How Does ESG Reporting Impact Indian Firms?

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ARTICLE DETAILS	ABSTRACT
Research Paper **Keywords:** *ESG, Business responsibility report, Sustainability report, equity return*	Financial scandals like Satyam and Enron have led to new regulations requiring companies to disclose their non-financial activities, helping stakeholders understand their environmental, social, and governance (ESG) practices. In 2015, the Securities and Exchange Board of India (SEBI) mandated the top 500 companies by market capitalization to publish annual Business Responsibility Reports. This study examines investors' views by comparing the financial performance of these companies before and after these regulations. It found that more stocks showed negative returns after the introduction of non-financial disclosures than positive ones. Further analysis of 50 top companies, rated by Standard & Poor's on ESG performance, revealed that those with high ESG scores saw a significant decline in financial returns post-2015.

1. Introduction

Environmental, social, and governance (ESG) factors are crucial for ensuring the long-term sustainability of businesses (Atan et al., 2018). These factors are utilized to assess a company's ability to thrive over time (Huang & Watson, 2015; Sharma et al., 2020; Tripathi & Bhandari, 2014). The concept of "environmental, social, and governance" (ESG) was introduced in the UN Global Compact's study "Who Cares Wins: Connecting Financial Markets to a Changing World," published in 2004. In this study, the UN urged financial institutions to develop standards and guidelines for effectively integrating

environmental, social, and corporate governance issues into corporate finance and financial products (Eccles et al., 2020; Lokuwaduge & Heenetigala, 2016; Lydenberg, 2014). The increasing concerns about global warming, social inequality, and corporate malpractices have highlighted the need for the corporate sector to contribute significantly to the United Nations' sustainable goals. Interestingly, since the early 1960s, investors have been incorporating their personal values into their investment decisions (Camilleri, 2020). The motivation behind investing in sustainable companies can stem from both financial and non-financial objectives. Financial objectives are directly linked to the financial returns generated by these companies, while non-financial objectives encompass values such as peace, environmental conservation, or animal rights (Starks, 2021). Researchers, including Alareeni & Hamdan (2020), Bodhanwala & Bodhanwala (2018), and Buallay (2019), have explored whether socially responsible companies outperform their counterparts, but the results remain inconclusive. This study focuses on analyzing the stock returns of sustainable firms, assuming financial gains as the primary motivation. Studies by Behl et al. (2021), Bodhanwala & Bodhanwala (2018), and Sachin & Rajesh (2021) suggest that socially responsible companies may not show immediate returns; instead, investors might need to wait for the long term to see abnormal returns. Moreover, the debate on whether social stocks outperform conventional stocks remains unresolved, with social stock returns remaining uncertain.

Given these ambiguities, this study undertakes a comparative analysis to assess whether stocks perform better after being labeled as "socially responsible stocks." The remainder of this paper is structured as follows: Section 2 presents a literature review, Section 3 outlines the research methodology, Section 4 discusses the results and findings, and Section 5 concludes the study.

2. Literature review

The origins of ESG can be traced back to socially responsible investment (SRI) practices, as noted by Gao et al. (2021). The concept of investing in socially responsible companies emerged during the geopolitical climate of the 1960s (Schueth, 2003), characterized by increasing concerns among socially conscious investors regarding issues impacting women and minorities. The 1970s saw significant social movements in the US, such as the anti-Vietnam War movement, civil rights movements, and women's rights movements, which heightened public awareness of social justice issues. These movements laid the groundwork for integrating social responsibility and business accountability into both financial and non-financial considerations (Camilleri, 2020).

Responsible investors typically choose ESG stocks using either positive screening or negative screening criteria. These screening methods can be driven by financial factors or non-financial factors (Starks, 2021). Tripathi & Bhandari (2015) categorized investor motivations into four main categories: ethical concerns, return expectations, compliance with regulations, and enhancing public image through environmental stewardship. The key distinction between SRI and ESG investing lies in the underlying motivation—SRI is primarily driven by non-financial motives, while ESG investing can be motivated by both financial and non-financial factors (Starks, 2021).

