Article

Relationship of ESG Scores with Firm Performance: A Study of Indian Listed Companies

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Abstract

This study seeks to explore whether there is a substantial correlation between corporations' ESG (Environmental, Social and Governance) ratings and their profitability, specifically return on assets (ROA). It aims to determine whether this correlation is positive, negative or neutral in nature. The research methodology involved an investigation of companies listed on the BSE500 stock index, analysing their ESG ratings for the years 2020 and 2021. The final dataset encompassed 148 companies, resulting in 296 observations for the two years, sourced from the Ace equity database. Panel regression analysis was employed to assess the link between ESG ratings (the independent variable) and ROA (the dependent variable), while also considering financial leverage and firm size as control factors. The results revealed a statistically significant negative linkage between ESG ratings and firm performance, as indicated by ROA, at a 5% significance level. The negative relation between ESG scores and firm performance (ROA) could be attributed to several factors. Organisations that prefer ESG initiatives often incur additional costs in areas like environmental compliance and employee welfare, which can temporarily reduce profitability. Moreover, ESG-conscious firms may make long-term investments that take time to generate returns, impacting short-term ROA. Additionally, stringent ESG standards may deter certain investors or customers, affecting revenue. However, over the long run, robust ESG practices can enhance sustainability and resilience, potentially leading to improved performance and risk mitigation.

Keywords

ESG, ROA, penal regression, listed companies

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Introduction

The three components of Environmental, Social and Governance (ESG) used to evaluate the sustainability of an organisation in today's world investor prefers to invest in those companies that are indulged in valuable business practices that have a positive effect on the world. ESG considerations have gained substantial significance in recent times. Strong ESG practices help businesses to stand out and be ethical and can lead to the good long-term financial performance of an organisation. The European Union and the United States are putting pressure on their developing counterparts to pay attention to their obligation towards the diverse sources of their support. As an illustration, the US Securities and Exchange Commission recommended requiring climate-related disclosure in 2021 to address climate change (KPMG, 2021).

ESG Practices in India

In India, the Ministry of Corporate Affairs 2011 issued voluntary guidelines on social, environmental and economic duties of business (NVGs). India's Government, marked the beginning of ESG reporting practices, driven through the goal of aligning investment with ESG themes. ESG Programmes have become widely recognised in recent years. In India, SEBI (Securities Exchange Board of India) mandates for top 1,000 listed firms to disclose information regarding sustainability in the sustainability report in May 2021. This was a massive change in India towards ESG practices. This is a noticeable change from the previous BRR (Business Responsibility Report) Policy regime. This disclosure requirement will be in effect from FY 2022–2023 and this is seen as footfall towards conducting sustainability reporting up to standard with the requirement for financial reporting (SEBI 2021). In light of this context, it is of academic interest to investigate whether there is any proof that sustainability disclosure (ESG) influences the long-term financial performance of Indian-listed companies, thereby supporting the wisdom of SEBI's initiative on Indian ESG regarding the framework. This study examines the relationship between the financial performance of the Indian listed companies (BSE 500) and Environment Social and Governance score individually and the total ESG score.

About the Study

We will examine the factors that contribute to the connection between ESG performance and financial returns. We will delve into ESG's aspects and how they might impact a company's financial results. The penal regression model is used in this analysis. The results of this research indicate that no significant correlation between ESG scores and firm performance at a 5% significance level.

These results imply that there is a misalignment between the business's overall plan and its ESG practices. Efforts for ESG may not influence a company's overall financial performance if they are poorly integrated with other business operations and are only implemented just to satisfy regulatory requirements. Our goal is not to discredit the importance of ESG but to offer a nuanced perspective that recognises the intricate interplay between these factors. By identifying when ESG and financial performance might be inversely related, we aim to provide valuable insights for shaping corporate strategies, investment choices and policy decisions. Moreover, our work seeks to stimulate a broader discussion about the delicate equilibrium companies must find between ethical responsibilities and financial goals, promoting more informed and responsible corporate practices in our constantly evolving global environment.

