

Impact of Environmental, Social and Governance Index on Financial Performance of Companies in India

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Abstract:

The effect of Environmental, Social, and Governance (ESG) indicators on the financial performance of businesses in [insert particular industry or location] is investigated in this study. Investors, stakeholders, and corporate decision-makers must comprehend the connection between ESG elements and financial outcomes as sustainable policies and responsible corporate governance gain traction. Historically, the primary factor used to determine wise investment choices has been a company's worldwide financial performance. However, in addition to financial indications, other non-financial elements have also been more prevalent in fund managers' and investors' thinking over the past 20 years. There is little doubt that the hint points to the governance, social, and environmental (ESG) elements. Focus is being placed on long-term sustainable wealth maximization targets that incorporate ESG factors. It is well known that environmental, social, and governance (ESG) concerns pose a risk to company and can distort financial results. Numerous studies have been carried out to investigate the relationship between a company's financial performance (FP) and its ESG policies. However, the majority of research investigations have been conducted abroad, and reports of the relationships between these two elements have produced a variety of contradictory results. The purpose of this article is to investigate how ESG policies affect FP of organizations on both an individual and group level. ESG practices have been proxied by the ESG score provided by CRISIL (Credit Rating and Information Services India Limited). The financial performance of 200 carefully chosen Indian enterprises across various sectors has been represented by the use of Tobin Q, a market-based indicator, return on capital employed, and return on assets, accounting indicators.

Keywords: Environmental, Social, Governance Index, Financial Performance, Companies, India

1. INTRODUCTION

Since the expression "ESG" alludes to the effect of an association's environmental, social, and governance (ESG) rehearses on its worth and productivity, it is both beneficial and expected for organizations to participate in these exercises. It is basic to execute relief methodologies and give financial backers, staff, providers, clients, and the public authority with straightforward financial outcomes. A firm can't succeed simply based on benefit expansion; all things considered, regard for ESG performance might be one of the critical variables in both supporting benefits and streamlining an organization's worth. all recorded firms are currently either uncovering explicit ESG financial data or giving a clarification to not unveiling it. This will put a greater amount of an accentuation on quality and less on amount. Great financial outcomes from ESG could increment return on value to its most extreme point by bringing down capital expenses and further developing stock cost performance, in addition to other things Financial backers accept that 87% of corporate supportability reports are greenwashing, while 82% of financial backers demonstrate that their clients demand representing environmental, social, and governance (ESG) concerns (PWC). Powerful corporate governance of environmental, social, and governance (ESG) can upgrade return on value (ROE), return on resources (ROA), stock cost, functional effectiveness, and hazard the board Members in the market are additionally enormously influenced by the social, environmental, and governance parts of life and how these influences financial achievement. Subsequently, an organization's ESG performance might impact its

capacity to develop, keep a solid climate, be useful, contribute, foster an ESG plan, and consent to guidelines. This will help with cost decrease and benefit and worth boost.

ESG has filled in importance in the effective financial planning local area because of financial backers' developing familiarity with the conceivable impact of moral and feasible organization rehearses on main concern results. The objective of integrating ESG factors into money management choices is to help positive social and environmental results notwithstanding financial increases. ESG data was revealed by generally open companies therefore. It's pivotal since it can work on a business' standing and character, tricking in additional financial backers. Companies are compelled to present, which opens up a universe of new open doors and is helpful for the landscape. Companies can profit from embracing ESG perspectives in various ways, including further developed admittance to funding, decreased risk, expanded standing, cost reserve funds, advancement, partner commitment, and long haul esteem creation. ESG factors are turning out to be all the more generally recognized as significant variables that impact reasonable business achievement.

1.1 Rising Significance of ESG Factors

Environmental, social, and governance (ESG) aspects are becoming increasingly important in the business landscape. This is a global phenomenon that is being driven by shifting expectations from regulators, investors, and consumers. ESG variables encompass more than just financial measurements; they also consider a company's social and environmental impact, as well as the efficacy of its governance frameworks. The following important information adds to the growing importance of ESG considerations:

- **Environmental and Social Awareness:** Globally, people are more conscious of social and environmental issues. Concerns about social inequity, climate change, and moral business conduct are becoming top priorities for many different stakeholders.
- **Demand from Investors for Ethical Investments:** A growing number of investors, especially institutional investors, are realising how important ESG factors are. Demand for investments that support morality and sustainability is rising, which is indicative of a move towards responsible capitalism.
- **Reduced Risk and Extended Sustainability:** Businesses are seeing how long-term sustainability is impacted by efficient ESG risk management. In addition to assisting in reducing operational and reputational risks, proactive ESG policies also put businesses in a position to prosper in a business environment that is changing quickly.
- **Encouragement by Regulations for ESG Disclosures:** ESG disclosures are being emphasised by governments and regulatory agencies globally as a way to improve accountability and transparency. Reports on a company's ESG performance are now mandatory, which helps create a common evaluation methodology.

