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# Does ESG Investing Sacrifice Returns? Evidence from Nifty ESG-Rated Companies: A Comparative and Literature-Based Empirical Study of the Nifty100 ESG Index and its Parent Benchmark

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**ABSTRACT:** Environmental, Social and Governance (ESG) investing has moved from a niche ethical preference to a mainstream allocation strategy in Indian equity markets, anchored institutionally by the launch of the Nifty100 ESG Index and its variants by NSE Indices Limited. A recurring theme among academics and practitioners is whether introducing tilt is a sacrifice of financial performance, or whether it is possible to achieve financial returns while investing responsibly. This paper investigates the return–risk trade-off of companies with ESG ratings in India by contrasting the past performance of the ESG rated Nifty 100 index with its parent index (Nifty 100) based on official index-provider data and summarising existing empirical evidence on the ESG–return relationship in international equity markets and in India. The comparative evidence shows that the Nifty100 ESG Index has broadly tracked its parent index with only a modest return differential and similar volatility, while the wider literature reports mixed results ranging from ESG outperformance in early studies to a statistically significant negative short-run ESG–return relationship in recent panel-data research on Nifty100 ESG Sector Leaders firms. The paper concludes that ESG investing in India does not entail a large or systematic sacrifice of returns, but any premium or penalty is time-period-, methodology-, and horizon-dependent, with adjustment costs more visible in the short run than in the long run.

**KEYWORDS:** ESG investing, Nifty100 ESG Index, sustainable investing, risk-adjusted returns, Indian equity market, socially responsible investing.

## I. INTRODUCTION

Environmental, Social and Governance (ESG) investing refers to the incorporation of non-financial sustainability criteria carbon footprint and resource use (Environmental), labour practices and community relations (Social), and board structure and shareholder rights (Governance) into security selection and portfolio construction. Global assets under management following some form of ESG mandate have grown rapidly over the last decade, and India has followed this trend with the Securities and Exchange Board of India (SEBI) mandating Business Responsibility and Sustainability Reporting (BRSR) for the top listed companies and NSE Indices Limited launching a family of ESG-themed indices, including the Nifty100 ESG Index, the Nifty100 ESG Sector Leaders Index, and the Nifty100 Enhanced ESG Index.

The central debate this paper engages with is deceptively simple: does allocating capital to higher-ESG-rated firms cost investors returns, or does it enhance long-run risk-adjusted performance? Two competing hypotheses dominate the literature. The 'cost hypothesis' argues that ESG screening restricts the investable universe, raises compliance and monitoring costs for firms, and can crowd out capital expenditure that would otherwise maximise short-term profit implying an underperformance or 'green penalty'. The alternative 'value-enhancement hypothesis' suggests that robust practices around ESG lead to lower tail risk, litigation and regulatory risk, lower capital costs, and serve as a proxy for better management practices, which could help support a 'green premium' over time. In India, index investors and mutual funds have been adopting the ESG tilted index, including the Nifty100 ESG Index, as a choice for sustainable investing, making this debate a very real one for retail and institutional investors' asset allocation decisions. This paper adds to the discussion in the Indian context in two ways. First, it conducts the comparative performance analysis between Nifty100 ESG Index and Nifty 100 index based on the official data available on the NSE Indices factsheet, which include return, volatility and market sensitivity (beta) measures. Second, it provides a synthesis of recent studies in India and abroad which have employed different micro levels of analysis – index, mutual-fund and firm – that help to

put the descriptive comparison in the context of the totality of the evidence. The remainder of the paper is organised as follows.

## **II. LITERATURE REVIEW**

### **2.1 Global Evidence**

Research on the empirical relationship between ESG performance and financial performance dates back to the early 1970s. Early studies of mutual funds in the United States revealed no statistically significant differences between the performance of socially screened and regular mutual funds, such as those of Hamilton, Jo and Statman (1993). Gregory, Matatko and Luther (1997) reported broadly similar findings for UK ethical unit trusts once fund size and small-company effects were controlled for. More recently, Lean, Ang and Smyth (2015) examined the performance and performance persistence of socially responsible investment (SRI) funds in Europe and North America and found limited evidence of consistent out- or under-performance relative to conventional peers.

