

Evaluating the Efficacy of ESG Integration in India: A Comparative Risk-Adjusted Performance Analysis of Exclusionary vs. Best-in-Class Mutual Funds

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ABSTRACT

This paper examines whether sustainable investment portfolios generate superior risk-adjusted returns relative to the broader market, using the Indian context as a case study. It compares the risk-adjusted performance of two Indian ESG funds, the SBI ESG Exclusionary Strategy Regular Growth fund, which follows a negative exclusionary screening approach, and the Quantum ESG Best-in-Class Strategy Fund Growth, which follows a positive best-in-class screening approach, against the Nifty 50 benchmark. Using the Sharpe and Treynor ratios over the period 2021 to 2026, the study evaluates whether sustainable investment strategies yield higher risk-adjusted returns, and identifies which ESG screening methodology demonstrates stronger risk-adjusted performance within the Indian market. The results show that both ESG funds outperform the Nifty 50 on a risk-adjusted basis, though neither achieves statistically significant outperformance in mean excess returns. The exclusionary strategy fund demonstrates marginally higher risk-adjusted returns than the best-in-class strategy fund, but this difference in mean excess returns is also statistically insignificant. The paper concludes by drawing investor implications from these findings, offering guidance on how different ESG screening approaches can inform portfolio construction and decision-making.

Keywords: ESG funds, Risk-adjusted returns, Sustainable investment portfolios

INTRODUCTION

In recent years, a fundamental question has shaped the global investment landscape about whether investor capital should be deployed solely for financial gain or whether environmental and social welfare must also be considered at the same time. Investors globally have settled in the middle ground of this debate, seeking portfolios encompassing competitive financial returns along with an alignment with broader environmental and social values. This dynamic has given rise to ESG investing, signalling a broader shift toward sustainability-conscious capital allocation. Beneath this growth lies an unresolved tension surrounding the extent to which sustainable portfolios genuinely deliver superior risk-adjusted returns rather than merely reflecting investors' moral preferences.

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Existing research on this topic signals mixed results but is a useful starting point for the ESG performance debate. While some studies show that ESG funds generate higher risk-adjusted returns, others find they underperform, and a third group finds no difference at all. These contrasting results bring forward the fact that ESG performance depends heavily on context, including geography, market maturity, and prevailing economic conditions.

ESG labelled capital is not merely curiosity now. It represents money allocated on the belief that sustainability screening and financial performance are not competing against each other. If this belief holds, channelling capital towards ESG companies is a definite win-win, where investors earn competitive returns while investors re-direct capital toward more sustainably run firms that benefit society. If the belief does not hold, ESG screening can be thought of as values-driven philanthropy marketed as an investment product, and an investor deserves to know that helping sustainable companies comes at a cost of financial returns. Global capital already appears to act on the win-win assumption: the Global Sustainable Investment Alliance reports that 41 international ESG-focused funds have allocated an average of 25% of their portfolios to Indian equities (Edelweissfin, 2019). Indian investors themselves hold this belief more strongly than the global average. A CFA Institute survey shows this: 60% of Indian investors consider ESG funds attractive, compared to just 29% of investors globally (Nandy, 2025). If the underlying belief is mistaken, it is these investors, more than others surveyed, who bear the cost of being wrong.

Beyond the scale of investor interest, it is against this backdrop that India presents itself as a uniquely instructive setting. For one, Literature concerning this topic concentrates on markets like the United States, where Corporate Social Responsibility (a part of Social in ESG) is voluntary. In contrast, India is one of the few countries to mandate CSR spending through Section 135 of the Companies Act, 2013. It requires qualifying firms to spend at least 2% of their average net profits on eligible social initiatives (Kapoor et al., 2017). Since India mandates CSR rather than being voluntary, the mechanisms through which ESG integration influences risk-adjusted financial performance may differ from those in developed markets.

India's energy mix provides a different reason why findings from other countries may not generalise, which is why this study is needed. In 2025, coal accounted for approximately 72% of India's electricity generation (PIB, 2026), compared with around 17% in the United States (U.S. Energy Administration). A shared, carbon-intensive grid may either compress environmental differences between firms or amplify them where companies adopt substantially cleaner energy sources than the national average. Either way, one cannot assume that the relationship between environmental screening and risk-adjusted returns found in developed-market studies holds in India.

Additionally, the introduction of mandatory Business Responsibility and Sustainability Reporting in India has greatly improved the credibility and comparability of sustainability disclosures among major firms (Securities and Exchange Board of India, 2021). This strengthens the case for conducting this study through an Indian lens. Even so, the market remains small: total ESG assets under management in India grew roughly fourfold between January 2020 and mid-2025, from approximately ₹2,747 crore to ₹11,000

crore (Nandy, 2025), yet this still represents less than 1% of total mutual fund assets under management (Center for Sustainable Finance, 2024).

In a way, India provides an informative setting because ESG investing is developing under a rapidly evolving regulatory framework while remaining a very small proportion of the country's mutual fund industry. This allows the study to examine whether ESG integration generates measurable financial benefits before the market reaches the maturity observed in Europe or North America. Given this combination of maturing disclosure standards, rapid but early-stage growth, and the structural conditions outlined above, this study formulates the following research questions to guide the analysis:

1. Do Indian ESG mutual funds provide significantly different risk-adjusted returns (Sharpe and Treynor) compared to the Nifty 50 benchmark over this five-year horizon?
2. To what extent does the specific ESG screening methodology (Exclusionary vs. Best in Class) influence the return-generation capability of Indian ESG funds?
3. What qualitatively explains the difference in the risk-adjusted performance between these two strategies?

