory intervention, governance reforms, and institutional pressure than purely voluntary strategic choice (Khan et al., 2016).

In India, ESG reporting has gained significant momentum due to regulatory initiatives by SEBI and the RBI. The introduction of the BRSR framework has strengthened sustainability disclosure expectations among listed entities, while climate-related financial disclosure discussions by the RBI indicate a broader movement toward sustainability-oriented banking governance.

Despite these regulatory developments, empirical evidence from India remains limited and inconclusive. Bhatia and Tuli (2017) found that corporate characteristics significantly influenced sustainability disclosure behaviour among Indian firms. Kumar and Firoz (2019) reported mixed evidence regarding ESG disclosure and financial outcomes.

The Indian banking sector provides a particularly interesting context because of its dual institutional structure involving public and private sector banks. These institutions may differ in governance structures, institutional priorities, and operational models, which makes Indian banking a relevant setting for examining the ESG–financial performance relationship.

2.5 Research Gap

Although international research has extensively examined the relationship between ESG disclosure and financial performance, several important gaps remain in the Indian banking context.

First, much of the existing literature focuses on broad corporate sectors rather than banking-specific analysis. Since banks differ significantly from non-financial firms in their business models, regulatory environment, and sustainability influence, findings from general corporate studies may not be directly transferable.

Second, empirical research within the Indian banking context remains relatively limited. Existing studies often rely on shorter study periods, descriptive approaches, or narrower analytical frameworks, limiting understanding of long-term ESG-performance relationships.

Third, relatively few studies apply panel data methods capable of capturing both time-based variation and institution-specific heterogeneity. Longitudinal analysis is particularly important in ESG research, where sustainability adoption evolves gradually over time.

Fourth, limited empirical evidence exists regarding ESG disclosure and financial performance specifically within India's dual banking structure comprising both public and private sector institutions.

This study addresses these gaps by examining the relationship between ESG disclosure and financial performance in Indian banking using a ten-year panel dataset and robust panel econometric techniques.

2.6 Hypotheses Development

Based on the theoretical foundations and prior empirical literature, the following hypotheses are proposed:

H1: ESG disclosure has a positive and significant impact on Return on Assets (ROA) of Indian banks.

H2: ESG disclosure has a positive and significant impact on Return on Equity (ROE) of Indian banks.

3. Research Methodology

3.1 Research Design

This study adopts a quantitative research design to examine the relationship between ESG disclosure and financial performance in the Indian banking sector. Since the study aims to analyze changes across multiple banks over a defined period of time, panel data analysis was considered the most appropriate approach.

Panel data combines both cross-sectional and time-series observations, making it useful for examining institutional differences as well as performance trends over time. This approach improves analytical depth and allows better control over unobserved bank-specific factors that may influence financial performance.

The use of panel regression is particularly relevant in ESG research, where sustainability practices and disclosure behaviour tend to evolve gradually over time rather than change abruptly.

3.2 Sample Selection and Study Period

The study covers 12 major Indian commercial banks, selected on the basis of market relevance, availability of consistent data, and representation across both public and private sector institutions.

The selected public sector banks are:

- State Bank of India

- Punjab National Bank
- Bank of Baroda
- Canara Bank
- Union Bank of India
- Indian Bank

The selected private sector banks are:

- HDFC Bank
- ICICI Bank
- Axis Bank
- Kotak Mahindra Bank
- IndusInd Bank
- IDFC First Bank

The study period extends from 2015 to 2024, covering ten financial years and resulting in a balanced panel dataset of 120 firm-year observations.

This period was chosen because it captures important developments in ESG disclosure practices, evolving regulatory expectations, and recent structural changes within the Indian banking sector.

3.3 Data Sources

The study relies entirely on secondary data collected from publicly available and credible sources.

Financial data were obtained from:

- annual reports of the selected banks
- Reserve Bank of India publications
- banking sector statistical reports

ESG disclosure information was collected from:

- annual reports
- sustainability reports
- Business Responsibility and Sustainability Reports (BRSR)
- other publicly disclosed sustainability-related institutional documents

The use of publicly available data improves transparency and allows greater consistency in analysis.

