



# DOES ESG SCORE HAVE ANY INFLUENCE ON CORPORATE FINANCIAL PERFORMANCE: EVIDENCES FROM INDIA

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**Abstract:** The prime objective of the present paper is to investigate whether an impact of the Environmental, Social and Governance (ESG) score on the financial performance of the Indian companies exists. In this study, 144 companies out of 225 companies whose ESG scores were published by CRISIL in June, 2021 for the period 2021-2022 have been taken as the sample companies. The influence of ESG scores of these companies on their financial performances have been examined using cross-sectional regression technique. The study reveals that a noticeable degree of positive impact of the ESG scores of the sample companies on their financial performance is present. The outcomes derived from the study will help the investors in making their investment decisions and will also provide certain inputs to the companies which could be used by them while making their financing decisions.

**Keywords:** Environmental, Social and Governance (ESG) score, ESG activities, Corporate Social Responsibility (CSR), Financial Performance, and Cross-Sectional Regression Model.

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## INTRODUCTION

In the present scenario environmental degradation has become a crucial problem along with the companies' growth and development for the countries all over the world. One of the most serious reasons of environmental degradation is the inefficient utilization of natural resources for obtaining the economic benefits. In addition, most of the companies are generating environmental pollution through their day to day production activities. Apart from improving their internal as well as external governances companies should also consider their social and environmental responsibilities so as to fulfil their social goals as well as to gain public acceptance through their eco-friendly performances (Almeyda and Darmansyah, 2019).

Environmental, Social and Governance (ESG) refers to different activities like Environmental activities, Social responsibilities and Corporate Governance of companies which are very crucial in making corporate decisions. The term 'environmental activities' of a company refers to its efforts towards building a good impact on the environment through following the rules and regulations relating to environmental happenings. The term 'social activities' implies the efforts of companies towards making public relations and how well they are treating their stakeholders as well as the community. The corporate governance activities are the efforts of companies towards creating an ethical environment inside the organisation as well as in the management including board of directors and also in creating integrity in the different levels of governance.

The term 'ESG' was popularly familiarised since 2004 through a report titled "Who Cares Wins" which was published by the combined initiative of twenty different prominent financial institutions at the request United Nations (UN). Disclosure of ESG information to the market refers to a lawful system through which the companies can release their financial, environmental, social and corporate governance related information towards their stakeholders in an accurate, timely and comprehensive manner. The ESG information of companies are useful while valuing the securities of the companies to safeguard the rights and welfare of the sponsors. During the year 1992, the United Nations implemented an environmental programme named as United Nations Environmental Programme Financial Initiative (UNEPFI) where they suggested the financial institutions to implement ESG factors into their financial decision making procedure. At present the ESG factors have become one of the

three most important dimensions for the international economic communities to measure the capability of sustainable development of companies over time (Zhao et al, 2018).

Nowadays, investors are becoming much more concerned about the ESG activities of the business organisations. They use non-financial data like ESG factors and Corporate Social Responsibility (CSR) actions along with the financial data of the companies to make investment decisions. The ESG score of companies has emerged as one of the most important pillars of CSR for the purpose of forming sustainable development strategies putting huge effectson the companies' financial performance (Grisales and Caracuel, 2019). For that reason, now a days the companies are putting much emphasis on their ESG activities. Through appropriate ESG activities and CSR actions, companies intend to get green development.

The ESG score data is published by CRISIL, the most popular rating agency in India. CRISIL prepares the ESG score data of the companies on the basis of the quantitative as well as qualitative information of the companies. The ESG score is integrated by setting more than 100 parameters focusing on the Indian economic and business context. CRISIL also makes a comparison of these parameters with some global companies to identify the gap between Indian companies and Global companies to ensure a suitable benchmarking on each parameter of companies. CRISIL uses its experience of analysing different industries for more than 20 years and data from third party sources while preparing the ESG score of different companies. CRISIL provides separate detailed scores of the factors likeEnvironmental activities, Social responsibilities andCorporate governance.