Review of Literature

ESG is becoming an emerging concept for businesses as well as for researchers. During the period of review of the literature, in our research, we came across studies demonstrating positive, negative and neutral connections between ESG disclosure scores and a company's financial performance.

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Chelawat and Trivedi (2016) and Friede et al. (2015) pointed out that good corporate ESG practices help to enhance the financial performance of the company, while Bodhanwala and Bodhanwala (2022) pointed out that in the tourism industry, different factors affect how well a company does financially and how much it is worth. These factors are like different aspects or characteristics, and each one has a unique influence on how successful a tourism company is and how much it is valued by investors. Doing well in terms of corporate ESG performance can improve a company's financial performance when you look at both its financial statements and its value in the stock market (Thaker & Dalal, 2019). When they look at how individual companies perform in terms of ESG factors, the findings are a bit mixed. However, when they consider all the results together, it does support the proposition that firms emphasising strong ESG standards generally achieve better financial outcomes than those lacking such commitments (Ahmad et al., 2021). Sharing information about a company's ESG practices boosts its performance, even when it considers its competitive advantage (Mohammad & Wasiuzzaman, 2021). However, some research claims that there is no, or merely a weak association, between ESG disclosure and financial performance. ESGP (ESG performance) positively affects return on assets (ROA), but it does not have any influence on Tobin's Q. They break down ESGP into its three parts, governance performance has the most significant impact on financial performance compared to environmental and social performance (Velte, 2017).

ESG has a notably positive impact on performance overall. But when they look at each ESG aspect separately, they see some differences. Environmental disclosure boosts ROA and Tobin's Q, while corporate social responsibility (CSR) disclosure has a negative effect on all three models. On the other hand, corporate governance disclosure negatively impacts ROA and return on equity (ROE) but has a positive influence on Tobin's Q (Buallay, 2019). There is a notable adverse connection between a company's environmental score and its ROA and return on capital employed (ROCE). However, only the social score demonstrates a significant unfavourable link with ROE. Consider the combined score of ESG, it also exhibits a negative and substantial relationship with both ROA and ROCE (Jyoti & Khanna, 2021). The study's title is 'A Factor Approach to the Performance of ESG Leaders and Laggards'. Research Letters in Finance 44. Most of them primarily accept that ESG leaders are superior to their ESG laggard equivalents in terms of performance. ESG disclosure had a favourable impact on a firm's performance indicators.

The study by Alareeni and Hamdan (2020) found a negative correlation between environmental (EVN) and CSR disclosure and both ROA and ROE. At this point, it has to be mentioned that there are just a few studies that look at how ESG variables affect financial performance in the context of listed companies in India. As an example, Bodhanwala and Bodhanwala (2018), Chelawat and Trivedi (2016), Dalal and Thaker (2019), Jha and Rangarajan (2020) and Jyoti and Khanna (2021). Each of the above research has concentrated upon data from the 2010s, demonstrating the previously indicated increasing sensitivity of the topic from an Indian perspective. The majority of this research also supports the fact that ESG disclosures have a generally beneficial influence on the financial performance of Indian companies, despite the research done by Jha and Rangarajan (2020). 'An examination on the Causal Linkage between Corporate Sustainability Performance and Corporate Financial Performance in the Indian Context.' Jyoti and Khanna (2021) and the *Asian Journal of Sustainability* and *Social Responsibility* provide contradictory information.

Theoretical Framework

Stakeholder Theory

According to the stakeholder theory, a company's long-term success depends on how well it manages its relationships with all the people or groups that are affected by its actions, not just its shareholders. These stakeholders can be individuals or groups who either benefit from or are harmed by what the company does. Based on this theory, when a company engages in ESG activities, it can improve its performance in the market. For instance, if employees are happy and loyal, they will work more effectively. Satisfaction of customers will lead to staying loyal, and content suppliers may offer discounts. All of these positive outcomes increase the company's goodwill and that leads to better financial outcomes and sustainability. Research by Jo and Harjoto (2012), as well as Ghoul et al. (2017), supports the idea that ESG engagement has a positive impact on a company's performance. This is because ESG activities can help resolve conflicts between managers and stakeholders. In essence, actively pursuing ESG initiatives is not only essential for protecting a company's financial health but also for increasing the value of its shares. The stakeholder-focussed theory argues that using ESG practices can help companies perform better financially. Within this theory, there's an idea called the 'conflict-resolution hypothesis', which suggests that when companies practice ESG, it can help resolve disagreements between managers and people who are not investors in the company (Freeman, 1984).