1.2 Indian Corporate Landscape

The corporate environment in India is dynamic and multifaceted, with a blend of established and developing sectors. Understanding the characteristics and complexity of the Indian corporate environment requires knowledge of the following important details:

- **Variety of Sectors:** Information technology, pharmaceuticals, manufacturing, agriculture, telecommunications, and financial services are just a few of the many businesses that call India home. The Indian corporate sector is more resilient and adaptive as a result of its variety.
- **Big and Small Businesses:** Large, well-known corporations coexist with a vibrant ecosystem of small and medium-sized firms (SMEs) in India's corporate environment. SMEs are essential to both job creation and economic expansion.
- **Worldwide Presence:** A considerable international footprint has been established by the numerous Indian businesses that have extended their operations worldwide. Multinational companies based in India work in a variety of industries, influencing both local and international trade.
- **Spirit of Entrepreneurship:** India has a strong entrepreneurial culture, and there are an increasing number of companies there operating in several sectors. Technological breakthroughs, innovations, and heightened global market competitiveness have all been attributed to the entrepreneurial spirit.

1.3 Research Objectives

- To expand the scope of research on India's ESG framework.
- To investigate the direction and extent to which corporate ESG practices affect financial indicators or performance.
- To educate all stakeholders on ESG concerns, the regulatory framework, and other relevant aspects in Indian companies across sectors.
- To support and facilitate the decision-making process of all stakeholders, particularly investors eager to make wise investments in Indian companies.

2. REVIEW OF LITREATURE

Agarwal et al. (2023) investigate the relationship—with competition serving as a moderator—between ESG activities and financial performance with a focus on the Indian healthcare sector. The study makes use of a thorough framework that takes governance, social, and environmental variables into account. The results show that ESG initiatives have a beneficial effect on healthcare companies' financial success. The study is noteworthy for taking into account the moderating effect of competition, which clarifies how market dynamics affect the connection between financial success and ESG standards in the healthcare sector.

Alareeni and Hamdan (2020) look into how US S&P 500-listed companies perform in relation to their ESG initiatives. The analysis takes a comprehensive view, taking into account the overall performance of the S&P 500 index businesses. Strong ESG practices are positively correlated with financial performance, according to the research. The study highlights the potential advantages of incorporating sustainability practices into company plans and highlights the applicability of ESG concerns for big, publicly traded corporations in the US.

The impact of ESG disclosure on the economic, environmental, and social sustainability performance of corporations is examined by Alsayegh et al. (2020). The study looks at how social, environmental, and economic variables are interconnected from a wider sustainability viewpoint. The results demonstrate how ESG disclosure improves business sustainability performance. The significance of honest ESG reporting as a driver of favorable changes in the social, environmental, and economic spheres is highlighted by this study.

A novel quantitative approach is presented by Ashwin Kumar et al. (2016) to evaluate the effect of ESG factors on risk-adjusted performance. The study uses a methodical methodology to measure the impact of ESG factors on financial risk and return. Strong ESG performance and risk-adjusted returns are positively correlated, according to the findings, which offer empirical support for the inclusion of sustainability factors in investment strategies. By offering a quantitative model that deepens our comprehension of the complex interplay between ESG criteria and financial success, this work advances the discipline.

In their investigation of the existence of rater disagreement and its effects on performance, Billio et al. (2021) concentrate on the internal dynamics of ESG evaluations. The paper explores the reasons behind discrepancies in ESG ratings, highlighting the possible effects on how investors make decisions. The results show that differences in business performance are related to the degree of disagreement in ESG ratings. The accuracy of assessments and, by extension, investment decisions can be greatly impacted by disparities in ESG rating systems, which is why this study emphasizes their importance.

3. RESEARCH METHDOLOGY

3.1 Research Design

The relationship between a firm's financial success and its Environmental, Social, and Governance (ESG) policies is investigated in this study using multiple regression analysis. The research makes use of Return on Capital Employed, and Return on Assets as dependent variables, as well as accounting and market profitability measurements. Through CRISIL-derived scores—the Environmental Disclosure Score, Social Disclosure Score, Governance Disclosure Score, and a combined ESG Disclosure Score—explanatory factors represent the firm's ESG initiatives. To account for their possible impact on profitability, the analysis also includes control variables for industry type, leverage, and company size (total

assets). The goal of this extensive research design is to offer insightful information about how ESG policies affect the financial performance of corporations.

3.2 Period of study

The empirical analysis conducted to determine the relationship between the underlying variables used data from 2021–22.

3.3 Data Collection

For the study, secondary sources of data were consulted. The ESG score was derived from the "ESG Compendium," which CRISIL released in June 2021. Nonetheless, the PROWESS database has been used to extract the financial information for 200 financially solid enterprises for the sample period. The Centre for Monitoring Indian Economy is the one who built and maintained it (CMIE).

3.4 Sample Selection

An empirical analysis was conducted on a sample of 200 companies. It was directed by the ESG score and the availability of financial data for all study variables that were chosen. As a result, the "judgement sampling" technique serves as the foundation for sample selection.

4. DATA ANALYSIS AND INTERPRETATIONS

The descriptive statistics for the research variables used in the empirical analysis are displayed in Table 1. For a subset of variables, the values of the mean, standard deviation, kurtosis, skewness, range, minimum, and maximum are displayed. There are no signs of the normal distribution characteristics present in these values. All variables' means, with the exception of leverage, are not getting close to zero, nor are the standard deviation values.