The most comprehensive attempt to resolve the debate is the meta-analysis by Friede, Busch and Bassen (2015), which aggregated evidence from more than 2,000 primary and secondary studies on the ESG–corporate financial performance (CFP) relationship. The authors reported that roughly 90 percent of the reviewed studies found a non-negative ESG–CFP relationship, with a majority reporting positive associations, and noted that the positive relationship was particularly pronounced in emerging markets and appeared stable over time. Pedersen, Fitzgibbons and Pomorski (2021) formalised this trade-off theoretically through the 'ESG-efficient frontier', showing that incorporating ESG information can be return-enhancing when it proxies for otherwise unpriced risk, but return-reducing when investors pay a premium purely for non-pecuniary preferences, implying the net effect is empirically contingent on which channel dominates in a given market and period.

### **2.2 Evidence from India**

Within India, findings are notably mixed. Chelawat and Trivedi (2015), using the Capital Asset Pricing Model and the Brown–Forsythe/Levene test to compare an ESG India index against a conventional benchmark, found that the ESG index outperformed the conventional index shortly after inception without a statistically significant increase in risk, concluding that Indian investors did not have to pay a 'return penalty' for choosing high-ESG stocks. In contrast, Soni (2023), studying thirteen years of ESG-labelled mutual funds in India and controlling for the Fama–French five-factor model, found that funds with higher ESG scores did not generate statistically significant positive alphas either in normal periods or during the COVID-19 crisis, attributing this to the higher screening and opportunity costs associated with socially responsible mandates.

Sood, Arijit, Pathak and Purohit (2022) compared high-ESG and low-ESG portfolios (proxied by indices such as CARBONEX and GREENEX) against the BSE 500 before and during the COVID-19 pandemic using the Sharpe ratio, Treynor ratio, Jensen's alpha, the Modigliani–Modigliani measure, and the Fama–French three-factor model. They found that ESG-oriented indices delivered relatively better returns during the pandemic period compared with the pre-pandemic period, consistent with an ESG 'resilience' effect during systemic shocks. Kumar, Mishra and Bhardwaj (2025), evaluating emerging ESG-themed equity mutual funds in India on mean return, standard deviation, beta, Treynor ratio, Sharpe ratio and Jensen's alpha, reported that ESG funds delivered competitive returns with moderate risk, with some funds outperforming benchmarks on a risk-adjusted basis and others merely matching them, a finding of parity rather than a clear premium or penalty.

The most directly relevant and recent study is Naik, Bhat, Shanbhag and Haldankar (2026), which used balanced panel data on fourteen firms drawn from the Nifty100 ESG Sector Leaders Index over 2015–2024 and applied pooled OLS, random-effects and fixed-effects estimators, selecting a two-way fixed-effects specification on the basis of Breusch–Pagan LM and Hausman tests. The study found that firm-level ESG scores had a statistically significant negative association with stock returns in the short run, while return on capital employed was a significant positive driver of returns and GDP growth was significantly negatively associated with returns; earnings per share and return on assets were statistically insignificant. The authors interpreted this as evidence that ESG integration in India remains at an early, cost-absorbing stage, in which the short-run compliance and adjustment costs of sustainability initiatives are not yet fully offset by market recognition of long-run value creation. Taken together, the Indian literature does not converge on a single verdict. Index-level comparisons in the years following the launch of ESG indices (Chelawat & Trivedi, 2015) and pandemic-period portfolio studies (Sood et al., 2022) tend to find ESG investing return-neutral-to-

favourable, while mutual-fund-level (Soni, 2023) and recent firm-level panel evidence (Naik et al., 2026) point toward a modest cost or, at best, parity. This divergence motivates a fresh descriptive look at the flagship Nifty100 ESG Index itself, which is the focus of the remainder of this paper.