Agency Theory

The relationship between ESG principles and agency theory lies in their shared goal of promoting responsible corporate behaviour and aligning the interests of shareholders and company executives. ESG factors offer a framework for assessing a company's performance and sustainability in key areas, including its environmental impact, social responsibility and governance practices. By incorporating ESG considerations into decision-making and reporting, companies can enhance transparency, accountability and stakeholder engagement. This, in turn, helps mitigate the principal-agent problem at the heart of agency theory, as it encourages executives to act in the long-term interests of shareholders and stakeholders, reducing agency costs and fostering a more ethical and sustainable corporate culture.

Following Jensen and Meckling's agency theory from 1976, we can suggest that involving ESG activities creates a conflict of interest between company managers and shareholders. According to this theory, spending on ESG initiatives is not in the shareholders' best interest because it means using company funds that could otherwise contribute to profit. There are at least three ways that agency problems related to ESG activities can show up. First, managers might use company resources for their gain when they engage in ESG activities. They could do ESG stuff for personal benefit or spend excessively to boost their reputation as responsible citizens, all at the expense of shareholders. This perspective sees ESG engagement as a waste of company resources, which ultimately harms company performance (Brown et al., 2006). Second, ESG activities might force companies to give up more profitable projects. Corporate social actions come with financial costs that come from the company's capital and resources, putting it at a disadvantage compared to less socially active firms (Barnea & Rubin, 2010). Third, there's the argument of managerial opportunism, where managers use company resources for ESG activities to divert attention from poor financial performance. This is often referred to as 'window dressing'. ESG activities are carried out to gain positive publicity and cover up weak financial results (Allouche & Laroche, 2005; Schuler & Cording, 2006).

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The Objective of the Study

To investigate the association between the business's financial performance (listed companies) in India and the different governance, social and environmental factors parameters and total ESG score.

Hypothesis Formulation

H_1: Financial performance of Indian listed companies positively associated with ESG score.

H_2: Financial performance of Indian listed companies positively associated with environment score.

H_3: Financial performance of Indian listed companies positively associated with social score.
H_4: Financial performance of Indian listed companies positively associated with governance score.

Research Methodology

In the review of the literature, studies used secondary data to investigate the association between ESG scores and the financial performance of Indian companies. In previous studies, mostly the data was extracted from the Bloomberg database to obtain ESG Score. Despite other studies, the present study employed ESG data from the CRISIL (an Indian analytics firm offering risks and policy advising services as well as ratings and research) ESG Database to support the study's proposed hypothesis. All necessary financial data is obtained using the ACE Equity database. 'CRISIL Published the ESG score of 225 Indian companies in 2021 based data availability in the annual reports of companies for 2020 and the next data published in 2022 of 586 companies on the basis of information available in the annual reports of companies 2021 financial year. A total of 201 companies are shortlisted for which the ESG score data is available for both years'. Despite this, depending on the accessibility of financial data in the ACE Equity database, 148 listed Indian firms make up our final sample for the research. Because not all listed companies provide data regarding their ESG performance, this is the reason behind the small sample size.