Studies by Hamilton et al. (1993) and Young & Proffitt (2003) have found that socially responsible mutual funds do not significantly outperform conventional funds, suggesting that investors may not lose anything by investing in SRI funds. However, Statman & Glushkov (2009) argued that comparing mutual fund returns alone may not accurately gauge the effectiveness of SRI, as fund performance is influenced by fund manager efficiency. They found that stocks with high ESG scores tend to outperform those with low ESG scores. Derwall et al. (2005) also supported this notion, indicating that environmentally friendly companies can generate superior risk-adjusted returns.

Regulatory bodies worldwide are now mandating firms to embrace social responsibility. In India, the Securities and Exchange Board of India (SEBI) mandated the top 500 companies in 2015 to disclose their non-financial activities deemed important to society through Business Responsibility Reports (Singh Randhawa, 2017). Despite extensive research, the impact of a socially responsible tag on stock performance remains a topic of intense debate (Starks, 2021). Thus, this study aims to investigate whether stock returns improve after companies adopt socially responsible practices.

To address this research gap, the study focuses on the following objectives:

1. To assess whether stock returns improve after the adoption of socially responsible reporting.
2. To evaluate whether stock returns improve after receiving an ESG score.

3. Materials and Methods

This study focuses on socially responsible stocks, specifically drawing its population from the sample of the top 500 stocks listed in the S&P BSE 500 index. The data regarding the closing prices of these stocks was collected from the Prowess IQ database, managed by the Centre for Monitoring Indian Economy. Percentage returns were then calculated using the formula $(P_t - P_{t-1})/P_{t-1}$, a method aligned with the approach of Tripathi & Bhandari (2015b).

Given the consensus in the literature that sustainable stocks tend to perform better over the long term rather than the short term, data was collected for the period spanning from 2011 to 2019. This timeframe was chosen deliberately to mitigate the impact of the 2008 financial crisis on the data and also because, post-2015, the availability of annual returns was limited up to 2019 (excluding the COVID period). Therefore, analyzing pairs of four-year returns was deemed the most appropriate approach.

Out of the total 500 stocks initially considered, 368 stocks were included in the analysis, while the remaining stocks were excluded due to either missing data or being identified as extreme outliers.

The study employed both parametric and non-parametric tests to validate its findings. Specifically, the Wilcoxon signed-rank test was utilized for the non-parametric analysis, while the t-test was employed for the parametric examination.

The timeframe from 2011 to 2019 was divided into two equal parts: 2011 to 2015 and 2015 to 2019. This division was significant as it marked the implementation of the SEBI circular in 2015, mandating the top 500 companies to disclose their business responsibility reports. Cross-sectional data was then generated by computing four-year returns for each of these periods. The research objectives were tested using the following hypotheses:

H0: There is no significant difference in four-year returns before and after 2015.

H1: There is a significant difference in four-year returns before and after 2015.

It's important to note that all companies included in the testing of the first hypothesis were required to publish their sustainability reports due to SEBI regulations. However, publishing such reports doesn't guarantee active engagement in sustainable practices within business operations. Therefore, the results from the first hypothesis may present an incomplete picture. To delve deeper, a subset of the 368 stocks was selected based on their ESG scores from S&P Global. Companies with ESG scores from renowned international organizations are deemed to be actively involved in sustainable activities. Fifty such stocks were chosen for testing the second hypothesis. Additionally, these scores have been consistently assigned since 2016, avoiding any dilution of the study's periods. The second hypothesis was formulated to further validate the results:

H0: There is no significant difference in four-year returns of ESG stocks before and after 2015.

H2: There is a significant difference in four-year returns of ESG stocks before and after 2015.

4. Results

Before proceeding with the analysis of cross-sectional data, it was crucial to assess the normality of the data. This was achieved through the Kolmogorov-Smirnov and Shapiro-Wilk tests, which revealed that the returns data for both periods did not follow a normal distribution. To address this, measures were taken to enhance normality, including the removal of outliers. Options such as taking the logarithm or square root were not viable due to the presence of negative return values in the dataset.