### III. INSTITUTIONAL BACKGROUND: THE NIFTY ESG INDEX FAMILY

NSE Indices Limited (formerly IISL) constructs the Nifty100 ESG Index to reflect the performance of Nifty 100 constituents after tilting their weights by an ESG risk score. Eligible stocks must (a) already be constituents of the Nifty 100, (b) carry an assigned ESG risk score, and (c) have a controversy score below a defined threshold; firms engaged in tobacco, alcohol, controversial weapons, or gambling are excluded outright. Each constituent's index weight is derived jointly from its free-float market capitalisation and its normalised ESG risk score, subject to a sector cap and an individual stock cap of the lower of 8 percent or five times its free-float-only weight. The index is reconstituted semi-annually and has a base date of April 1, 2011 with a base value of 1,000.

As of its most recent published factsheet, the Nifty100 ESG Index comprised roughly 79 constituents, heavily weighted toward Financial Services (around one-third of the index), Information Technology, and Automobiles and Auto Components, with the largest individual weights held by large private-sector banks and IT bellwethers. This sectoral concentration is structurally important: because financials and IT are also dominant in the parent Nifty 100, the ESG tilt changes relative sector and stock weights only at the margin rather than creating a fundamentally different portfolio, which is one structural reason why large return divergences between the ESG index and its parent are not, a priori, expected. In India, exchange-traded funds and index funds also have alternative benchmarks and underlying indices that are offered by NSE Indices, including a Nifty100 ESG Sector Leaders Index (an index of the top ESG scoring companies in each sector) and a Nifty100 Enhanced ESG Index with a higher degree of ESG tilt.

### IV. DATA AND METHODOLOGY

This study has taken two approaches: descriptive index-level performance comparisons; and a structured review of the literature of works in progress and peer-reviewed literature, rather than estimating a new firm-level regression due to proprietary nature of the constituent-level ESG scores and the daily total-return series that would be required for such replication and independent verification in the scope of this paper. The index-level return/ risk numbers have been taken from the official Nifty100 ESG Index factsheet by NSE Indices Limited for the descriptive comparison on quarter-to-date (QTD), year-to-date (YTD), 1-year, 5-year (CAGR), and since-inception (CAGR) time frame, along with 1-year, 5-year (CAGR) and since-inception (CAGR) annualised standard deviation, beta, and correlation with Nifty 50. Comparable price-return statistics for the parent Nifty 100 index were sourced from publicly available NSE-linked index data (Sharpely index analytics, drawing on NSE data) for equivalent trailing periods. Because the Nifty100 ESG factsheet reports both Price Return and Total Return series while the comparator source reports price returns only, the Total Return figures for the Nifty100 ESG Index are presented for completeness but are not directly compared point-for-point against the parent index; the primary like-for-like comparison uses price-return series from both indices. All data were retrieved in the first week of September 2026 and reflect trailing performance as of that date; the analysis is therefore a snapshot descriptive comparison rather than a continuous back-tested return series. For the literature synthesis, studies were identified through targeted search of academic databases and publisher platforms (Emerald, Taylor & Francis, SSRN, Indian Journal of Finance, Business Perspectives, and university repositories) for empirical work on ESG and stock or fund returns in India, supplemented by seminal global studies establishing the theoretical and meta-analytic backdrop against which the Indian evidence should be read. Studies were selected on the basis of direct relevance to Indian ESG index or fund performance, or foundational status in the global ESG-CFP literature.

## V. COMPARATIVE PERFORMANCE: NIFTY100 ESG INDEX VS. NIFTY 100

Table 1 summarises trailing performance for the Nifty100 ESG Index (Price Return and Total Return variants) alongside price-return figures for the parent Nifty 100 index.

| Metric               | Nifty100 ESG (Price Return) | Nifty100 ESG (Total Return) | Nifty 100 (Price Return, parent) |
|----------------------|-----------------------------|-----------------------------|----------------------------------|
| QTD return           | 2.93%                       | 3.33%                       | n/a                              |
| YTD return           | -3.08%                      | -2.19%                      | n/a                              |
| 1-Year return        | 3.76%                       | 4.96%                       | ≈ -2.6%                          |
| 5-Year CAGR          | 7.46%                       | 8.68%                       | ≈ 9.5%–9.6%                      |
| Since-inception CAGR | 11.03%                      | 12.48%                      | n/a                              |

Table 1. Trailing returns, Nifty100 ESG Index vs. Nifty 100. Source: NSE Indices Limited, Nifty100 ESG Index factsheet (as of August 31, 2026); Nifty 100 price-return statistics compiled from NSE-linked index analytics (Sharpely), early September 2026. Nifty100 ESG figures for periods above one year are CAGR; QTD and YTD are absolute returns.

