

ESG Screening in Investment Decision: An Analysis of the Indian Capital Market

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ABSTRACT

The rise of environmental, social and governance (ESG) investing has gained significant traction in recent years, with investors increasingly seeking to align their investments with their values. Along with the increasing popularity, research in the field of ESG investment has also increased. Studies evaluating the relationship between ESG performance and companies' financial performance have come to three different conclusions. A part of the literature says that high ESG-performing companies have strong business fundamentals; they are less volatile and perform well financially. At the same time, some studies couldn't find any relation between ESG and financial performance. Studies also state that including an ESG screening in the investment decision will reduce the chance for diversification and thereby increase the risk of investors. So they concluded that there is a negative relationship between ESG and financial performance. This article examines the financial performance of top 20 ESG-ranked listed companies in the Indian stock market and their market performance. In this paper, we consider beta variation as the systematic risk of individual stocks and Jensen's alpha value is regarded as the return measurement parameter. The study concludes that incorporating ESG screening in investment decisions does not lead to a deterioration in financial performance.

Keywords: ESG, Sustainable Investment, Socially Responsible Investment, Stock Market Performance

I. INTRODUCTION

ESG is a set of criteria for evaluating companies based on Environmental, Social and Governance factors. Policymakers and investors are now attracted to sustainable investment. In India, policymakers have taken actions to ensure the implementation of sustainable measures. In 2018, the Securities and Exchange Board of India (SEBI) introduced new regulations that required the top 500 listed companies in India to disclose their ESG performance in their annual reports. The guidelines also need companies to appoint a dedicated ESG committee and develop an ESG policy. The Reserve Bank of India (RBI) has taken steps to promote sustainable finance in the country. In 2015, the RBI established a Sustainable Banking Network (SBN) to encourage banks to adopt sustainable business practices.

ESG investing is a rapidly growing field within the financial industry that considers environmental, social and governance factors when making investment decisions. This approach goes beyond the traditional financial metrics and considers companies' impact on society and the planet. There were conventional myth conceptions

such as incorporating sustainability in financial decision-making would reduce profitability, negatively impact the shareholders' return and Investing in ESG-incorporated companies would increase the risk to shareholders. Recent studies show a reverse effect. (Dumitrescu et al., 2023) Studied 121 Socially Responsible Investing (SRI) equity exchange-traded funds and concluded that an environmental inclusion screen provides significantly higher abnormal returns.(Barko et al., 2022) observed firms with poor ex-ante ESG rating experiences have improved their financial performance after incorporating a sustainability approach in their business operations. However, some studies show a negative relationship between ESG and financial performance (Luo & Balvers 2017).

There has been a significant shift towards ESG investing in recent years as investors increasingly recognise the importance of sustainability and corporate responsibility. This shift has led to the development of a range of ESG investment strategies and financial products that aim to deliver both monetary returns and positive societal impact. Most studies found that incorporating an ESG screening in investment decisions does not damage the fund performance but reduces the fund risk (Ghoul & Karoui, 2022). Behavioural studies concerning individual investors' preferences towards SRI investments conclude that risk-averse and risk-seeking investors lean towards ESG investment (Aslan & Posch, 2022; Hornuf et al., 2022; Steblianskaia et al., 2023). Even though there are works of literature that state improved ESG performance leads to better financial performance(Bruna et al., 2022; Kalia & Aggarwal, 2023; Zhou et al., 2022), there are studies which show the negative relationship between ESG performance and financial performance (Eccles et al., 2014; Friede et al., 2015). So, uncertainty remains regarding the relationship between ESG performance and the company's market value.

In this paper, we aim to contribute towards mitigating this uncertainty by analysing the top 20 ESG-ranked listed companies using their past market performance data. The companies will be analysed by their systematic risk, annual return and ability to provide returns higher than the risk-adjusted expected return. The companies' performance is compared with the NIFTY50 benchmark index to find out the underperformance and overperformance of companies. Companies are compared with ESG ranking and annual returns to check if there exists any relation between ESG performance and monetary returns.