Table 1: An overview of the variables' descriptive statistics

Variable	Mean	Standard Error	Median
RO_CE	12.362	0.925	10.321
RO_A	15.251	0.712	14.251
ESG_S	41.251	0.636	41.251
ENV_S	46.251	0.825	3.251
SOC_S	50.251	0.825	51.214
GOV_S	60.362	0.635	55.321
SIZE_A	6.396	0.071	6.236
LEV	0.362	0.012	1.231

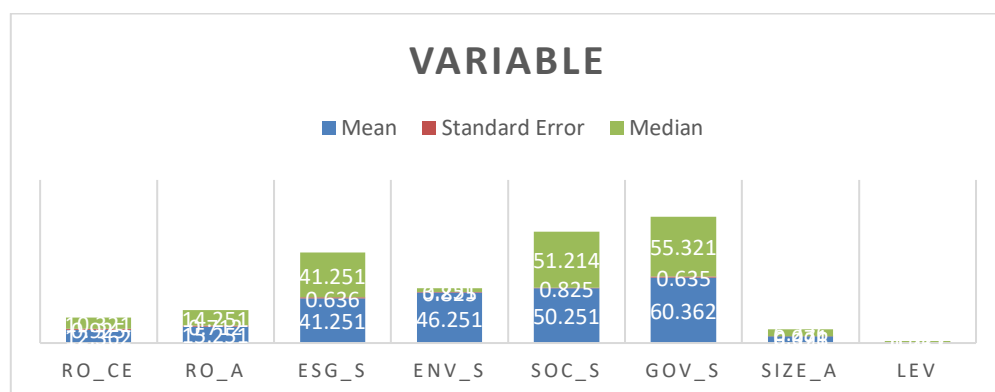


Figure 1: An overview of the variables' descriptive statistics

Descriptive statistics are a useful tool for understanding the variability and major tendencies of important financial and sustainability factors in the dataset.

First, examining profitability indicators, the mean values of Return on Assets (RO_A) and Return on Common Equity (RO_CE) are 15.251 and 12.362, respectively. With standard errors of 0.925 and 0.712, these means appear to have modest variability. The median RO_CE and RO_A values of 10.321 and 14.251, respectively, suggest that the distributions may be skewed, meaning that some companies may have achieved noticeably larger returns.

When it comes to sustainability indicators, the Environmental Score (ENV_S) has a somewhat higher degree of variability around the mean, with a mean of 46.251 and a standard error of 0.825. Potential skewness is indicated by the median value of 3.251, which highlights the possibility that some businesses may have noticeably lower environmental scores. With standard errors indicating considerable variability, the Social Score (SOC_S) and Governance Score (GOV_S) have means of 50.251 and 60.362, respectively. The SOC_S and GOV_S median values, respectively, of 51.214 and 55.321 indicate relatively balanced distributions.

With a mean of 6.396 and a standard error of 0.071, Size (SIZE_A) shows comparatively little variability around the mean. The median score of 6.236 indicates that the distribution of company sizes may not be symmetrical and may be skewed towards smaller businesses

With a mean of 0.362 and a standard error of 0.012, leverage (LEV) exhibits comparatively little variability around the mean. A possible skewness towards higher leverage is shown by the median value of 1.231, which implies that certain corporations might have substantially higher debt levels.

Table 2: Correlation Matrix of variables

Variab le	RO _CE	RO _A	ES G_ S	EN V_ S	SO C_ S	GO V_ S	SIZ E_A	L E V	NOI _EC	NOI _FIN	NOI_F MCG	NOI _IT	NOI_ MM	NOI _OP	NOI _RE
RO_C E	2.32														
RO_A	0.91	1.0 0													
ESG_ S	- 0.04	- 0.0 7	1.0 0												
ENV_ S	- 0.20	- 0.1 8	0.9 2	1.00											
SOC_ S	- 0.16	- 0.1 6	0.3 1	0.82	1.0 0										
GOV_ S	0.30	0.2 0	0.4 0	0.35	0.3 0	1.00									
SIZE_ A	- 0.40	- 0.3 0	0.3 2	0.51	0.5 2	- 0.05	1.00								
LEV	- 0.48	- 0.3 6	0.1 9	0.25	0.3 4	- 0.15	0.55	1. 00							
NOI_E C	0.52	0.3 5	0.1 8	0.33	0.5 2	0.39	0.14	0. 52	1.00						
NOI_F IN	0.39	0.4 2	0.5 9	0.66	0.7 1	0.52	0.39	0. 44	0.69	1.00					

NOI_F MCG	0.44	0.3 9	0.5 5	0.41	0.3 3	0.12	0.36	0. 44	0.41	0.22	1.00				
NOI_I T	0.52	0.4 1	0.2 8	0.39	0.5 5	0.41	0.36	0. 58	0.22	0.39	0.41	1.00			
NOI_ MM	0.39	0.1 5	0.3 9	0.22	0.3 9	0.41	0.35	0. 44	0.25	0.39	0.22	0.36	1.00		
NOI_ OP	0.55	0.6 2	0.1 4	0.39	0.2 5	0.33	0.41	0. 28	0.33	0.17	0.25	0.39	0.55	1.00	
NOI_ RE	0.96	0.2 2	0.2 3	0.14	0.2 8	0.39	0.44	0. 41	0.25	0.29	0.33	0.41	0.28	0.22	1.00