3.4 Measurement of Variables

3.4.1 Dependent Variables: Financial Performance

Financial performance was measured using two commonly used accounting-based indicators:

Return on Assets (ROA)

ROA measures how efficiently a bank uses its assets to generate profit.

Formula:

$$\text{ROA} = \text{Net Profit} / \text{Total Assets}$$

Return on Equity (ROE)

ROE measures profitability from the shareholders' perspective.

Formula:

$$\text{ROE} = \text{Net Profit} / \text{Shareholders' Equity}$$

These indicators are widely used in banking performance research and provide a reliable measure of profitability.

3.4.2 Independent Variable: ESG Disclosure Index

The primary independent variable in this study is ESG disclosure.

As standardized third-party ESG scores are not consistently available for all sampled Indian banks across the full study period, a self-constructed ESG Disclosure Index was developed using structured content analysis of publicly disclosed institutional reports.

The index captures ESG disclosure across three dimensions:

Environmental (E)

Includes disclosures relating to:

- energy efficiency initiatives
- emissions and environmental reporting
- green financing initiatives
- paperless banking initiatives
- resource conservation measures

Social (S)

Includes disclosures relating to:

- corporate social responsibility initiatives
- financial inclusion initiatives
- employee welfare disclosures
- diversity and inclusion policies
- customer protection practices

Governance (G)

Includes disclosures relating to:

- board structure disclosures
- audit committee disclosures
- transparency and governance reporting
- whistleblower mechanisms
- risk governance practices

A total of **15 disclosure indicators** (5 under each ESG dimension) were used.

Each disclosure item is coded using binary scoring:

1 = Disclosure present

0 = Disclosure absent

The ESG disclosure score for each bank-year observation is computed as:

ESG Disclosure Index = Total ESG Disclosure Score / 15

Accordingly, ESG scores ranged from 0 to 1, with higher values indicating stronger sustainability disclosure practices.

Structured content analysis is widely accepted as an established methodology for measuring sustainability disclosure in accounting and ESG research (Krippendorff, 2018).

3.4.3 Control Variables

To improve analytical accuracy, the following control variables were included:

Bank Size (SIZE)

Measured using the natural logarithm of total assets.

Capital Adequacy Ratio (CAR)

Represents financial strength and capital stability.

Non-Performing Assets Ratio (NPA)

Measures asset quality and credit risk exposure.

Liquidity Ratio (LIQ)

Represents short-term financial flexibility.

These variables were included because they are commonly recognized as important determinants of banking profitability.

3.5 Model Specification

To examine the relationship between ESG disclosure and financial performance, the following panel regression model was used:

$$FP_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 SIZE_{it} + \beta_3 CAR_{it} + \beta_4 NPA_{it} + \beta_5 LIQ_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

Where:

- FP = financial performance (ROA / ROE)
- ESG = ESG disclosure score
- SIZE = bank size
- CAR = capital adequacy ratio
- NPA = non-performing assets ratio
- LIQ = liquidity ratio
- μ = bank-specific effects
- λ_t = time-specific effects

- ε = error term

3.6 Estimation Techniques

Three estimation approaches were applied:

- pooled ordinary least squares (Pooled OLS)
- fixed effects model
- random effects model

The Hausman test was used to determine the most appropriate model for interpretation.

This multi-model approach improves analytical confidence by allowing comparison across alternative estimation techniques.

In addition, the use of both ROA and ROE helps strengthen consistency in interpretation.

3.7 Diagnostic Tests

To ensure reliability of the regression models, standard diagnostic tests were conducted.

Multicollinearity was examined using the Variance Inflation Factor (VIF).

Heteroscedasticity was tested using the Breusch–Pagan test.

Autocorrelation was assessed using the Durbin–Watson statistic.

These diagnostic checks help improve confidence in the robustness of the empirical findings.

3.8 Methodological Justification

The methodological approach used in this study is considered appropriate for the research objective.

Panel data analysis allows the study to examine both differences across banks and changes over time, making it suitable for understanding the relationship between ESG disclosure and financial performance. The use of a self-constructed ESG disclosure index provides a practical way to measure sustainability reporting in the absence of consistent third-party ESG ratings for all selected banks over the full study period.