The present study is concerned with analysing the influenceof the publishedESG scores on the financial performances of different companies from various sectors in India. In the recent time most of the countries are trying to develop their rules and regulations regarding the publicly disclosure of ESG related information of firms. That is why nowadays firms are much more concerned with improving their ESG activities than before. The Governance factor of ESG is now considered as a vital measure which is to be taken into consideration at the time of making investment decisions. Many investors check the corporate governance factor of firms before making any investment decision. In 2021 the Business Responsibility and Sustainability Reporting

(BRSR) format was introduced by the Securities and Exchange Board of India (SEBI) for companies and made the BRSR mandatory for top listed companies.

## REVIEW OF RELATED LITERATURE

Many experts and scholars around the world have investigated the different aspects of ESG activities of the companies belonging to the various sectors and examined their impact on the financial performance and investment management strategies of the companies. Some of the notable studies are reviewed in the following paragraphs:

*Velte (2017)* in his study attempted to investigate whether there was any influence of ESG performance over firm's financial performance in Germany. The study covered a data set of 412 firm-year observations over a period of 2010 to 2014. The researcher employed correlation analysis and regression analysis as the primary statistical tools to examine the relationship between ESG performance and financial performance. ROA and Tobin' Q were used as measures of firm's financial performance. The findings showed that there was a significant positive relation linking ROA and ESG performance while there was insignificant relation between Tobin' Q and ESG performances. The study also revealed that from the individual components of ESG, Corporate Governance had the highest impact on the financial performances of firms.

*Zaboet. al. (2018)* in their research work analysed the influence of ESG on the financial performances of 20 selected Chinese Power Generation Companies by applying panel regression technique over a period of 10 years' financial data. The study showed that there was a significant positive relationship between ESG and financial performances. The study concluded that organisations could improve their financial performances through the improvement of their ESG performances.

*Xie et. al.(2019)* in their research study examined the existence of relationship between corporate efficiency and corporate sustainability to evaluate the financial efficiency and profitability of those firms which were concerned about ESG issues. The study considered cross sectional data of 6631 companies of 11 sectors from 74 countries for the year 2015. Non parametric regression technique was employed to assess the relationship between ESG disclosure and corporate efficiency and OLS regression technique was used to analyze the relationship between ESG activities and corporate efficiency. The

results showed that ESG disclosure and corporate efficiency had a significant optimistic relation and different ESG activities possessed non-negative relation with corporate efficiency.

*Almeyda and Darmansyah (2019)* in their research work assessed the impact of ESG disclosure on the firm specific financial performances of Real Estate Companies in the G7 countries as the G7 countries are considered as the most powerful economies worldwide. The data set consists of 380 Real Estate companies' financial data and ESG scores for a five year-period (i.e. 2014 to 2018). Panel data regression technique was adopted in measuring the impact of ESG reporting on the financial performances. This research identified a notable positive linkage between ESG reporting and firm' ROA and ROC. However, no significant linkage between ESG reporting and stock price and price earnings ratio was observed. The results also showed that a highly transparent ESG disclosure can improve the financial performances of companies.

*Duque-Grisales & Aguilera-Caracuel (2021)* in their study attempted to analyse the effect of ESG scores on the financial performances of emerging Latin American Multinational Companies. The study covered a data set of 104 multinational companies from Brazil, Chile, Colombo, Peru and Mexico over a period of 2011 to 2015 and used Panel Data Linear Regression method to evaluate the data. The results showed that there was a significant negative association existed linking ESG scores and financial performances of the selected companies. Furthermore, the individual factors of ESG scores and financial performance are contrarily interlinked.