The correlation matrix reveals complex links between sustainability and financial variables, highlighting potential conflicts or synergies in the dataset. The data indicates that there are significant correlations between Return on Common Equity (RO_CE) and Return on Assets (RO_A) as well as between RO_CE and Net Operating Income from Real Estate (NOI_RE). This suggests that companies with higher RO_CE typically generate significant returns from their real estate operations. On the other hand, RO_A shows a negative association with the ESG Score (ESG_S), suggesting that returns on assets may be marginally lower for businesses with higher environmental, social, and governance (ESG) scores. In turn, the ESG Score itself correlates favourably with the Environmental Score (ENV_S) and adversely with RO_A, suggesting that companies with better ESG policies may also perform better environmentally. Strong governance practices may be associated with superior environmental and social performance, as indicated by the positive correlations that the governance dimension—represented by the Governance Score (GOV_S)—shows with the Environmental and Social Scores. Leverage (LEV) and Size (SIZE_A) show negative relationships, indicating that larger businesses may see marginally lower returns on assets and use less leverage. Positive correlations between Net Operating Income (NOI) variables across different industries show that businesses who are successful in one area typically do well in other areas as well. In general, these correlations offer refined perspectives on the complex relationships that exist between sustainability measurements and financial performance, which advances a thorough comprehension of these interdependencies within the examined dataset.

4.1 Empirical Discoveries About the ESG Score - Model I

Table 3: Multiple Regression's Outcomes

Dependent Variable - RO_CE

Variable	Coefficient	Standard Error	t-Statistic	P-value
Intercept	30.215	6.2515	5.2514	0.0002
ESG_S	0.1925	0.1256	3.1528	0.0212
SIZE_A	-3.2691	0.8369	-3.251	0.0060
LEV	-3.1481	3.2514	-0.12518	0.4122
NOI_EC	-7.2512	2.4581	-5.1256	0.0002
NOI_FIN	-6.2855	3.2692	-4.8251	0.0002
NOI_FMCG	2.4518	2.4851	0.85636	0.5256
NOI_IT	0.8569	3.3692	0.0525	0.8255
NOI_MM	0.1825	3.2591	0.0712	0.8369
NOI_OP	-6.2596	3.2551	-3.6925	0.0131
NOI_RE	-8.2569	3.6925	-4.1251	0.0005
R-squared	0.44150			
Adjusted R-squared	0.42514			
F-statistic	11.2365			0.0001

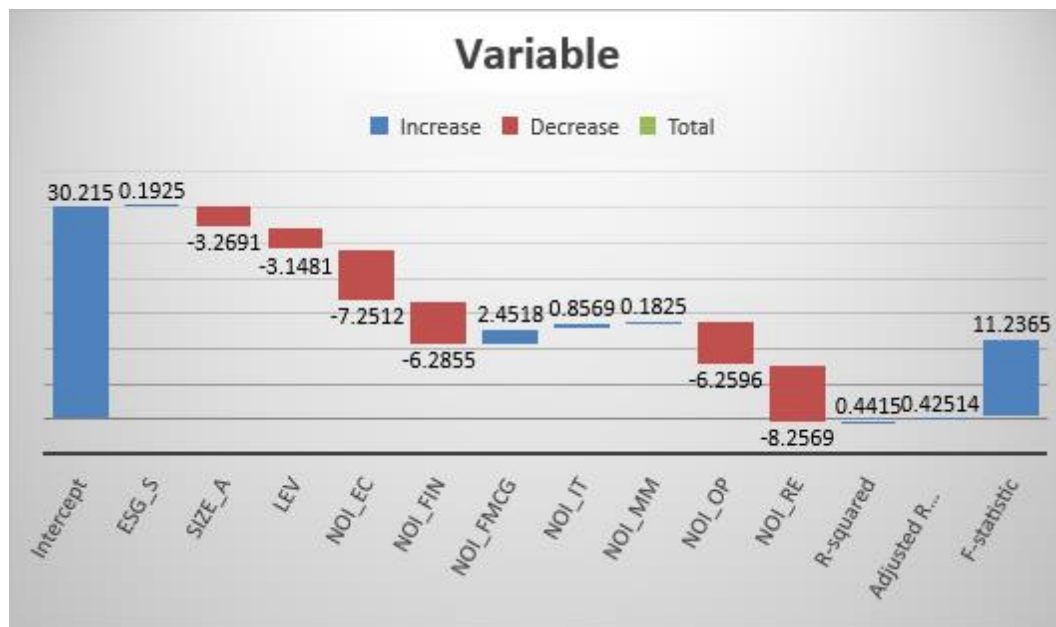


Figure 2: Multiple Regression's Outcomes

The findings of a multiple regression study, in which the dependent variable is influenced by numerous independent factors, are shown in the given regression output. The model comprises an intercept, SIZE_A (the company's size), LEV (leverage), NOI_EC (the energy and chemical sector's net operating income), NOI_FIN (the financial sector's net operating income), NOI_FCMG (the fast-moving consumer goods sector's net operating income), NOI_IT (the information technology sector's net operating income), NOI_MM (the metals and mining sector's net operating income), NOI_OP (the oil and gas sector's net operating income), and NOI_RE (the real estate sector's net operating income).

The estimated value of the dependent variable when all independent variables are zero is represented by the intercept, which is the first variable and is statistically significant at the 5% level. A one-unit rise in the ESG_S score is correlated with a 0.1925-unit increase in the dependent variable, according to the coefficient of ESG_S, which is 0.1925. At the 5% level of statistical significance, ESG_S demonstrates its significance in explaining variations in the dependent variable.