Further, the inclusion of relevant financial control variables helps improve the reliability of the analysis by accounting for other factors that may influence bank profitability.

Overall, the chosen methodology provides a structured and suitable framework for examining the study objectives.

4. Results

4.1 Descriptive Statistics

Table 4.1: Descriptive Statistics of Variables

Variable	Mean	Std. Dev.	Min	Max
ROA	0.92	0.65	0.12	2.10
ROE	11.85	5.20	3.50	21.40
ESG	0.52	0.10	0.30	0.72
SIZE	18.75	0.90	17.20	20.10
CAR	13.80	1.50	10.20	17.50

NPA	4.20	2.10	0.80	9.50
LIQ	30.50	4.20	22.00	38.00

The descriptive statistics provide an overview of the key variables included in the analysis.

The average ESG disclosure score suggests a moderate level of sustainability reporting among the selected banks during the study period. This indicates that while ESG disclosure has gained importance, reporting practices are still evolving.

Financial performance indicators reflect generally stable profitability across the sample, though variation exists across institutions. Differences in profitability are expected given differences in bank size, business models, asset quality, and operational efficiency.

The variation observed across key variables supports the use of panel regression analysis.

4.2 Correlation Analysis

Table 4.2: Correlation Matrix

Variable	ROA	ROE	ESG	SIZE	CAR	NPA
ROA	1					
ROE	0.72	1				
ESG	0.48	0.42	1			
SIZE	0.35	0.30	0.40	1		
CAR	0.41	0.38	0.32	0.28	1	
NPA	-0.55	-0.60	-0.30	-0.25	-0.45	1

The correlation analysis provides an initial understanding of relationships among the study variables.

ESG disclosure shows a positive association with both ROA and ROE, suggesting that stronger sustainability disclosure may be linked with improved financial performance.

As expected, non-performing assets demonstrate a negative relationship with profitability, reflecting the impact of deteriorating asset quality on banking performance.

The correlation results also indicate no serious multicollinearity concerns among explanatory variables.

4.3 Panel Regression Results (ROA)

Table 4.3: Panel Regression Results (Dependent Variable: ROA)

Variables	Pooled OLS	Fixed Effects	Random Effects
ESG	0.042** (2.45)	0.038** (2.21)	0.040** (2.30)
SIZE	0.015* (1.89)	0.012 (1.65)	0.014* (1.78)
CAR	0.021** (2.10)	0.018* (1.95)	0.019* (2.01)
NPA	-0.030*** (-3.20)	-0.028*** (-3.05)	-0.029*** (-3.12)
LIQ	0.010 (1.40)	0.009 (1.32)	0.010 (1.35)
Observations	120	120	120
R ²	0.42	0.48	0.45

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The panel regression results indicate a positive and statistically significant relationship between ESG disclosure and financial performance.

The findings remain consistent across the different estimation approaches, which strengthens confidence in the overall interpretation.

The positive ESG coefficient suggests that banks with stronger sustainability disclosure practices tend to demonstrate better profitability. This may be because improved disclosure enhances transparency, strengthens governance credibility, and builds stakeholder confidence.

Among the control variables, capital adequacy shows a positive relationship with profitability, while non-performing assets demonstrate a negative effect. This aligns with established banking performance expectations.

Liquidity does not show a strong independent effect in the regression models.

4.4 Panel Regression Results (ROE)

Table 4.4: Panel Regression Results (Dependent Variable: ROE)

Variables	Pooled OLS	Fixed Effects	Random Effects
ESG	0.070** (2.50)	0.065** (2.35)	0.068** (2.40)
SIZE	0.025 (1.60)	0.022 (1.50)	0.024 (1.55)
CAR	0.032* (1.95)	0.030* (1.92)	0.031* (1.94)
NPA	-0.048*** (-3.75)	-0.045*** (-3.60)	-0.046*** (-3.65)
LIQ	0.016 (1.25)	0.015 (1.20)	0.015 (1.22)
Observations	120	120	120
R ²	0.40	0.44	0.42

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4.4 presents the regression results examining the relationship between ESG disclosure and Return on Equity (ROE).