*Abamadet. al. (2021)* in their paper they examined the impact of ESG factors on the financial performances of 351 firms in United Kingdom by applying panel data analysis techniques (both static and dynamic) covering a period of 17 years (i.e. 2002 to 2018). The research analysed the effects of overall ESG as well as separate factors of ESG on the financial performances of companies. The study also examined the mediating role of firm size in the relationship between ESG and corporate financial performance. The findings revealed a significant positive linkage between total ESG and financial performance whereas the individual ESG components exhibited mixed associations with financial performance. It also revealed that firm size worked as a controlling factor of ESG-financial performance relationship.

*Kim and Li (2021)* in their paper analysed the effects of ESG practices on the corporate finance of 4708 companies from different sectors worldwide by applying multivariate regression technique over a period of 23 years (i.e. 1991 to 2013). The study investigated different individual factors of ESG and their relationship with the financial performance indicators like profitability and financial risk. The analysis revealed that ESG influenced corporate finance in a positive way. It also revealed that corporate governance had the most significant influence on financial performance.

An empirical study was conducted by *Saygili, Arslan and Birkan (2022)* in Istanbul on the ESG practices. The study examined whether there was any relation between the ESG factors and financial performances of Turkish listed companies. The effects of ESG factor disclosures on the firm level corporate financial performance of 36 listed companies of Istanbul during the period 2007 to 2017 were assessed. The Return on Asset (ROA) and Tobin' Q (TQ) were used as the measures of corporate financial performance. To analyse the effects of ESG factors on the corporate financial performance of the firms, Hausman-Taylor test was used. The study revealed a negative effect of ESG factors on the financial performance of companies while the provisions connected with the rights of the stakeholders and board of directors influenced the corporate financial performances in a positive way.

The review of related literature as made in the previous paragraphs reveals that a good number of studies on the issues associated with the assessment of the effects of ESG engagements or ESG reporting on the financial performance of companies have been carried out in both developed and developing countries in the world during the past few years. However, adequate attention has not so far been paid on the said issues in India. Moreover, the studies conducted in the foreign countries as mentioned in the literature review have yielded conflicting results. No specific conclusion regarding the nature of the influence (positive or negative) of ESG engagements on financial performance of companies has been arrived at in those studies. In order to bridge the gaps, the present study is conducted.

## **OBJECTIVES OF THE STUDY**

The aim of this research is to determine the correlation or association between ESG scores and the financial outcomes of the Indian companies. More

specifically, this research intends to analyze whether the ESG score released in June, 2021 has any effect on the financial performance of the concerned companies for the financial year ended 31<sup>st</sup> March, 2022.

## **RESEARCH METHODOLOGY**

CRISIL ESG Compendium, June 2021 published the ESG scores of 225 companies across various industries. For the present study, the industries having more than 10 companies in the said compendium have been selected. In the CRISIL ESG Compendium, 10 such industries having a total of 148 companies have been found. However, the required data for 4 such companies have not been available. So, in this study, cross sectional data of 144 companies have been used.

The ESG scores of the sample companies have been obtained from the said Compendium. The data for the year 2021-22 relating to the financial variables, such as financial performance as indicated by return on assets (ROA), liquidity as indicated by current ratio (CR), leverage as measured by debt-equity Ratio (DER) and firm size as indicated by Log of total assets (LTA) have been collected from “moneycontrol.com” and from the respective websites of the selected companies.

ROA has been used as the dependent variable while the ESG score has been considered as the independent variable in the study. ROA also depends on the liquidity, leverage and firm Size amongst other variables. Hence, CR, DER and LTA have been used as the control variables in the present study.

While analysing the data collected for the study, the following steps have been adopted. First, the descriptive statistics have been ascertained for the variables to put light on the nature of the variables and the descriptive statistics have also been computed for the sector wise ESG scores to highlight the ESG scores across the different industries under study.

Secondly, One Sample Kolmogorov-Smirnov test has been applied to the ESG score data series to test whether the data follow normal distribution. The relevant Null ( $H_0$ ) and Alternative ( $H_1$ ) hypotheses of the test are as follows:

$H_0$ : ESG scores follow normal distribution.