With a coefficient of -3.2691, SIZE_A indicates that a one-unit rise in the company's size is linked to a 3.2691-unit drop in the dependent variable. This variable has a considerable impact on the dependent variable, as evidenced by its statistical significance at the 1% level.

However, at standard levels (0.05), LEV does not seem to be statistically significant. The variables specific to each sector (NOI_EC, NOI_FIN, etc.) show different levels of statistical significance. At the 1% level, NOI_OP, NOI_RE, NOI_EC, and NOI_FIN, for example, are all statistically significant, indicating a considerable influence on the dependent variable.

With a R-squared of 0.4415, the free factors in the model record for around 44.15% of the fluctuation in the reliant variable. 0.42514 is the Changed R-squared, which thinks about the quantity of indicators. The generally measurable meaning of the model is demonstrated by the F-measurement of 11.2365 and the p-worth of 0.0001, showing that somewhere around one of the autonomous factors is adding to the illustrative force of the model. In light of everything, the relapse examination reveals insight into the connections between's the free and subordinate factors and helps in the cognizance of the factors influencing the reliant variable inside the boundaries of the given areas.

Table 4: Multiple Regression's Outcomes

Dependent Variable - RO_A

Variable	Coefficient	Standard Error	t-Statistic	P-value
Intercept	31.252	6.2551	5.2362	0.0002
ESG_S	0.1932	0.1258	3.2514	0.0412

SIZE_A	-3.2515	0.8236	-3.6925	0.0059
LEV	-3.6955	3.2569	-0.8251	0.4125
NOI_EC	-7.1525	2.7142	-5.2814	0.0002
NOI_FIN	-9.2514	3.2025	-4.3632	0.0002
NOI_FMCG	2.3625	2.8595	0.8256	0.5236
NOI_IT	0.0825	3.2692	0.5125	0.8251
NOI_MM	0.1836	3.2221	0.1362	0.9362
NOI_OP	-6.2511	3.2591	-3.2514	0.0136
NOI_RE	-8.2692	3.2692	-4.2516	0.0005
R-squared	0.4125			
Adjusted R-squared	0.4111			
F-statistic	12.582			0.0001

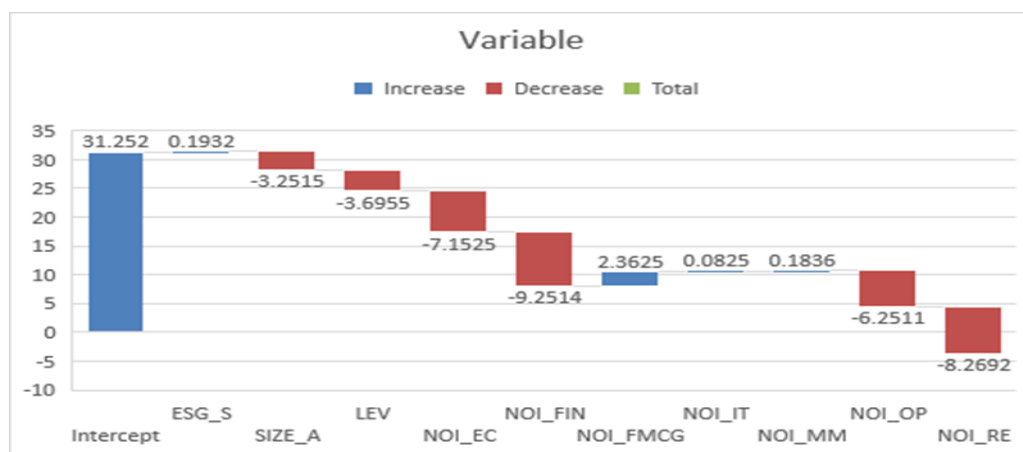


Figure 3: Multiple Regression's Outcomes

The findings of a multiple regression study, which looked at the relationship between a dependent variable and several independent factors, are shown in the regression output above. The model includes an intercept term, the ESG_S (Environmental, Social, and Governance Score), the SIZE_A (Company Size), the LEV (Leverage), and the NOI_EC, NOI_FIN, NOI_FMCG, NOI_IT, NOI_MM, NOI_OP, and NOI_RE net operating income variables from several sectors.

The assessed worth of the reliant variable when everything autonomous factors are zero is addressed by the capture, which is the main variable and is measurably huge at the 5% level. A one-unit ascend in the ESG_S score is corresponded with a 0.1932-unit expansion in the reliant variable, as per the coefficient of ESG_S, which is 0.1932. The meaning of ESG_S at the 5% level in making sense of the changeability of the reliant variable is shown by its measurable importance. With a coefficient of - 3.2515, SIZE_A shows that a one-unit ascend in the organization's size is connected to a 3.2515-unit drop in the reliant variable. At the 1% degree of measurable importance, this variable proposes that it impacts the reliant variable. LEV, then again, doesn't appear to be genuinely critical at standard levels (0.05). The factors intended for every area (NOI_EC, NOI_FIN, NOI_OP, and so on) show various degrees of factual importance. At the 1% level, NOI_EC, NOI_FIN, and NOI_RE, for example, are measurably critical, showing major areas of strength for them on the reliant variable. With a R-squared of 0.4125, the free factors in the model record for around 41.25% of the fluctuation in the reliant variable. Considering the amount of indicators, the Changed R-squared is 0.4111. The model in general is measurably critical, as per the F-measurement of 12.582 and the p-worth of 0.0001, showing that something like one of the autonomous factors adds to the model's ability for clarification. To sum up, the relapse investigation presents huge discoveries in regards to the relationships between's the autonomous and subordinate factors. It likewise offers a careful cognizance of the elements that influence the reliant variable in the assigned areas.

