ESG And its Impact on Performance: A Study of Metal Industry in India

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Abstract

In current dynamic and highly competitive business world making money solely is not enough to succeed. Taking the sustainability aspect into consideration is essence of today. Now when the approach of corporations has shifted from shareholders centric to stakeholders centric, considering various dimensions is essential. Environment Social and Governance (ESG) has become the essential dimension for sustainability. In the present study an attempt has been made to analyse the impact of ESG scores on the financial performance of metal industry in India. Constituents of Nifty Metal Index of NSE have been considered as the sample of the study. ESG scores have been extracted from the official website of CRISIL. Pearson Correlation and Regression analysis has been used to achieve objectives of the study. Moderation analysis has been used to check the moderating impact of firm size on the financial performance of selected companies.

Keywords: *ESG, Financial Performance, Metal Industry, Regression, Moderation*

JEL Classification: *C25, G21, G38, L25, Q01*

Introduction

In recent years, the global landscape of industry and finance has witnessed a profound shift towards sustainability and responsible business practices. This transformation has been encapsulated in the concept of Environmental, Social, and Governance (ESG) criteria, which has emerged as a critical metric for evaluating a company's overall impact on society and the environment. Against this backdrop, the metal industry in India, a cornerstone of the nation's economic growth, is facing increasing scrutiny regarding its adherence to ESG principles. This scrutiny is driven by the recognition that the metal industry holds immense potential for both economic development and environmental responsibility. In this context, it becomes imperative to explore and understand the impact of ESG on the performance of the metal industry in India, as it navigates the complex interplay between profit, people, and the planet. This exploration will not only shed light on the challenges and opportunities faced by the industry but also provide insights into how businesses can align with ESG principles to ensure sustainable growth while addressing the pressing global concerns of our time.

Review of Related Literature

In order to provide a more realistic assessment of a company's operations, academician are now focusing more on a firm's ESG value and performance than on its CSR performances alone. This is because ESG reflects the environmental, social, and corporate governance activities collectively. (Malik, 2015) Even though ESG is still a relatively new concept, many research have examined the connections between ESG and corporate value or performance. (Fatemi, 2018) The company engages in non-commercial endeavors such as environmental, social, and governance-related initiatives to optimize value for all stakeholders and the enterprise. (Velte, 2017) conducted a study on German firm with an aim of examining the relationship between ESG Performance and Financial Performance and concluded that ESG Performance is significantly positively correlated with the financial performance. (Dalal and Thaker, 2019) conducted a study on the relationship between ESG variables and company valuation of Indian public limited businesses indexed in the NSE 100 ESG database, and revealed a positive correlation between improved financial success and greater ESG performance. (Liu et al., 2023) studied the association between ESG and non-performing loans and revealed a negative association of ESG and non-performing loans of US Commercial banks. (Aydoğmuş et al., 2022) studied the impact of ESG on profitability and value of the firm taking ROA as profitability measure and Tobin's Q as valuation measure. The outcomes of the study revealed significant positive impact of ESG scores on the profitability and firm value. (Naeem & Çankaya, 2022) Conducted a study on 192 energy and power generation companies taking ROA, ROE, and Tobin's Q as dependent variables. Regression analysis was employed to test the relationship between the selected variables. The study revealed significant positive impact of ESG on profitability but a negative impact on the market value. (Menicucci & Paolucci, 2023) carried a study on Italian banking sector and revealed a significant positive impact of ESG on financial performance. Studies were conducted on the global context in several industries but lack of studies is found in Indian context, especially in metal industry. The present study aims to fill this gap.

ESG in India

Environmental, Social, and Governance (ESG) considerations have gained significant traction in India's corporate landscape in recent years. ESG refers to a set of criteria that evaluate a company's performance in areas related to environmental sustainability, social responsibility, and corporate governance. India has seen a notable increase in awareness and adoption of ESG principles among businesses and investors. Companies are recognizing that responsible business practices can lead to long-term sustainability and improved financial performance. India's regulatory bodies, such as the Securities and Exchange Board of India (SEBI), have introduced mandatory ESG reporting requirements for certain class of companies. This has led to greater transparency in ESG disclosures.

With growing concerns about climate change and pollution, Indian companies are investing in green technologies, renewable energy, and sustainable practices to reduce their environmental footprint. Indian companies are actively involved in community development, education, healthcare, and other social initiatives. This reflects a commitment to addressing social issues and contributing to societal well-being. Corporate governance reforms are underway in India, focusing on board independence, transparency, and ethical business conduct.