Given the non-normal distribution of the data, the application of parametric tests was not feasible, as these tests assume normality as a fundamental prerequisite. Non-parametric tests, while less robust, were deemed suitable for analyzing the non-normal data. To ensure the reliability of the results, a large sample size was utilized.

The Wilcoxon signed-rank test was chosen as the non-parametric counterpart to the paired t-test. This test was employed to compare the four-year returns of the S&P BSE 500 index. The results of the Wilcoxon signed-rank test are presented in Table 1.

Insert Table 1

Table 1. Ranks

		N	Mean Rank	Sum of Ranks
R2-R1	Negative Ranks	223[a]	190.12	42621.00
	Positive Ranks	145[b]	173.29	25273.00
	Ties	0[c]		
	Total	368		

a. R2<R1
b. R2>R1
c. R2=R1

Wilcoxon signed-rank test involves assigning ranks to a dataset and then calculating the difference in ranks between paired variables (Rosner et al., 2006). Table 1 displays the results of this process, showing that out of the total returns, 223 had negative ranks (R2 - R1), indicating a decrease in rank

from the second pair to the first pair. On the other hand, 145 returns had positive ranks, signifying an increase in rank. Importantly, no returns shared the same rank.

This distribution of ranks suggests a trend where returns have not been favorable after the implementation of sustainability reporting. To assess the significance of this trend, the test statistic was computed and is presented in Table 2.

Insert Table 2

Table 2. Test statistic

	R2-R1
Z	-4.247^b
Asymp. Sig. (2 Tailed)	.000

a. Wilcoxon Signed Rank Test
b. Based on Positive Ranks

The test statistics presented in Table 2 indicate that the sum of negative ranks is indeed greater than the sum of positive ranks, as evidenced by the p-value being less than 0.05. Consequently, the null hypothesis is rejected, supporting the conclusion that there is a significant difference between returns before and after 2015.

To further investigate, a subset of stocks was extracted, focusing on those that were assigned ESG scores by S&P Global. A total of 50 stocks were retrieved for this analysis. A normality test was conducted on the returns data for both pairs, as shown in Table 3. The p-values for both pairs of returns were greater than 0.05, indicating that the normality assumption was met.

Insert Table 3

Table 3. Test of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
R1	.081	50	.199*	.965	50	.156
R2	.095	50	.199*	.959	50	.087

It's great that the data passed the normality test, allowing us to proceed with a parametric test. In this case, the Student Paired t-test was applied to determine if there is a significant difference in returns. Table 4 displays the results of the paired t-test. With a confidence interval of 95%, the "t" statistic is positive, indicating that the difference in returns between the second period and the first period is indeed positive.

Table 4. Paired Sample Test

		Mean	Std. Deviation	Std. error mean	Lower	Upper	T	Df	Sig. (2 tailed)
					Paired Differences				
					95% confidence interval of the difference				
Pair 1	R1-R2	46.17	99.46	13.90	16.19	76.1	3.15	49	.002

In Table 4, the p-value of 0.002 is less than the significance level of 0.05, indicating a significant difference in returns after 2015. Additionally, the t statistic measure suggests that returns are declining. The results of the t-test lead to rejecting the null hypothesis in favor of the alternative hypothesis, which asserts a notable difference in returns after receiving ESG scores.

5. Conclusion

The increasing global focus on environmental protection has led to calls from various stakeholders, including the media, government, and businesses, to integrate environmental responsibility into investment decision-making processes (Tripathi & Bhandari, 2015b). This has prompted organizations worldwide to enhance their reporting of non-financial activities. Standards such as the Sustainability Reporting Standards (GRI), UN Global Compact guidelines, Sustainable Development Goals (SDGs), UN Principles for Responsible Investment (UNPRI), International Integrated Reporting Council (IIRC)

framework, Task Force on Climate-Related Financial Disclosures (TCFD), and SDGs reflect the growing importance of ESG reporting globally (Inamdar, 2019; Wagemans et al., 2013).

In India, this trend is evident as the top 500 companies (based on market capitalization) have been mandated to publish business responsibility reports since 2015. This study was inspired by this mandate to investigate whether stock returns for these companies improved following compliance with sustainability reporting.