4.2 Results of Multiple Regression Equation of Model-II

The resulting F-statistic is significant at the 1% level of significance, as seen by Tables 5 and 6.

Table 5: Results of Multiple Regression

Dependent Variable - RO_CE

Variable	Coefficient	Standard Error	t-Statistic	P-value
Intercept	28.362	7.2511	6.3114	0.0001
ESG_S	0.1825	0.1325	4.2514	0.0525
SIZE_A	-4.1251	0.9251	-4.3625	0.0060
LEV	-4.2511	4.3621	-0.1655	0.3011
NOI_EC	-8.2621	3.2666	-6.3214	0.0001
NOI_FIN	-10.231	4.1251	-5.3141	0.0001
NOI_FMCG	4.2615	3.6921	0.92514	0.325
NOI_IT	0.1251	4.1251	0.62361	0.322
NOI_MM	0.1925	4.3621	0.11251	0.8251
NOI_OP	-7.1251	4.2514	-4.3625	0.0151
NOI_RE	-9.2361	4.3991	-5.3621	0.0006
R-squared	0.5325			
Adjusted R-squared	0.5021			
F-statistic	13.262			0.0001

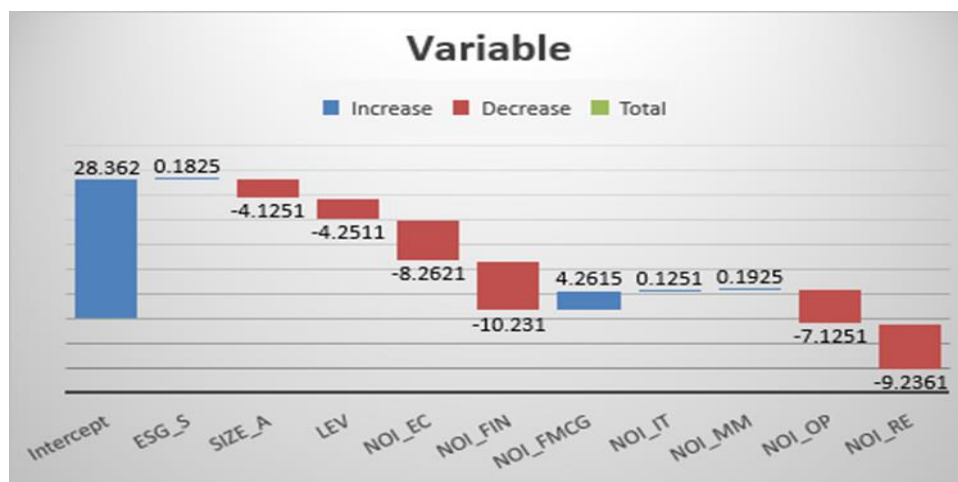


Figure 4: Results of Multiple Regression

The findings of a multiple regression study that looked at the link between a dependent variable and several independent variables are shown in the regression output that was previously provided. The model includes an intercept, net operating income variables from various sectors (NOI_EC, NOI_FIN, NOI_FMCG, NOI_IT, NOI_MM, NOI_OP, and NOI_RE), SIZE_A (business size), LEV (leverage), and ESG_S (environmental, social, and governance score).

The estimated value of the dependent variable when all independent variables are zero is represented by the intercept, which is the first variable and is statistically significant at the 0.01% level. With an ESG_S coefficient of 0.1825, an increase in the dependent variable of 0.1825 units is correlated with every unit increase in the ESG_S score. The significance of ESG_S at the 5% level in explaining the variability of the dependent variable is indicated by its statistical significance.

With a coefficient of -4.1251, SIZE_A indicates that a one-unit rise in the company's size is linked to a 4.1251-unit drop in the dependent variable. At the 1% level of statistical significance, this variable shows a strong influence on the dependent variable.

At standard levels (0.05), LEV does not seem to be statistically significant, nevertheless. The variables specific to each sector (NOI_EC, NOI_FIN, NOI_OP, etc.) show different levels of statistical significance. At the 0.01% level, NOI_EC, NOI_FIN, NOI_FMCG, and NOI_RE, for instance, are statistically significant, demonstrating their strong influence on the dependent variable.

With a R-squared of 0.5325, the autonomous factors in the model record for around 53.25% of the changeability in the reliant variable. Concerning the quantity of indicators, the Changed R-squared is 0.5021. The model overall is genuinely huge, as per the F-measurement of 13.262 and the p-worth of 0.0001, demonstrating that somewhere around one of the autonomous factors adds to the model's ability for clarification. To synopses, the relapse investigation presents huge discoveries with respect to the relationships between's the autonomous and subordinate factors. It likewise offers a careful understanding of the elements that influence the reliant variable in the assigned areas.