There are two observations. First, the Nifty100 ESG Index (Price Return: 3.76 percent; Total Return: 4.96 percent) beat the Nifty 100 over the trailing one-year window as found by Sood et al. (2022) that 'resilience' of ESG-tilted portfolios can contain of better during durations of market stress or sector rotation away from cyclical was found from their data. Secondly, on the longer term (five-year CAGR), the ESG index price-return and the parent Nifty 100 CAGRs are reversed with the Nifty100 ESG Index's CAGR at 7.46 percent compared with the CAGR of the parent Nifty 100 index of 8.68 percent, with a 200–215 basis point (bps) annual spread. This results in a mixed longer-horizon and near-term picture and a lack of a significant and persistent ESG premium or penalty, broadly consistent with the mixed picture found in the literature review, which suggests that the longer the time horizon examined and whether dividends are included or not may have a significant impact on the sign and magnitude of any differential. The since-inception CAGR of the Nifty100 ESG Index (11.03 percent price return; 12.48 percent total return, since April 2011) further indicates that, over a full market cycle spanning multiple bull and bear phases, the ESG-tilted index has delivered double-digit annualised compounding, which is a materially different and more reassuring picture than a narrow reading of the five-year underperformance alone might suggest.

## VI. RISK AND RISK-ADJUSTED CONSIDERATIONS

Return comparisons in isolation can be misleading if the ESG-tilted index carries materially different risk. The Nifty100 ESG Index factsheet reports an annualised standard deviation in the region of 14 percent and a beta relative to the Nifty 50 of approximately 0.98–1.03 with a correlation coefficient of approximately 0.97–0.99, indicating that the ESG index moves almost in lock-step with the broad market and does not represent a meaningfully lower- or higher-risk portfolio in aggregate variance terms. This is unsurprising given the structural point noted in Section 3: because the ESG tilt operates within the existing Nifty 100 universe and retains similar sector weights, it is a modification of, rather than a wholesale departure from, the parent index's risk profile.

The near unity beta and the high correlation is important for interpretation of the literature. As described above, if the systematic risk of ESG and non-ESG large-cap portfolios in India are comparable, then the difference between the two in their returns is closer to an excess/deficient return (alpha) than to compensation for a different systematic risk. Chelawat & Trivedi (2015) explicitly tested for a risk difference using the Brown–Forsythe/Levene test, and found no risk difference statistically significant, consistent with the descriptive picture here. Some ESG funds have been seen to outperform on risk-adjusted measures such as Sharpe ratios and Treynor ratios, as per Kumar et al. (2025), while others have been found to be performing in line with the ESG benchmark, and Fama–French-adjusted alphas of high ESG

funds have been found to be statistically zero in Soni (2023). The balance of evidence then suggests that the parity outcome is at least as likely as any premium or penalty, and the descriptive result, that the differences are modest compared to their potential statistical noise, is borne out.

## **VII. DISCUSSION**

The descriptive index comparison and the literature review put together yields three conclusions. So, at the broad, diversified, large cap index level, represented by the Nifty100 ESG Index, there is no evidence of a significant sacrifice in return: the one year return has been better than the parent index, the absolute since-inception return has been good, and only the price-return window over the past five years shows a moderate lag that narrows when the dividend component is added in. This is in line with the reasoning that small ESG deviations within a large-cap universe that has sector and individual stock caps should not create significant divergences from the parent index only on the basis of the index construction.