II. REVIEW OF LITERATURE

Socially Responsible Investing (SRI), also known as sustainable investing, is an investment strategy that aims to generate financial returns while also considering the social and environmental impact of the companies in which investments are made. SRI uses various criteria to select investments, including environmental, social and governance (ESG) factors. Environmental factors include a company's carbon footprint, use of renewable energy, and waste management practices; social factors consider a company's labour standards, human rights record, and impact on local communities; and Governance factors include the composition and effectiveness of a company's board of directors, executive compensation practices and transparency in financial reporting.

(Orlitzky et al., 2003) Conducted a meta-analysis of 52 studies and concluded that Corporate Social Performance (CSP) positively correlates with Corporate Financial Performance. They deduced that corporate reputation is the mediator of the relationship. The study showed that the social and environmental factors are more rewarding.

(Tripathi & Kaur, 2022) Studied the viability of responsible investment across major developing and developed countries in the world. They evaluated and compared the performance of socially responsible indices against their conventional counterparts. Their study reveals premium rewards earned by SRI help the responsibility

indices in emerging countries secure top ranks. The SRI can provide diversification benefits to the international investor seeking country effect, social impact, and financial reward through responsible investing.

(Kuzmina et al., 2023) Has done a statistical analysis to determine the differences in the performance of the ESG and conventional funds in Europe and used a text analysis to examine the relevance of the topic of ESG to attract client interest. Their study shows that European ESG equity funds' performance does not significantly differ from the non-ESG equity funds in most periods examined.

(Jain et al., 2019) studied whether sustainable investment alternatives offer better financial returns than conventional indices from developed and emerging markets. Their study found that the sustainable and conventional indices are integrated, and information flows between the two investment avenues. They concluded no significant difference in performance between sustainable and conventional indices.

(Wang et al., 2022) investigated the impact of ESG screening on the portfolio value of four risk-weighting models such as equal-weighted (EW), value-weighted (VW), minimum variance (MVP) and reward-to-return (RRT). They concluded that ESG screening undermines the portfolio value in the four models. After adjusting for asset pricing models, portfolio models in the high ESG group generally produce the lowest out-of-sample risk-adjusted return per IVOL. They also explain that ESG screening harms portfolio value by excluding stocks with favourable risk-return characteristics, leading to a conservative investment style.

When summarising the works of literature related to the field, it is clear that the relationship between ESG and financial performance is not well-defined, as diverse opinions exist about the same. So further studies are required to establish a connection between ESG and financial performance. This paper evaluates the ESG and financial performance of the top 20 ESG-ranked Indian companies. The objective of the study is

- To find out if there exists any relationship between ESG performance and the financial performance of companies listed in NSE.
- To check whether ESG screening reduces the chance for diversification.
- To evaluate the performance of Top ESG ranked companies compared to market index performance.

III. METHODOLOGY

Companies are selected based on the ESG scores published by Stakeholders Empowerment Services (SES), and companies in the top 20 ranks chose for the study. The systematic risk of companies is calculated using the beta value in the capital asset pricing model (CAPM). Beta value explains the variance in the company's stock movement caused by the market movement. Jensen's Alpha model calculates the excess return a company earns other than the risk-adjusted return. To assess if the ESG-ranked companies can overperform the market, company earnings are compared with the NIFTY 50 index. Correlation is used to determine the relationship between ESG and financial performance. The study addresses the performance of companies from 01-03-2018 to 28-02-2023. Statistical calculations are done using Microsoft excel.

IV. DATA ANALYSIS

The Capital Asset Pricing Model (CAPM) and Jensen's Alpha are the tools used for data analysis. 5 year weekly historical data of the top 20 ESG-ranked companies and the NIFTY 50 index are collected for data analysis. Weekly returns are calculated for five years, and the average weekly return is calculated. The average weekly return is annualised to calculate the annual return of individual companies and the market index.