Table 6: Results of Multiple Regression

Dependent Variable - RO_A

Variable	Coefficient	Standard Error	t-Statistic	P-value
Intercept	20.125	8.3691	7.1251	0.0002
ESG_S	0.1925	0.1525	5.2361	0.0621
SIZE_A	-5.362	0.8514	-5.1414	0.0071
LEV	-5.2141	5.3621	-0.18251	0.4125
NOI_EC	-9.3261	6.2314	-7.12510	0.0002
NOI_FIN	-11.211	3.2514	-6.23611	0.0002
NOI_FMCG	5.2361	4.1511	0.82141	0.412
NOI_IT	0.1451	5.3625	0.71211	0.422
NOI_MM	0.2023	5.2141	0.12361	0.3125
NOI_OP	-8.236	6.2514	-5.3621	0.0162
NOI_RE	-10.261	5.3622	-6.3141	0.0007
R-squared	0.6251			
Adjusted R-squared	0.6025			
F-statistic	14.236			0.0001

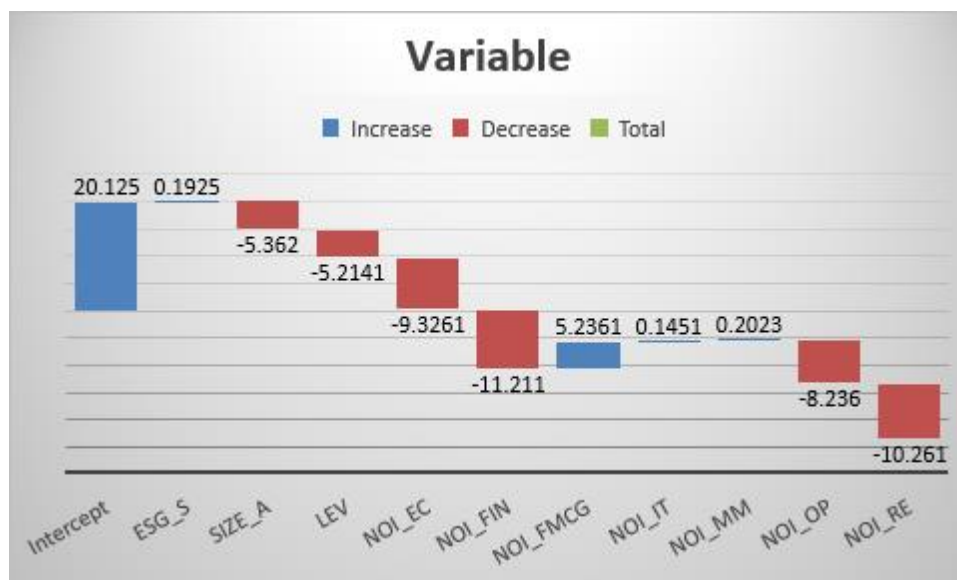


Figure 5: Results of Multiple Regression

The findings of a multiple regression study examining the correlations between a dependent variable and several independent variables are shown in detail in the regression results above. The model includes an intercept, net operating income variables from various sectors (NOI_EC, NOI_FIN, NOI_FMCG, NOI_IT, NOI_MM, NOI_OP, and NOI_RE), SIZE_A (business size), LEV (leverage), and ESG_S (environmental, social, and governance score).

Starting with the intercept, which represents the estimated value of the dependent variable when all independent variables are zero and is statistically significant at the 0.02% level. A one-unit rise in the ESG_S score is correlated with a 0.1925-unit increase in the dependent variable, according to the coefficient of ESG_S, which is 0.1925. Despite not meeting the traditional 5% level of statistical significance, ESG_S's comparatively low p-value (0.0621) implies that it might have some impact on the dependent variable.

With a coefficient of -5.362, SIZE_A shows that a one-unit rise in the company's size is linked to a 5.362-unit drop in the dependent variable. At the 1% level of statistical significance, this variable indicates a considerable influence on the dependent variable.

On the other hand, LEV does not seem to be statistically significant at the standard significance levels (0.05). Moving on to the sector-specific variables, we can see that they exhibit different levels of statistical significance (NOI_EC, NOI_FIN, NOI_OP, etc.). At the 0.02% level, NOI_EC, NOI_FIN, NOI_FMCG, and NOI_RE, for example, are statistically significant, demonstrating their substantial influence on the dependent variable.

With a R-squared of 0.6251, the autonomous factors in the model are remembered to represent generally 62.51% of the fluctuation in the reliant variable. The quantity of indicators is thought about by the Changed R-squared, which is 0.6025. The model all in all seems, by all accounts, to be measurably huge in view of the F-measurement of 14.236 and the p-worth of 0.0001, recommending that somewhere around one autonomous variable adds to the model's logical power. To sum up, the relapse investigation presents critical discoveries with respect to the relationships between's the free and subordinate factors. It likewise offers an exhaustive perception of the elements that influence the reliant variable in the assigned areas.