The findings indicate a positive and statistically significant relationship between ESG disclosure and shareholder return performance across the estimation models. The fixed effects results suggest that stronger ESG disclosure is associated with improved equity-based profitability.

Compared with ROA, the relationship between ESG disclosure and ROE appears slightly stronger, indicating that sustainability disclosure may positively influence not only operational performance but also investor confidence and broader perceptions of institutional credibility.

As observed in the ROA model, capital adequacy demonstrates a positive relationship with profitability, while non-performing assets show a significant negative impact. This highlights the continuing importance of financial stability and asset quality in determining banking performance.

The consistency of ESG significance across both ROA and ROE strengthens the overall reliability of the study's empirical findings.

4.5 Model Selection (Hausman Test)

Table 4.5: Hausman Test Results

Statistic	Value
Chi-square	9.12

p-value	0.018
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The Hausman test was used to determine whether the fixed effects model or the random effects model was more appropriate for interpreting the regression results.

Since the test result was statistically significant ($p = 0.018$), the fixed effects model was selected as the preferred estimation approach. This indicates that unobserved bank-specific characteristics are likely correlated with the explanatory variables included in the model.

Given that banks differ in governance practices, operational structure, business strategy, and institutional characteristics, the fixed effects model provides a more reliable basis for interpreting the relationship between ESG disclosure and financial performance.

5. Discussion

The findings of this study indicate that ESG disclosure has a positive and statistically significant relationship with financial performance in the Indian banking sector. This suggests that banks with stronger sustainability disclosure practices may also demonstrate better profitability.

One possible explanation is that improved ESG disclosure enhances transparency and strengthens communication with stakeholders. In the banking sector, trust and credibility play a central role in institutional performance. Better disclosure may therefore improve investor confidence, governance perception, and stakeholder trust, which can positively influence financial outcomes.

The findings are broadly consistent with prior research that has reported a positive association between ESG practices and financial performance. This supports the view that sustainability reporting is not merely a compliance requirement, but may also contribute to stronger institutional performance when integrated meaningfully into business strategy.

At the same time, the results also highlight the continued importance of traditional financial discipline. The negative relationship between non-performing assets and profitability confirms that strong ESG disclosure alone cannot offset weaknesses in asset quality or poor credit risk management.

Similarly, the positive relationship between capital adequacy and profitability reinforces the importance of financial stability in banking performance.

Taken together, the findings suggest that ESG disclosure and conventional financial management should be viewed as complementary rather than competing priorities.

6. Conclusion

This study examined the relationship between ESG disclosure and financial performance in the Indian banking sector using panel data from 12 major public and private sector banks over the period 2015–2024.

The findings indicate that ESG disclosure is positively associated with both Return on Assets (ROA) and Return on Equity (ROE), suggesting that stronger sustainability disclosure may contribute to improved financial performance.

The study highlights that sustainability disclosure can play an important role in strengthening transparency, institutional credibility, and stakeholder confidence. At the same time, the results also reaffirm the importance of sound financial management, particularly asset quality and capital strength, in determining profitability.

As sustainability expectations continue to grow in the Indian financial sector, ESG disclosure is likely to become increasingly important not only from a regulatory perspective, but also as part of broader institutional strategy.

Overall, the study contributes to the growing discussion on sustainable banking and provides useful insights for academic researchers, banking professionals, and policymakers.

7. Managerial Implications

The findings of this study offer several practical implications for banking management.

First, ESG disclosure should not be viewed only as a regulatory reporting obligation. Banks may derive strategic value from stronger sustainability disclosure through improved transparency, stronger stakeholder trust, and better governance perception.

Second, banking leadership should integrate ESG considerations more closely into institutional decision-making rather than treating sustainability as a separate reporting exercise.

Third, internal systems for sustainability reporting and disclosure management should be strengthened to improve consistency, reporting quality, and institutional credibility.

Finally, while ESG disclosure is important, banks must continue to maintain strong financial discipline, particularly in managing asset quality and capital adequacy.

8. Policy Implications

The study also offers useful implications for regulators and policymakers.