Weekly returns are calculated using the following formula.

$$R_w = \frac{P_{w,i} - P_{w,i-1}}{P_{w,i-1}} \text{ where,}$$

R_w = Weekly Return

$P_{w,i}$ = Current week price

$P_{w,i-1}$ = Previous week's price

Annual returns are calculated by

$$R = \frac{\sum_{i=1}^n R_w}{n} \times 52$$

the beta value from the CAP model has been taken as the systematic risk. Beta value explains how the market causes volatility in individual stock returns. The beta has been calculated using the following equation.

$$\beta_i = \frac{cov(R_i, R_m)}{var(R_m)}, \text{ where}$$

R_i = Returns of individual stocks

R_m = Market Return

The CAP method calculates the expected rate of return from each stock using the following formula. 364 days treasury bill rate is considered the risk-free rate in the model.

$$E(R_i) = R_f + \beta_i(R_m - R_f), \text{ where}$$

$E(R_i)$ = Expected rate of return

R_f = Risk-Free Rate

β_i = beta value of the individual stock

R_m = Market return

Jensen's alpha is a financial performance measure used to evaluate the excess return of an investment compared to its risk-adjusted expected return. This model has been used to measure the performance of individual stocks.

$$\alpha = R_i - [R_f + \beta_i(R_m - R_f)], \text{ where}$$

R_i = Actual return on investment

The values calculated using the above formulas are in the following table.

Table 1. Five-year Financial performance of top 20 ESG-ranked companies

COMPANY NAME	BETA	YEARLY RETURN	NIFTY 50 RETURN	T.BILL RATE	JENSEN'S ALPHA
INFOSYS LTD.	0.76925 1436	25.28%	11.82%	5.70%	14.87%
MAHINDRA & MAHINDRA LTD.	1.31897 56	18.45%	11.82%	5.70%	4.68%
TECH MAHINDRA LTD.	0.76323 4684	19.45%	11.82%	5.70%	9.08%
HDFC LTD.	1.27039 8586	13.05%	11.82%	5.70%	-0.42%
MARICO LTD.	0.43698 9745	13.44%	11.82%	5.70%	5.07%
TATA CONSUMER PRODUCTS LTD.	0.88737 3698	24.90%	11.82%	5.70%	13.77%

TATA CONSULTANCY SERVICES	0.67143 2094	21.41%	11.82%	5.70%	11.60%
LARSEN & TOUBRO INFOTECH LTD	0.99539 9502	27.29%	11.82%	5.70%	15.50%
DR. REDDY'S LABORATORIES LTD.	0.46728 9235	18.26%	11.82%	5.70%	9.70%
KANSAI NEROLAC PAINTS LTD	0.88061 8483	2.72%	11.82%	5.70%	-8.37%
ULTRATECH CEMENT LTD.	1.00051 383	15.72%	11.82%	5.70%	3.91%
LARSEN & TOUBRO LTD.	1.10276 5092	15.36%	11.82%	5.70%	2.92%
AMBUJA CEMENTS LTD.	0.88093 7873	15.32%	11.82%	5.70%	4.23%
ITC LTD.	0.57464 7494	15.00%	11.82%	5.70%	5.78%
HINDUSTAN ZINC LTD.	0.73440 3161	18.27%	11.82%	5.70%	8.08%
ASIAN PAINTS LTD.	0.65609 5185	22.82%	11.82%	5.70%	13.11%
WIPRO LTD.	0.81371 4931	16.09%	11.82%	5.70%	5.42%
ICICI LOMBARD GENERAL INSURANCE COMPANY LTD.	0.72402 9576	10.69%	11.82%	5.70%	0.56%
HAVELLS INDIA LTD.	1.07887 8069	23.00%	11.82%	5.70%	10.71%
INFO EDGE (INDIA) LTD.	1.04703 1889	28.02%	11.82%	5.70%	15.91%

Table 1 shows that none of the top 20 ESG-ranked companies has considerable volatility compared to the market. When evaluating based on systematic risk, it can be seen that Marico Ltd. Has less volatility, and the company gives an annual return of 13.44%. Hence, the company provide an excess return of 5.07%—followed by Dr Reddy's Laboratories, which has a volatility of .47 and offers an annual return of 18.26% and an alpha value of 9.70%. Only two of these 20 companies provide an annual return lower than the market when the annual return is considered. Kansai Nerolac Ltd. has an annual return of 2.72%, with a systematic risk level of .9, closer to the market risk. So the company has a negative alpha value of -8.37% meaning that the company was not able to provide a return which covers the risk-adjusted expected return. The second company that provides an annual return lower than the market return is ICICI Lombard Ltd., which has an annual return of 10.69%. But the systematic risk level is .72, lower than the market volatility. So when considering the alpha value, the company has a positive alpha value of 0.56%, meaning the company was able to provide a return higher than the risk-adjusted expected return. When comparing the risk-adjusted excess return, it can be observed that Info Edge Ltd.