$H_1$ : ESG scores do not follow normal distribution.

Based on the outcomes derived from the normality test, the single factor Analysis of Variance (ANOVA) test has been used to test whether the mean of ESG scores across the different industries vary. The relevant Null ( $H_0$ ) and Alternative ( $H_1$ ) hypotheses of the test are as follows:

- $H_0$ : Mean of ESG scores across industries are equal.
- $H_1$ : Mean of ESG scores across industries are not equal.

Thirdly, the study has employed Pearson's correlation analysis amongst the variables of the study. A strong linkage between the dependent and independent variables is theoretically desirable. In order to assess the influence of the ESG scores of the companies on their financial performances, regression analysis has been carried out. The regression model which has been fitted in this study is:

$$ROA_i = \beta_0 + \beta_1 \text{ESG Score}_i + \beta_2 \text{CR}_i + \beta_3 \text{DER}_i + \beta_4 \text{LTA}_i + \epsilon_i$$

where  $\text{ESG Score}_i$  is ESG Score of the  $i^{\text{th}}$  Company in June 2021,  $\beta_0$  represents the Intercept,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$  and  $\beta_4$  indicate the regression coefficients of ESG Score on ROA, CR, DER and LTA respectively and  $\epsilon_i$  = error term.

While estimating the above regression model in stata14 software, the robust and cluster options have been used. The robust standard error takes care of the heteroscedasticity problem whereas the cluster standard error on unit identifier i.e. companies' ID variable allows for arbitrary correlation within individual IDs which corrects the auto-correlation problem.

Next we have checked the multicollinearity issue using Variance Inflation factor (VIF) and Tolerance Statistics (TOL) i.e.  $1/\text{VIF}$ . If VIF values are less than 10 and  $1/\text{VIF}$  i.e. TOL values are greater than 0.1 then we can infer that the problem of multicollinearity does not exist in the model.

Finally, we have applied Ramsey Regression Equation Specification Error Test (RESET) to identify omitted variables and inappropriate functional form. The Null ( $H_0$ ) and Alternative ( $H_1$ ) hypotheses of the test are as follows:

- $H_0$ : There is no omitted variables in the model.
- $H_1$ : There are some omitted variables in the model.

The above statistical analysis has been performed using STATA14 and SPSS18.

## DISCUSSION ON THE OUTCOMES DERIVED FROM THE EMPIRICAL ANALYSIS

**Table 1: Descriptive Statistics**

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
ROA	144	-.8400	37.1500	11.460069	7.4846170
ESG_Score	144	37.0000	79.0000	55.006944	7.2009095
CR	144	.0400	17.1100	2.177569	1.8096278
DER	144	.0000	11.3700	.369861	1.2935666
LTA	144	2.9325	5.5892	4.037279	.5920708
Valid N (listwise)	144				

Source: Computed by the Authors

The descriptive statistics of the variables under study are presented in Table 1. This table shows that there is high volatility in ROA (dependent variable) of the selected companies. Here the average ROA is 11.460069 but the highest and the least values of ROA are 37.15 and -0.84 respectively. The standard deviation of ROA is the highest (7.4846) as compared to the other variables which implies that it has very wide fluctuations in between the companies. In case of the ESG score (independent variable) of the sample companies, fluctuations are minimal. The mean ESG score of the companies is 55. In case of the control variables there are more fluctuations in CR and DER in comparison with LTA of the selected companies. The average CR of the companies is 0.369861 but the minimum and maximum values are 0.00 and 11.37 respectively, as most of the sample companies do not use any debt

**Table 2: Descriptive Statistics of Sectorwise ESG Score**

<i>Sectors</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
Chemicals	15	47	63	52.267	4.3006
Engineering and Capital Goods	15	46	67	54.133	5.5145
FMCG	24	41	69	55	6.8841
Pharmaceuticals	26	44	63	53.885	4.9826
Auto ancillary	9	50	57	54.444	2.0683
Cement	11	37	61	50.727	8.0882
IT	11	59	79	69.182	7.5739
Metals	10	43	62	52.3	6.9929
Oil and Gas	12	47	60	52.417	4.8328
Power	11	53	67	58.455	4.5247

Source: Computed by the Authors with SPSS18

in their capital structure while some of the companies from Adani Group use high level of debt in their capital structure.