The results of the study, as discussed in the previous sections, lead to several conclusions. Firstly, it was found that obtaining a "social stock" tag did not lead to immediate returns. There was no evidence supporting the idea that four-year returns increased after companies complied with sustainable reporting. To further verify these findings, a second hypothesis was formulated, stating that there would be no difference between pre- and post-2015 returns of ESG stocks. This analysis focused solely on stocks scored on ESG parameters by S&P Global. Once again, the results indicated that returns did not improve after receiving the ESG stock tag. In fact, the study suggests that being labeled as a social stock may even reduce returns, aligning with the arguments presented by Hamilton et al. (1993), who posited that investor demand for socially responsible stocks could inflate firm prices while reducing expected stock returns.

The study implies that investors should not expect immediate returns from socially responsible stocks, as these stocks may follow similar market conditions in the short run. It also suggests that social responsibility features may not be fully priced into the market and may have limited impact on stock returns, echoing the findings of Hamilton et al. (1993). However, like any study, this research has its limitations. The comparison was based solely on returns, leaving out the risk factor. Additionally, many stocks from the top 500 companies were excluded due to missing data in the Prowess IQ database. Future research could address these limitations by gathering data directly from companies' websites or annual reports and including a larger sample size. Moreover, this study focused on comparing four-year returns, but future research could extend this analysis to include longer-term returns, such as ten or fifteen years. Additionally, the study relied on ESG scores from S&P Global, and future studies could explore biases in scoring methods by collecting ESG scores from multiple sources like Bloomberg or Thomson Reuters and conducting a comparative analysis.

References

Alareeni, B. A., & Hamdan, A. (2020). ESG impact on performance of US S&P 500-listed firms. *Corporate Governance (Bingley)*, *20*(7), 1409–1428. https://doi.org/10.1108/CG-06-2020-0258

Atan, R., Alam, M. M., Said, J., & Zamri, M. (2018). The impacts of environmental, social, and governance factors on firm performance: Panel study of Malaysian companies. *Management of Environmental Quality: An International Journal*, *29*(2), 182–194. https://doi.org/10.1108/MEQ-03-2017-0033

Behl, A., Kumari, P. S. R., Makhija, H., & Sharma, D. (2021). Exploring the relationship of ESG score and firm value using cross-lagged panel analyses: case of the Indian energy sector. *Annals of Operations Research*, *0123456789*. https://doi.org/10.1007/s10479-021-04189-8

Bodhanwala, S., & Bodhanwala, R. (2018). Does corporate sustainability impact firm profitability? Evidence from India. *Management Decision*, *56*(8), 1734–1747. https://doi.org/10.1108/MD-04-2017-0381

Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality: An International Journal*, *30*(1), 98–115. https://doi.org/10.1108/MEQ-12-2017-0149

Camilleri, M. A. (2020). The market for socially responsible investing: a review of the developments. *Social Responsibility Journal*, *17*(3), 412–428. https://doi.org/10.1108/SRJ-06-2019-0194

Derwall, J., Guenster, N., Bauer, R., Koedijk, K., Financial, S., Journal, A., Apr, N. M., Derwall, J., Guenster, N., Bauer, R., & Koedijk, K. (2005). *The Eco-Efficiency Premium Puzzle The Eco-Efficiency Premium Puzzle*. *61*(2), 51–63.

Eccles, R. G., Lee, L. E., & Stroehle, J. C. (2020). The Social Origins of ESG: An Analysis of Innovest and KLD. *Organization and Environment*, *33*(4), 575–596. https://doi.org/10.1177/1086026619888994

Gao, S., Meng, F., Gu, Z., Liu, Z., & Farrukh, M. (2021). Mapping and clustering analysis on environmental, social and governance field a bibliometric analysis using scopus. *Sustainability*

(Switzerland), *13*(13). https://doi.org/10.3390/su13137304

Hamilton, S., Jo, H., & Statman, M. (1993). Doing Well While Doing Good? The Investment
Performance of Socially Responsible Mutual Funds. *Financial Analysts Journal*, *49*(6), 62–66.
https://doi.org/10.2469/faj.v49.n6.62