In a nutshell, ESG considerations have become a significant factor in India's corporate landscape, driven by regulatory changes, investor demand, and a growing recognition of the importance of sustainable and responsible business practices. As ESG continues to evolve, India's businesses and investors are increasingly embracing these principles to navigate a changing global landscape.

Objectives

Following are the main objectives of the study:

• To assess the impact of ESG score on the financial performance of metal industry in India.

• To analyse the moderating effect of firm size on the financial performance of metal industry in India.

Hypotheses

- H01- There is no significant impact of ESG Score on ROA of Metal Industry in India.
- H02- There is no significant impact of ESG Score on ROE of Metal Industry in India.
- H03- There is no significant moderating effect of Firm Size on ROA.
- H04- There is no significant moderating effect of Firm Size on ROE.

Research Methodology

This study employs an exploratory research design to examine the impact of Environmental, Social, and Governance (ESG) scores on the performance of the metal industry in India. The statistical tools include correlation analysis, regression analysis, and moderation analysis to provide a comprehensive understanding of the relationship between ESG scores and performance.

Correlation: Pearson’s Correlation analysis is used to check the relationship among ESG Score, ROA (Return on Asset), and ROE (Return on Equity).

Regression: Regression analysis is used to check the influence of ESG Score on the financial performance of metal industry in India.

Moderation: Moderation analysis is employed to check the moderating impact of 'Size of the Firm' on the relationship between ESG Score and financial performance of metal industry in India.

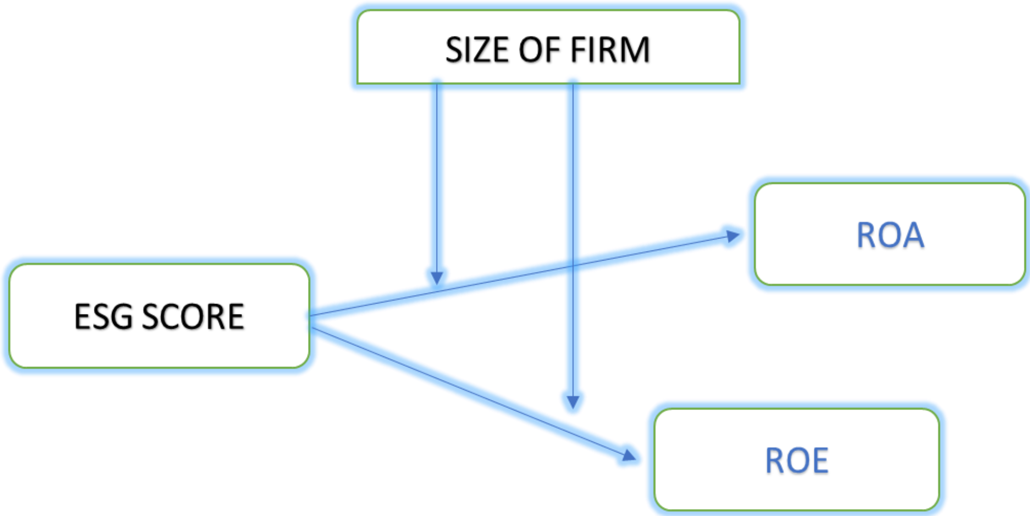

Figure 1: Conceptual Model

(Source: Generated by the Author)

Variables

• **Independent** – ESG Scores of the selected companies has been taken as the independent variable for the study.

• **Dependent** – ROA and ROE have been considered as the measures of financial performance and are used as dependent variables.

• **Moderating-** Natural Log of Total Assets has been used as proxy of Size of the Company and therefore considered as the moderating variable.

Sources of Data

Secondary sources of data have been used to achieve the objectives of the present study. Data has been collected from the databases and reports of rating agencies, annual reports, financial statements, stock market, books, journals, and official websites of the selected companies.

Sample and Scope of the Study

Top ten metal companies by their weightage on the NSE Metal Index of NSE have been considered for the study. The time period of the current study is financial year 2021-22. However, 8 out of these 10 companies namely Tata Steel Ltd, Adani Enterprises Ltd, JSW Steel Ltd, Hindalco Industries Ltd, APL Apollo Tubes Ltd, Vedanta Ltd, Jindal Steel and Power Ltd, and Steel Authority of India Ltd could have been studied due to unavailability of data.

Limitations of the study

• Since the study is based on secondary data, it is subject to the same restrictions as secondary data.

• The time period of the study is restricted to only one financial year i.e. (FY 2021-22)

Analysis and Interpretation

Table 1.1 Correlation Matrix

	ESG SCORE	ROA	ROE	LOG TA
ESG SCORE	1			
ROA	0.729	1		
ROE	0.747	0.923	1	
LOG TA	0.752	0.920	0.946	1

(Source: Computed by the author)

The above table 1.1 shows the correlation among the variables. The table shows a strong positive correlation among ESG score, ROA, and ROE. Moderating variable LOG TA has a strong positive correlation with ROA and ROE.