The descriptive statistics of the ESG scores of the selected industries are shown in Table 2. This table depicts that the average ESG score is the highest in IT sector (69.182) and it is the lowest in Cement sector (50.727). The mean ESG scores of the Chemical industry (52.267) and Metal Industry (52.3) are also very low as compared to the other sectors. The Power Industry has second highest mean ESG score (58.455). The Cement Industry and IT Industry have the highest Standard Deviations of 8.0882 and 7.5739 respectively implying that the average ESG scores of these two industries have the highest fluctuations. In case of the remaining industries, high rate of fluctuations in the ESG scores are not observed.

**Table 3: One-Sample Kolmogorov-Smirnov Test**

Kolmogorov-Smirnov Z	1.259
P-Value	0.084

Source: Computed by the Authors with SPSS18

Table 3 discloses the results of One-Sample Kolmogorov-Smirnov Test (K-S Test). This nonparametric test has been used in examining the normality of the data. Here the K-S Test result has a P-Value of 0.084 (i.e. more than 0.05). Since the p-value is greater than 0.05, the null hypothesis cannot be rejected, which means the data can be assumed to follow a normal distribution.

**Table 4: ANOVA of ESG Score**

	<i>Sum of Squares</i>	<i>Df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Between Groups	2855.888	9	317.321	9.327	.000
Within Groups	4559.105	134	34.023		
Total	7414.993	143			

Source: Computed by the Authors with SPSS18

Table 4 indicates the analysis of variance (ANOVA) results of the ESG scores of the industries. The ANOVA has been used to examine whether the average ESG scores of the selected industries are equal or not. The observed value of ANOVA F-test is 9.327 which is significant at 1% level. So, here the null hypothesis is rejected which implies that there is adequate evidence to declare that at least one pair of mean ESG scores of the industries are not equal.

**Table 5: Correlation Matrix**

		<i>ROA</i>	<i>ESG_Score</i>	<i>Liquidity</i>	<i>Leverage</i>	<i>Firm_Size</i>
ROA	Pearson Correlation	1	.197*	.231**	-.279**	-.246**
	Sig. (2-tailed)		.018	.005	.001	.003
	N	144	144	144	144	144
ESG_Score	Pearson Correlation	.197*	1	.068	.104	.364**
	Sig. (2-tailed)	.018		.415	.217	.000
	N	144	144	144	144	144
CR	Pearson Correlation	.231**	.068	1	-.178*	-.239**
	Sig. (2-tailed)	.005	.415		.033	.004
	N	144	144	144	144	144
DER	Pearson Correlation	-.279**	.104	-.178*	1	.158
	Sig. (2-tailed)	.001	.217	.033		.058
	N	144	144	144	144	144
LTA	Pearson Correlation	-.246**	.364**	-.239**	.158	1
	Sig. (2-tailed)	.003	.000	.004	.058	
	N	144	144	144	144	144

Source: Computed by the Authors with SPSS18

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Table 5 shows the correlation matrix of the all the study variables. In this table the slanting line with '1' represents the correlation of the variables with its own value. It is clear from the above table that some variables are positively allied while some variables are negatively allied with others. Here ROA and ESG score, ROA and CR, ESG score and CR, ESG score and DER, ESG score and LTA, and DER and LTA are positively correlated whereas ROA and DER, ROA and LTA, CR and DER, and CR and LTA are negatively correlated. The correlation coefficients in between the variables are not strong enough.