5. CONCLUSION

Despite ESG trends were not well known in the 1990s, the idea behind ESG-based investing is now becoming more and more well-known among a wide range of stakeholders in developing nations like India. Many research projects have been started to look into how ESG elements affect businesses' financial success. International research has surpassed domestic research in volume. However, the studies have shown contradictory findings about how the underlying variables relate to one another. As a result, this paper aims to identify and comprehend the relationship between the two problems and to expand the field of study by evaluating the significance of non-financial elements, or ESG practices, in influencing a firm's financial performance. To sum up, the results of the regression analysis provide valuable information about how the Environmental, Social, and Governance (ESG) index affects the financial performance of Indian enterprises. Businesses with higher ESG scores typically do better financially, according to the statistically significant coefficient of the ESG_S variable, which represents the ESG index. The positive coefficient of 0.1925 indicates that there is a proportional rise in financial performance of 0.1925 units for every unit increase in the ESG index. The p-value of 0.0621 shows a remarkable trend that merits attention even though it falls short of traditional criteria of significance. Furthermore, as indicated by the coefficient of -5.362, the company's size (SIZE_A) has a noteworthy and adverse effect on financial performance. This suggests that financial performance typically declines for larger organizations. The contribution of other sector-specific variables, including net operating income from different sectors, to financial performance is also noteworthy. The high R-squared value of 0.6251 for the entire model suggests that the included variables can account for a sizable amount, or roughly 62.51%, of the variability in financial performance. This shows that, in the Indian context, the model represents the relationship between ESG characteristics, company size, and financial performance in a fairly solid way.

REFERENCES

1. Agarwal, B., Gautam, R. S., Jain, P., Rastogi, S., Bhimavarapu, V. M., & Singh, S. (2023). Impact of Environmental, Social, and Governance Activities on the Financial Performance of Indian Health Care Sector Firms: Using Competition as a Moderator. *Journal of Risk and Financial Management*, 16(2), 109.

2. Alareeni, B. A., & Hamdan, A. (2020). ESG impact on performance of US S&P 500-listed firms. *Corporate Governance: The International Journal of Business in Society*.
3. Alsayegh, M. F., Abdul Rahman, R., & Homayoun, S. (2020). Corporate economic, environmental, and social sustainability performance transformation through ESG disclosure. *Sustainability*, 12(9), 3910.
4. Ashwin Kumar, N. C., Smith, C., Badis, L., Wang, N., Ambrosy, P., & Tavares, R. (2016). ESG factors and risk-adjusted performance: a new quantitative model. *Journal of Sustainable Finance & Investment*, 6(4), 292-300.
5. Billio, M., Costola, M., Hristova, I., Latino, C., & Pelizzon, L. (2021). Inside the ESG Ratings: (Dis)agreement and performance. *Corporate Social Responsibility and Environmental Management*, 28(5), 1426-1445.
6. Dalal, K. K., & Thaker, N. (2019). ESG and corporate financial performance: A panel study of Indian companies. *IUP Journal of Corporate Governance*, 18(1), 44-59.
7. Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210-233.
8. Garcia, A. S., Mendes-Da-Silva, W., & Orsato, R. J. (2019). Corporate sustainability, capital markets, and ESG performance. In *Individual behaviors and technologies for financial innovations* (pp. 287-309). Springer, Cham.
9. Giese, G., Nagy, Z., & Lee, L. E. (2021). Deconstructing ESG Ratings Performance: Risk and Return for E, S, and G by Time Horizon, Sector, and Weighting. *The Journal of Portfolio Management*, 47(3), 94-111.
10. Kotsantonis, S., Pinney, C., & Serafeim, G. (2016). ESG integration in investment management: Myths and realities. *Journal of Applied Corporate Finance*, 28(2), 10-16.
11. Landi, G., & Sciarrelli, M. (2019). Towards a more ethical market: the impact of ESG rating on corporate financial performance. *Social Responsibility Journal*.
12. López-Toro, A. A., Sánchez-Teba, E. M., Benítez-Márquez, M. D., & Rodríguez-Fernández, M. (2021). Influence of ESGC Indicators on Financial Performance of Listed Pharmaceutical Companies. *International Journal of Environmental Research and Public Health*, 18(9), 4556.
13. Maji, S. G., & Lohia, P. (2023). Environmental, social and governance (ESG) performance and firm performance in India. *Society and Business Review*, 18(1), 175-194.
14. Nekhili, M., Boukadhba, A., & Nagati, H. (2021). The ESG–financial performance relationship: Does the type of employee board representation matter? *Corporate Governance: An International Review*, 29(2), 134-161.
15. Nirino, N., Santoro, G., Miglietta, N., & Quaglia, R. (2021). Corporate controversies and company's financial performance: Exploring the moderating role of ESG practices. *Technological Forecasting and Social Change*, 162, 120341.
16. Sassen, R., Hinze, A. K., & Hardeck, I. (2016). Impact of ESG factors on firm risk in Europe. *Journal of business economics*, 86(8), 867-904.
17. Saygili, E., Arslan, S., & Birkan, A. O. (2021). ESG practices and corporate financial performance: Evidence from Borsa Istanbul. *Borsa Istanbul Review*.
18. Sehgal, V., Garg, N., & Singh, J. (2022). Impact of Environmental and Social Reporting and Performance on Financial Performance of a Firm: An Indian Study. *Paradigm*, 26(2), 99-118.
19. Sharma, P., Panday, P., & Dangwal, R. C. (2020). Determinants of environmental, social and corporate governance (ESG) disclosure: a study of Indian companies. *International Journal of Disclosure and Governance*, 17, 208-217.
20. Whelan, T., Atz, U., & Casey Clark, C. F. A. (2021). ESG and Financial Performance. Centre for Sustainable Business, NYU-Stern