Secondly, the sign and magnitude of any ESG return differential in India seem largely dependent on the level of analysis and time horizon. Portfolio-based and index-based studies around the launch of Indian ESG products (Chelawat & Trivedi, 2015) and during the acute COVID-19 shock (Sood et al., 2022) showed that ESG products were at least as well, if not better, performing than conventional benchmarks, plausibly due to the fact that ESG scores were a proxy for governance quality and the health of the balance sheet, which are relevant to the system stress. More disaggregated firm-level panel data over a longer time frame, 2015-2024 (Naik et al., 2026), show a statistically significant negative short-run correlation between ESG scores and stock returns, even after controlling for profitability and macroeconomic factors. Similarly, fund-level data controlling for typical risk factors (Soni, 2022) indicate no statistically significant relationship between ESG scores and fund alpha. This implies that the premium and resilience observed at the index level to some extent is composition- and sector-effects driven, as opposed to being a direct causal benefit of ESG virtue at the firm level, since the financials and IT industries, which are heavily weighted in the index, do well in India in recent years.

Third, asking a question in a binary 'premium versus penalty' framework is too limited in the precision that the evidence can support. In line with the theory of Pedersen et al. (2021) that ESG integration has a net return effect in any market and period, the overall effect of ESG integration in the market is the sum of at least two offsetting effects: risk-reduction or information channel (ESG scores a proxy for governance quality, litigation risk, and long-run resilience, which should be return-enhancing on average); and cost/constraint channel (screening costs, narrower investable universes and possible short-run capital-expenditure trade-offs, which should be mildly return-reducing, especially during early years of adoption in an emerging market like India). The Indian evidence brought together in this document largely suggests that these two channels are roughly equal at the index level, short-run cost signals are present at the firm level, and there is no significant risk adjusted alpha at the fund level, which is consistent with both channels being equally matched, but not with one channel overwhelming the other.

## **VIII. LIMITATIONS**

There are a number of limitations of this study. The descriptive index comparison uses the trailing-return snapshots taken at a single date and is comparing a price-return series of the parent Nifty 100 with price-return and total-return series of the Nifty100 ESG Index (which are not exactly like-for-like). It also does not account for other factors that can affect the return gap between the parent and the ESG index in any given period and are unrelated to the parent-versus-ESG-index return gap, such as sector rotation, interest rate cycles, and foreign institutional investors. The literature review is not a comprehensive systematic review but has been conducted on literature representative at index, portfolio and firm-panel level and may not include every relevant working paper published in India. Lastly, the methodologies used to create the ESG scores are not uniform; that is, the scores vary across providers (index providers, rating agencies, and academic constructs like CARBONEX/GREENEX), making it difficult to ensure that results are strictly comparable across studies that are based on different underlying ESG scores.

**IX. CONCLUSION AND IMPLICATIONS**

This paper aimed to investigate if there is a trade-off between returns on ESG investing in the context of India, through a study of the Nifty 100 ESG Index and its underlying Nifty 100 benchmark using a literature review as the theoretical backdrop. There is insufficient evidence to make a strong argument either for or against the hypothesis. The Nifty100 ESG Index has given returns broadly similar to, and in the most recent 1-year period, better than its parent index with its systematic risk (beta) being close to one and its correlation with the broad index being above 0.95 for all the periods. Meanwhile, firm-level and fund-level studies are more granular and indicate that any positive return-to-risk effect of ESG is not sustainable after adjusting for other firm- and fund-specific risk factors and macroeconomic controls, and there is even panel evidence suggesting that it could come at a short-term cost at the firm level as India's ESG ecosystem continues to mature. For investors, the practical implication is reassuring rather than alarming: allocating to a broad-based, index-constructed ESG product such as the Nifty100 ESG Index has not required a material sacrifice of long-run return relative to a conventional large-cap benchmark, even if short-term relative performance will vary with market conditions and sector composition. For policymakers and index providers, the mixed firm-level findings suggest that continued refinement of ESG scoring methodologies, disclosure standards under the BRSR framework, and sector-neutral index construction could help ensure that ESG premia, where they exist, are captured more consistently and that short-run adjustment costs documented in recent panel studies diminish as ESG reporting and integration mature in the Indian market. Future research would benefit from longer daily total-return series, formal event-study and multi-factor alpha estimation directly on Nifty100 ESG constituents, and periodic updates as India's ESG index ecosystem and disclosure regime continue to evolve.

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