➢ **Linear Regression**

Table 1.2 Model Coefficients - ROA

Predictor	Estimate	SE	t	p
Intercept	-17.098	10.036	-1.70	0.139
ESG SCORE	0.479	0.184	2.60	0.040
Model Fit Measures				
Model	**R=** 0.729	$\mathbf{R^2}$ = 0.531		

Linear Regression Table 1.2 showing the impact of ESG Score on ROA. Where, calculated P value is 0.040 which is less than 0.05 which implies that null hypothesis is rejected. The positive estimate reveals a positive impact of ESG Score on ROA with the R2 value of 0.531. Thus, it can be said that the ESG Score has 53.1% impact on the ROA of metal industry in India.

Table 1.3 Model Coefficients - ROE				
Predictor	**Estimate**	**SE**	**t**	**p**
Intercept	-41.61	23.364	-1.78	0.125
ESG SCORE	1.18	0.428	2.75	0.033
Model Fit Measures				
Model	**R =** 0.747	**R^2** = 0.558		

Linear Regression Table 1.3 showing the impact of ESG Score on ROE. Where, calculated P value is 0.033 which is less than 0.05 which implies that null hypothesis is rejected. The positive estimate reveals a positive impact of ESG Score on ROE with the R2 value of 0.558. Thus, it can be said that the ESG Score has 55.8% impact on the ROE of metal industry in India.

- **Moderation**

Table 1.4 Moderation Estimates				
	Estimate	**SE**	**Z**	**p**
ESG SCORE	-0.0142	0.0881	-0.161	0.872
LOG TA	17.0065	1.4990	11.346	< .001
ESG SCORE ✻ LOG TA	0.6803	0.2144	3.173	0.002

(Source: Calculated by the author using Jamovi)

Above table 1.4 showing the moderation estimates with the moderator LOG TA on the impact of ESG Score on ROA. Here, the calculated P value is less than 0.05 i.e., 0.002 which means LOG TA has a significant impact on the relationship of ESG Score and ROA. The positive estimate suggests a positive impact of LOG TA on the relationship of ESG Score and ROA.

Table 1.5 Moderation Estimates				
	Estimate	**SE**	**Z**	**p**
ESG SCORE	-0.104	0.0680	-1.53	0.126
LOG TA	47.131	1.1581	40.70	< .001
ESG SCORE ✻ LOG TA	2.272	0.1656	13.72	< .001

(Source: Calculated by the author using Jamovi)

Above table 1.5 showing the moderation estimates with the moderator LOG TA on the impact of ESG Score on ROE. Here, the calculated P value is less than 0.05 i.e., <0.001 which means LOG TA has a significant impact on the relationship of ESG Score and ROE. The positive estimate suggests a positive impact of LOG TA on the relationship of ESG Score and ROE.

Conclusion

This study has shed valuable light on the relationship between ESG (Environmental, Social, and Governance) scores and the financial performance of the metal industry in India. This research aimed to accomplish two key objectives: firstly, to evaluate the impact of ESG scores on financial performance, and secondly, to investigate the moderating effect of firm size on this relationship. Findings have provided compelling evidence of the significant positive impact of ESG scores on two critical financial performance indicators, Return on Assets (ROA) and Return on Equity (ROE). This implies that companies in the Indian metal industry that prioritize environmental sustainability, social responsibility, and sound governance practices tend to achieve higher profitability and shareholder returns. Furthermore, analysis of the moderating effect of firm size has revealed another crucial dimension to this relationship. The significant positive moderating effect of firm size on both ROA and ROE suggests that larger firms may benefit even more from their ESG efforts in terms of financial performance. This could be attributed to their greater resources and capacity to implement ESG initiatives effectively. Overall, the study not only confirms the positive impact of ESG on financial performance in the Indian metal industry but also highlights the role of firm size as a significant factor in enhancing this relationship. These insights have practical implications for both industry practitioners and policymakers, emphasizing the importance of ESG integration in corporate strategies and the potential for larger firms to derive even greater benefits from their ESG initiatives. As sustainability continues to gain importance in the global business landscape, the findings of this study contribute to a growing body of knowledge on the subject, facilitating more informed decision-making and sustainable business practices in the metal industry and beyond.

In the present study, single financial year i.e., 2021-22 is considered. In future, studies can be conducted by considering multiple financial year. Moreover, performance measures other than ROA and ROE can be considered. Also, studies can be conducted to check the impact of ESG Score on valuation of the company.

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