has the highest risk-adjusted excess return. Its beta value is almost one, meaning the company and market are equally volatile. Still, the company provided an annual return of 28.02% when the annual index return was 11.82%. Two out of twenty companies have a negative alpha value. Kansai Nerolac Ltd. has an alpha value of -8.37% and an annual return of only 2.72%, even though the company has HDFC Ltd. is the next company which has a negative alpha value of -.42%. Even if the company has an annual return higher than the market return, when considering the systematic risk, the company gives a return slightly lower than the risk-adjusted expected return.

Spearman's rank correlation is used to check if there exists any relationship between the ESG ranking and the company's financial performance.

Table 2. Ranking of companies based on ESG Score and alpha value

COMPANY NAME	ESG RANK	ALPHA RANK
INFOSYS LTD.	1	3
MAHINDRA & MAHINDRA LTD.	2	14
TECH MAHINDRA LTD.	3	9
HDFC LTD.	4	19
MARICO LTD.	5	13
TATA CONSUMER PRODUCTS LTD.	6	4
TATA CONSULTANCY SERVICES	7	6
LARSEN & TOUBRO INFOTECH LTD	8	2
DR. REDDY'S LABORATORIES LTD.	9	8
KANSAI NEROLAC PAINTS LTD	10	20
ULTRATECH CEMENT LTD.	11	16
LARSEN & TOUBRO LTD.	12	17
AMBUJA CEMENTS LTD.	13	15
ITC LTD.	14	11
HINDUSTAN ZINC LTD.	15	10
ASIAN PAINTS LTD.	16	5
WIPRO LTD.	17	12
ICICI LOMBARD GENERAL INSURANCE COMPANY LTD.	18	18
HAVELLS INDIA LTD.	19	7
INFO EDGE (INDIA) LTD.	20	1

The comparison between ESG-rank and Alpha-rank has a correlation coefficient of -0.01805, which states no significant relationship exists between ESG and financial performance. From the results, it can be analysed that choosing an ESG-ranked company for investment will not possibly compromise the financial return. So, a socially responsible investor can decide to invest in high ESG-ranked companies without compromising the potential return from investment.