Huang;, X. '''Beryl,''' & Watson, L. (2015). Corporate social responsibility research in accounting.
Journal of Accounting Literature, *34*, 1–16.
https://doi.org/https://doi.org/10.1016/j.acclit.2015.03.001

Inamdar, M. M. (2019). *Business Responsible Reporting and Environmental Social and Governance*
Disclosures: Current status & Challenges in India. *December 2019*.
https://pdfs.semanticscholar.org/d6f4/6a5ab061c03e9d33fe1cff1081aecc9ca317.pdf

Lokuwaduge, C. S. D. S., & Heenetigala, K. (2016). Integrating environmental, social and governance
(ESG) disclosure for a sustainable development: An Australian study. *Wiley Online Library*, *26*(4),
438–450. https://doi.org/10.1002/bse.1927

Lydenberg, S. (2014). The Potential Use of Sustainability Scenarios as a Supplement to Stock Price in
Equity Valuation by Long-term Investors. In *Domini Social Investments LLC*.
https://web.law.columbia.edu/sites/default/files/microsites/millstein-center/lydenberg_-
_sustainability_scenarios_-_11.13.14.pdf

Rosner, B., Glynn, R. J., & Lee, M. L. T. (2006). The Wilcoxon signed rank test for paired comparisons
of clustered data. *Biometrics*, *62*(1), 185–192. https://doi.org/10.1111/j.1541-0420.2005.00389.x

Sachin, N., & Rajesh, R. (2021). An empirical study of supply chain sustainability with financial
performances of Indian firms. *Environment, Development and Sustainability*, *0123456789*.
https://doi.org/10.1007/s10668-021-01717-1

Schueth, S. (2003). Socially Responsible Investing in the United States. *Journal of Business Ethics*,
43(3), 189–194. https://doi.org/10.1023/A:1022981828869

Sharma, P., Panday, P., & Dangwal, R. C. (2020). Determinants of environmental, social and corporate
governance (ESG) disclosure: a study of Indian companies. In *International Journal of Disclosure*

and Governance (Vol. 17, Issue 4, pp. 208–217). https://doi.org/10.1057/s41310-020-00085-y

Singh Randhawa, R. (2017). A Critical Analysis of National Voluntary Guidelines and Business Responsibility Report Framework. *SUSTAINABILITY Inspiration, Innovation and Inclusion*, 162–176.

Starks, L. T. (2021). Environmental, Social, and Governance Issues and the Financial Analysts Journal. *Financial Analysts Journal*, *77*(4), 5–21. https://doi.org/10.1080/0015198X.2021.1947024

Statman, M., & Glushkov, D. (2009). The wages of social responsibility. *Financial Analysts Journal*, *65*(4), 33–46. https://doi.org/10.2469/faj.v65.n4.5

Tripathi, V., & Bhandari, V. (2014). Socially Responsible Investing - An Emerging Concept in Investment Management. *FIIB Business Review*, *3*(4), 16–30. https://doi.org/10.1177/2455265820140402

Tripathi, V., & Bhandari, V. (2015a). Socially responsible stocks: a boon for investors in India. *Journal of Advances in Management Research*, *12*(2), 209–225. https://doi.org/10.1108/JAMR-03-2014-0021

Tripathi, V., & Bhandari, V. (2015b). Socially responsible stocks: a boon for investors in India. *Journal of Advances in Management Research*, *12*(2), 209–225.

Wagemans, F. A. J., Koppen, C. S. A. K. van, & Mol, A. P. J. (2013). The effectiveness of socially responsible investment: a review. *Journal of Integrative Environmental Sciences*, *10*(3–4), 235–252. https://doi.org/10.1080/1943815X.2013.844169

Xia, Y. (2020). *Wilcoxon Signed Ranks Test - an overview | ScienceDirect Topics*. https://www.sciencedirect.com/topics/medicine-and-dentistry/wilcoxon-signed-ranks-test

Young, K., & Proffitt, D. (2003). *Socially Responsible Mutual Funds: Recent performance and other issues relating to portfolio choice*. https://silo.tips/download/socially-responsible-mutual-funds-recent-performance-and-other-issues-relating-t