Dependent and Independent Variable

ROA is taken as the dependent variable. ROA is calculated as net income divided by the total assets. The main independent variable used to assess ESG performance is the overall ESG score and its individual components. According to Ting et al. (2020), the ESG score is a representation of how well businesses adhere to ESG principles. The existing literature (Alsayegh et al., 2020; Arayssi, 2020; Hasan et al., 2021) frequently uses the Bloomberg ESG score to assess the sustainability of a company. The base of this research, in contrast to this, is the ESG score developed by CRISIL in 2022 to measure the ESG performance of Indian enterprises. The complicated methodology used by CRISIL to generate ESG ratings is extensive. All elements of the environment have been examined including greenhouse gas emissions, usage of energy, pollution and waste, consumption of water and the utilisation of land. The social factors are the reach and accessibility, vendor and customer involvement, workplace and product safety, communities and society, accessibility and workforce diversity have all been evaluated. The efficiency and its independence of the company's board, concentration of ownership, managerial record of performance, shareholder connections and rules regarding transparency and statements are some of the factors examined while evaluating the governance standards. With the exception of the governance requirements, all of these challenges are pertinent across diverse industries. As a result, ratings are determined by considering how important a certain issue is to a particular industry. In addition, only after taking into thought the fines or penalties for breaking the appropriate regulations are the particular environmental (E), social (S) and governance (G) ratings determined. Overall Environment, Social and Governance components are each given weights of 35%, 25% and 40%, respectively, to indicate the relative weights of each element and to calculate the final ESG score. On a scale of 0–100, 100 indicates the highest accomplishment and 0 the worst. Some variables that have to be controlled are determined and covered by this research in accordance with the literature on ESG and business performance. Firm size, net sale growth and firm leverage are taken as controlled factors according to previous literature leverage is determined by calculating the ratio of secured loans to shareholder funds, as indicated in several studies (Alsayegh et al., 2020; Bodhanwala & Bodhanwala, 2018; Hasan et al., 2021; Ruan & Liu, 2021; Ting et al., 2020; and various others) (Net Sales (Current period)) − Net Sales (Previous period))/Net Sales (Previous period) × 100 to calculate the net sales increase percentage.

Descriptive

Univariate descriptive statistics were generated to look at how the experiment distribution of the study's variables. The results are shown in Table 1. The sample of listed Indian companies provided more ESG data than the minimal quantity mandated by CRISIL, with an average ESG score of 56.19. The median value for each ESG indicator reveals that social disclosure is the second-highest at 67.59 and that it is followed by disclosure of governance issues. The three ESG variables have a wide range of values, ranging from around 20%–81%, but the disclosure regarding environmental matters is notably lower, mean at 46.09, indicating that certain companies provide minimal ESG information, while others are more forthcoming. As for leverage, the wide range underscores that some businesses rely heavily on loan financing within their capital structure, while others operate entirely without debt.

Table 1. Summary Statistics Using the Observations.

Variable	Mean	Median	SD	Min	Max
ESG score	57.7	57.0	7.54	40.0	79.0
Evs score	48.9	48.0	12.8	22.0	86.0
Social score	54.7	56.0	8.01	29.0	71.0
Gov. score	67.2	68.0	7.84	40.0	83.0
ROA	7.44	6.49	8.89	−30.4	54.4
Total assets	3.77e + 004	3.41e + 003	1.33e + 005	25.8	1.16e + 006
Net sales growth	1.33	0.274	39.6	−99.1	418.
Total debt equity	0.556	0.0521	1.88	0.000	21.7

Table 2. Correlation Matrix.

Variable	ROA	Env. Score	Social Score	Gov. Score	ESG Score	Size	Net Sale Growth	Leverage (Debt to Equity)
ROA	1.00							
Env. score	−0.0058	1.00						
Social score	0.0828	0.5903	1.00					
Gov. score	−0.0483	0.3241	0.1981	1.00				
ESG score	0.0014	0.8822	0.6850	0.6641	1.00			
Size (total asset)	−0.1909	0.0245	−0.0300	−0.0043	0.0054	1.00		
Net sale growth	0.1560	0.0007	0.0545	−0.1588	−0.0506	0.1339	1.00	
Leverage (debt/equity)	−0.2371	0.0538	−0.0338	−0.0059	0.0178	0.2283	−0.0297	1.00

Note: *Statistically significant at 5% (two-tailed test).