Following is the classification of companies on the industry basis

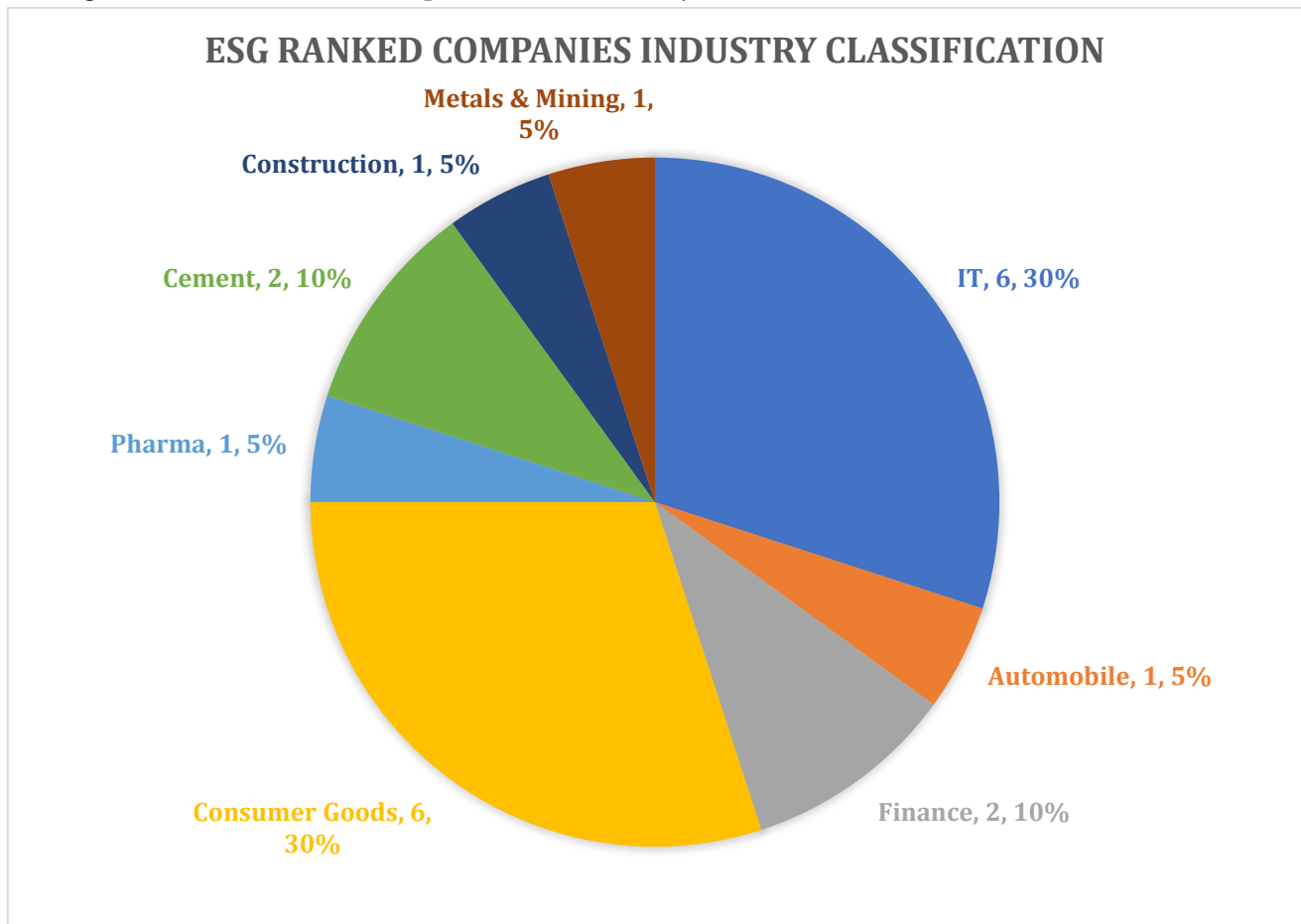


Figure 1: classification of companies on the industry basis

30% of the top 20 companies are in the IT industry, and another 30% are in the consumer goods industry. Only the remaining 40% constitutes companies from 6 other sectors. From the figure, it can be interpreted that it is not advisable to constitute a portfolio containing only top ESG-ranked companies when it comes to diversification. Because proper hedging may not be possible using only top ESG-rated stocks.

V. FINDINGS

- The study couldn't find any positive or negative relation between ESG and the financial performance of Indian companies. So investing in individual stocks of companies with high ESG rankings will not affect the potential return from the investment.
- The study observed that among the top 20 ESG-ranked companies, 60% of companies are from the IT or consumer goods industry. So considering only top ESG-ranked companies in a portfolio may increase the risk due to a lack of diversification.
- Compared to market performance, 90% of the ESG-ranked companies are providing a return higher than the market return, and 90% of the companies can provide a return higher than the risk-adjusted expected return. So it was found that 90% of the top 20 ESG-ranked companies could outperform the market in the last five years.

VI. CONCLUSION

The study was conducted to know the impact of ESG screening on stock market investing and the performance of top ESG-ranked companies. ESG ranking published by Stakeholders Empowerment Services (SES) is used as the criteria for selecting the companies. Five-year weekly historical data is analysed using the Capital Asset Pricing Model (CAPM) and Jensen's Alpha model. The result found that the individual performance of the companies is good compared to the market index and risk-adjusted expected return. But creating a portfolio using only ESG-ranked stocks may cause diversity issues, as 60% of the top companies are from IT or the consumer goods industry. So when a socially responsible investor creates a portfolio using only ESG-ranked stocks, the investor may have to take on additional risk as he is limiting the possibility for diversification. As environmental concerns and sustainability actions are getting more attention than before, companies are forced to implement an ESG-oriented business process. So a socially responsible investor may be able to diversify his portfolio well in the future.

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