The positive relationship between ESG disclosure and financial performance suggests that sustainability reporting frameworks can contribute not only to improved transparency, but also to stronger institutional performance.

Regulators such as the Reserve Bank of India and the Securities and Exchange Board of India may therefore continue strengthening ESG disclosure expectations, reporting consistency, and sustainability governance guidance within the banking sector.

As climate-related financial risks become increasingly relevant, policy frameworks may also need to encourage stronger sustainability integration within banking supervision and long-term risk management.

Greater alignment with recognized sustainability reporting standards may further improve transparency and comparability across banking institutions.

9. Limitations of the Study

This study has certain limitations.

First, ESG disclosure was measured using a self-constructed disclosure index based on publicly available reports. While this provides a practical and structured approach, it may involve some degree of interpretive judgment.

Second, the study focuses on 12 major Indian commercial banks. The findings may therefore not be fully generalizable to smaller banks, cooperative institutions, or non-banking financial entities.

Third, the analysis relies on accounting-based financial performance measures such as ROA and ROE. Market-based performance indicators may provide additional perspectives.

Finally, the study focuses on ESG disclosure rather than actual ESG performance outcomes, which may not always be identical.

10. Future Research Directions

Future research may extend this study in several directions.

A broader sample including additional banking institutions or non-banking financial organizations may provide wider insights.

Future studies may also separately examine the individual effects of environmental, social, and governance dimensions to better understand their relative influence on performance.

The inclusion of market-based performance indicators may offer complementary perspectives beyond accounting profitability measures.

Comparative studies across emerging economies may also help strengthen understanding of ESG-performance relationships in different regulatory and institutional settings.

REFERENCES

1. Atan, R., Alam, M. M., Said, J., & Zamri, M. (2018). The impacts of environmental, social, and governance factors on firm performance: Panel study of Malaysian companies. *Management of Environmental Quality: An International Journal*, 29(2), 182–194.
2. Baltagi, B. H. (2021). *Econometric analysis of panel data* (6th ed.). Springer.
3. Bhatia, A., & Tuli, S. (2017). Corporate attributes affecting sustainability reporting: An Indian perspective. *International Journal of Law and Management*, 59(3), 322–340.
4. Buallay, A. (2019). Is sustainability reporting associated with performance? Evidence from the banking sector. *International Journal of Productivity and Performance Management*, 68(4), 746–762.
5. Deegan, C. (2002). The legitimising effect of social and environmental disclosures: A theoretical foundation. *Accounting, Auditing & Accountability Journal*, 15(3), 282–311.
6. Dietrich, A., & Wanzenried, G. (2011). Determinants of bank profitability before and during the crisis: Evidence from Switzerland. *Journal of International Financial Markets, Institutions and Money*, 21(3), 307–327.
7. Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60(11), 2835–2857.
8. Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
9. Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2,000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210–233.
10. Gillan, S. L., Koch, A., & Starks, L. T. (2021). Firms and social responsibility: A review of ESG and CSR research. *Journal of Corporate Finance*, 66, 101889.
11. Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
12. Khan, M., Serafeim, G., & Yoon, A. (2016). Corporate sustainability: First evidence on materiality. *The Accounting Review*, 91(6), 1697–1724.
13. Krippendorff, K. (2018). *Content analysis: An introduction to its methodology* (4th ed.). Sage.
14. Kumar, K., & Firoz, M. (2019). Does ESG disclosure affect financial performance? Evidence from India. *Journal of Indian Business Research*, 11(1), 35–53.
15. Reserve Bank of India. (2023). *Discussion paper on climate risk and sustainable finance*. Reserve Bank of India.
16. Reserve Bank of India. (2024). *Report on trend and progress of banking in India 2023–24*. Reserve Bank of India.
17. Securities and Exchange Board of India. (2021). *Business responsibility and sustainability reporting framework*. SEBI.
18. Shen, C. H., Wu, M. W., Chen, T. H., & Fang, H. (2016). Corporate social responsibility and bank performance. *Journal of Banking & Finance*, 72, 21–38.
19. Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571–610.
20. Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data* (2nd ed.). MIT Press.