The range of sales increase is −99.1% to 229%. This implies that both companies with significantly negative and positive sales growth are included in our sample Univariate analysis of ROA indicates a mix of profitable and unprofitable companies within the group. Univariate descriptive statistics were conducted to explore the empirical distribution of the study's variables, with the results presented in Table 2. Notably, the Indian companies in the sample exhibit a higher level of ESG disclosure compared to the average required by CRISIL, as evidenced by an average overall ESG score of 57.7.

The mean value for each ESG indicator shows that social disclosure comes in second with a score of 67.2, followed by transparency on governance issues. However, with a mean of 48.9. The level of disclosure concerning environmental issues is significantly inconsistent. Similarly, the extent of information provided across all three ESG components varies widely, spanning from approximately 22%–86%. This indicates that certain companies disclose minimal ESG data, while others are more transparent. Moreover, based on this range, some firms have a greater reliance on loan capital within their capital structures, while others operate with no debt whatsoever. Our sample includes businesses with both negative and very strong sales growth, as indicated by the fact that the range of sales growth is from −99.1 to 418. Both successful and loss-making companies may be seen in the sample, according to the univariate statistics of ROA.

The matrix analysis shows a notable positive correlation among the ESG factors. Furthermore, a positive relationship has been identified between a company's size and its environmental and social ratings.

Large-sized businesses are heavily leveraged, as seen by the strong correlation between leverage and company size. However, there is no observable relationship between growth in sales and any other variable. While substantial coefficients of correlation are frequently reported, their strength is often not particularly great, which can lead to serious multicollinearity issues.

Table 3. Random Effects (GLS), Using 296 Observations Included 148 Cross-sectional Units.

Variables	Coefficient	Std Error	z	p Value
Const	7.25505	5.72582	1.267	.2051
Evs score	−0.0658396	0.142963	−0.4605	.6451
Social score	0.0705564	0.117030	0.6029	.5466
Gov. score	−0.0832522	0.168054	−0.4954	.6203
ESG score	0.102647	0.368278	0.2787	.7805
Total assets	−1.16848e-05	4.50056e-06	−2.596	.0094***
Net sales growth	0.0384221	0.0114012	3.370	.0008***
Total/debt equity	−0.729716	0.257749	−2.831	.0046***
F Statistics (*F* Test)	2.16e-13	SD Dependent Var		8.890160
R-squared	0.111707	SE of regression		8.472710
Log-likelihood	−1048.971	Akaike criterion		2113.943
Schwarz criterion	2143.466	Hannan-Quinn		2125.763

Notes: Time-series length = 2, *** p < 0.001 (significance level).

Dependent variable: ROA.

Model 1

$$\text{ROA} = \beta_0\text{ESG} + \beta_1 + \beta_2\text{SIZE} + \beta_3\text{Lev} + \beta_4\text{SG} \quad (1)$$

$$\text{ROA} = \beta_0 + \beta_1\text{ENV} + \beta_2\text{SIZE} + \beta_3\text{Lev} + \beta_4\text{SG} \quad (2)$$

$$\text{ROA} = \beta_0 + \beta_1\text{Social} + \beta_2\text{SIZE} + \beta_3\text{Lev} + \beta_4\text{SG} \quad (3)$$

$$\text{ROA} = \beta_0 + \beta_1\ \text{Gov.} + \beta_2\text{SIZE} + \beta_3\text{Lev} + \beta_4\text{SG} \quad (4)$$

Cross-sectional and time-series data represent the study's sample. As a result, it was determined that the panel data regression model was the best model for analysing the data. In this analysis, balanced panel data for the years 2020 and 2021 were employed. When the null and alternative hypotheses were present, a test for different group intercepts was used to examine the first assumption of panel data analysis concerning heterogeneity in data:

H_0: The group has an intercept (homogeneity).
H_1: Group heterogeneity (no common intercept).

The results are shown in Table 3.