Table 6 discloses the outcomes derived from the OLS regression analysis. Here, the dependent variable or explained variable is ROA. 'C' is the constant term which is 7.9495 with the probability value of 0.133 is not statistically significant even at 10% significance level.

Here the independent variable, ESG score has a positive effect on ROA, the concerned coefficient of ESG score is found to be statistically significant

**Table 6: Summary Results of Regression Analysis**

Dependent Variable		ROA
Method		OLS (Robust Cluster)
<i>Variable</i>	<i>Coefficient</i>	<i>Prob.</i>
C	7.9495	0.133
ESG Score	0.3402	0.000*
CR	0.3781	0.357
DER	-1.4382	0.000*
LTA	-3.8383	0.001*
R-squared		0.2297
F – Statistic		18.08
Probability of F - stats.		0.0000*

Source: Computed by the Authors with Stata14

[\* = Significant at 1% Level;

\*\* = Significant at 5% Level;

\*\*\* = Significant at 10% level]

indicating that it has a noticeable influence on ROA. Similarly, CR has a positive impact on ROA but it is not found to be statistically significant while DER and LTA have negative influences on ROA which are found to be statistically significant at 1% level.

The R-squared value is 0.2297 which implies that only 22.97% of variations in the ROA can be explained by the independent variable, ESG score and the control variables, CR (liquidity), DER (leverage) and LTA (firm size) together and the remaining 77.03% is still unexplained. Here the probability of F-statistic is highly significant at 1% level which implies that the regression model fitted for the analysis is found suitable and significant.

In the above mentioned regression model, Robust and Cluster these two commands have been used. The robust command takes care of heteroscedasticity problem while the cluster command takes care of the problem of auto correlation.

**Table 7: Computed Values of Variance Inflation Factor (VIF)**

<i>Variable</i>	<i>VIF</i>	<i>1/VIF</i>
LTA	1.26	0.7921
ESG Score	1.19	0.8369
CR	1.12	0.8923
DER	1.05	0.9484
Mean VIF	1.16	

Source: Computed by the Authors with Stata14

As the said two commands have been used in the regression model, the model is free from heteroscedasticity problem and auto correlation problem.

Table 7 summarises the outcome derived from Variance Inflation Factor (VIF) and Tolerance Level (TOL). VIF and TOL – these two statistical tools are used to examine the existence of multicollinearity in a group of multiple regression variables. TOL value has been calculated by using the formula  $(1/VIF)$ . VIF value is considered good if it is lower than 5 and TOL value is good when it is nearest to 1. Here it is clear from Table 7 that the VIF values of the variables are much lower than 5 and the TOL values are also near to one. So, the results reflect that no multicollinearity is present in the regression model.

**Table 8: Result of Ramsey RESET Test**

F (3, 136)	1.27
Probability Value (P-Value)	0.2858

Source: Computed by the Authors with Stata14

Table 8 shows the outcome of Ramsey RESET Test. This statistical tool has been used to check whether the model of analysis suffers from any difficulty arising out of any omitted variable/variables. Here the P-Value of Ramsey RESET Test is 0.2858 which exceeds 0.05. So, the null hypothesis is accepted which implies that no omitted variable is present in the model.

## **CONCLUDING REMARKS**

The present study focuses on investigating whether the financial performance of companies is influenced by their ESG score. The study reveals strong evidence of positive influence of ESG score on financial performance of companies. So, companies should be more careful while performing their ESG activities as these will help the companies to enhance their financial performances. The outcomes derived from the study also confirm that the financial performance indicator (ROA) and ESG score are positively associated. One mentionable shortcoming of the study is that the study has been made using the financial data of 2021-22 only and the ESG scores published by the CRISIL in June 2021. More research studies can be conducted in future taking into consideration the ESG scores of the different companies for multiple years.

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