A value of p < .05 (1.83243e-11) rejects the null hypothesis since it clearly shows how the data is heterogeneous. In tests for panel data regression when there is heterogeneity, parameters were estimated using fixed-effect and random-effect models to explain individual effects. It is required to establish which of the random and fixed models is statistically more suitable for the study after the panel data regression analysis is implied, and the panel regression analysis should be repeated. Which model is valid is determined using the Hausman test. The following are the Hausman test hypotheses.

H_0: A random effect exists.

When $p > .05$, which is the result of the Hausman test, H_0 is accepted, which equals (0.952297), indicating that the model is fit for the random effect. When the p value is less than .05 (2.16e-13), the model's fitness is evaluated using the F test. ESG score, environment score, social score, governance score, size of the firm, leverage and net sales growth are all jointly affecting firm performance (ROA), which indicates the model is fit.

According to the results of the analyses, the hypotheses are interpreted following:

H_1: Financial performance of Indian listed companies positively associated with ESG score.

The total ESG score has a negative effect on dependent variables (ROA). The H_1 hypothesis was rejected because $p > .05$ (0.6203) significant level. It means the total ESG score did not impact the company's financial performance (Alareeni & Hamdan, 2020; Jyoti & Khanna, 2021).

H_2: Financial performance of Indian listed companies positively associated with environment score.

Environment disclosure has a negative impact on the dependent variable ROA. The H_2 hypothesis is rejected because the results show $p > .05$ (0.6451). Results declare that an Increase in the environment score did not lead to an increase in the company's financial performance (Alareeni & Hamdan, 2020; Buallay 2019; Jyoti & Khanna, 2021).

H_3: Financial performance of Indian listed companies positively associated with the social score.

Environment disclosure has a negative impact on the dependent variable ROA. The H_3 hypothesis is rejected because the results show $p > .05$ (0.5466). Results declare that an increase in social score did not lead to an increase in the company's financial performance (Alareeni & Hamdan, 2020; Buallay 2019; Jyoti & Khanna, 2021).

H_4: Financial performance of Indian listed companies positively associated with governance score.

Environment disclosure has a negative impact on the dependent variable ROA. The H_4 hypothesis is rejected because the results show $p > .05$ (0.6203). Results declare that an increase in governance score did not lead to an increase in the company's financial performance (Alareeni & Hamdan, 2020; Buallay 2019; Jyoti & Khanna, 2021).

Conclusion

The study's findings indicate that ESG scores for sustainability do not have an impact on a company's financial success. Overall, these findings suggest that the relationship between ESG and firm performance is multifaceted, and a one-size-fits-all approach may not be applicable. While ESG initiatives are important for ethical and sustainability reasons, their impact on financial performance may vary depending on how they are implemented and managed within a company. Furthermore, the pressure to meet ESG expectations from stakeholders, including investors, customers and regulators, can lead to rushed decisions and inadequate planning, potentially resulting in financial setbacks. Companies must be cautious not to compromise their financial stability in the pursuit of ESG goals. It is essential for organisations to carefully consider the trade-offs and potential agency conflicts associated with ESG engagement and strive for a balanced approach that aligns with both ethical and financial goals.

Implications of Study

- ESG practices may not yet have the same value in the Indian market as other considerations. Which could be the reason for the lack of significance in the relationship. If so, an organisation's efforts in connection to ESG objectives/practices will not result in improved financial performance.
- The findings might indicate a misalignment between the business's overall plan and its ESG practices. ESG efforts may not improve a company's overall financial performance if they are poorly integrated with other business operations and instead are implemented merely to satisfy regulatory or disclosure requirements.
- Some investors might consider ESG efforts to be a burden or a distraction. Investors may think that ESG initiatives are useless or even harmful. As a result, they might be hesitant to provide financial support for these types of initiatives, which would cause funding to shift to businesses that place less emphasis on ESG.

Limitations of the Study

1. A small sample size has been taken in the study which may lead to inappropriate results. Only two financial year's data were taken due to the lack of availability of data on the CRISIL website.
2. ROA is considered the only measure of the financial performance of the company. Further studies can be conducted by taking another financial performance measure.

3. The study focusses on listed Indian companies. Consequently, the findings cannot be applied to all forms of businesses.

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