LITERATURE REVIEW

Researchers have widely debated the relationship between ESG integration and investment performance, as highlighted above, with evidence varying across regions, time periods, and methodological approaches. While several studies find that ESG integration enhances portfolio efficiency by improving risk-adjusted returns, on the other side, other studies suggest that ESG strategies may underperform traditional investments. Thus, the divergence suggests ESG performance is highly dependent on context, highlighting the need for evidence from emerging markets such as India.

The Case for ESG Outperformance

Several empirical studies provide evidence about how it is that ESG-integrated investment strategies generate superior risk-adjusted returns compared to market indices such as the Nifty 50 used. Michaelsson and Svensson (2020) studied sustainable and conventional funds in Sweden and found that ESG funds exhibit higher risk-adjusted returns when compared to their conventional peers. Using Sharpe and Treynor ratios, they showed that sustainable funds managed risk more effectively, suggesting that ESG integration does indeed improve portfolio performance. Similarly, Gardenier, Lac, and Ashfaq (2021) investigated the risk-adjusted performance of sustainable versus conventional European investment portfolios. Over the period 2005–2019, they compared ESG funds' Sharpe ratios to the Euro Stoxx 50's and found that sustainable portfolio types exhibit statistically significantly higher Sharpe ratios than the index. The study also demonstrated that ESG integration increases portfolio efficiency and provides investors with more resilient performance. In the same way, Sherwood and Pollard (2018) examined the risk-weighted

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performance of ESG-integrated emerging market equities using a comprehensive set of performance and risk metrics, including the Sharpe ratio, Sortino ratio, Conditional Value at Risk, skewness, and the Omega ratio. This study went beyond traditional volatility-based measures, signalling the way how ESG integration improves downside risk characteristics and tail risk protection making ESG portfolios particularly attractive during periods of market stress.

Evidence of Underperformance and Constraints

Other studies provide data that represents how ESG funds generate lower risk-adjusted returns than traditional funds and market indices. Climent and Soriano(2011) examined the performance and risk characteristics of US green mutual funds relative to conventional funds in their study. Using a CAPM-based methodology over the period 1987–2009, they found that environmental funds underperformed conventional funds on a risk-adjusted basis. It provided evidence that, in certain contexts, green or environmentally focused funds centred around ESG may not be able to deliver superior risk-adjusted returns, highlighting that ESG or sustainability integration does not always guarantee outperformance. Auer and Schuhmacher (2016) provide another such example. They analysed international ESG data using industry-level portfolio screening and risk-adjusted performance measures as a part of their study. They found that investors in Europe may experience a performance cost depending on industry focus and ESG criteria, indicating that ESG-based investment strategies can constrain returns when certain sectors or screening standards limit the investment universe.

The Neutrality Hypothesis

Other studies point to the fact that there is no statistical difference in performance between ESG funds and conventional funds, indicating that ESG integration does not end up altering fund performance relative to non-ESG peers. In one study, Milonas, Rompotis, and Moutzouris (2022) examined the performance of 80 European and 64 U.S. funds using multiple performance measures. They used alpha, Sharpe ratio, Treynor ratio, and excess returns, as well as a five-factor Fama–French model to do so. Applying a matched-pairs methodology over the period 2017–2021, they found no statistically significant difference in performance between ESG and non-ESG funds, which suggests that ESG integration neither enhances nor reduces fund performance. In the same way, Hamilton, Jo, and Statman (1993) found that socially responsible mutual funds do not earn statistically significant excess returns and that their performance does not differ significantly from conventional mutual funds.

Methodological Divergence

The divergent findings across ESG literature partly result from differences in screening methodologies. Since screening methodology determines which firms enter an investment universe, it may influence both sector exposure and risk-adjusted performance even within ESG funds.

Strategy	Description
Exclusionary (Negative) Screening	Removes specific sectors (e.g., tobacco, weapons, fossil fuels).
Best-in-Class (Positive) Screening	Selects companies with the highest ESG scores within their respective sectors.

Table 1: screening strategy type

Some studies find that best-in-class portfolios yield higher mean Sharpe ratios than other screening approaches, indicating superior risk-adjusted performance. However, existing evidence is concentrated in developed markets, leaving uncertainty about whether these effects hold in emerging economies like India.

The Research Gap: The Indian Context

The Indian market, with its nascent ESG infrastructure and a limited fund universe of only 11 active ESG funds, represents a context in which no study has yet adequately tested these competing theoretical predictions. Specifically, no prior study has compared the risk-adjusted performance of exclusionary versus best-in-class screening methodologies in the Indian context. This gap motivates the current study's comparative analysis of screening approaches, contributing to the limited empirical evidence on sustainable investing in emerging markets.

METHODOLOGY

Design

The paper's study employs a research design that combines quantitative performance measurement to assess differences in risk-adjusted returns with qualitative portfolio analysis to explain the mechanisms underlying any observed differences.

The study compares two ESG mutual funds that utilise fundamentally different screening methodologies. The SBI ESG Exclusionary Strategy Reg Gr uses a pure negative screening methodology by excluding predetermined sectors, and the Quantum ESG Best In Class Stgy Fund Gr, which follows a positive

screening methodology by selecting firms with the strongest ESG performance within each sector. This study compares the performance against the Nifty 50 index, which represents the broader Indian market. This covers the period January 2021 to January 2026.

This study chooses this design because it isolates the screening methodology as a key factor affecting performance differences. If the ESG fund were to be compared to a conventional mutual fund, variation in performance may be a result of investment philosophy, fund objectives and portfolio construction. Comparing an Indian ESG fund to an international one would introduce factors like regulation and market maturity. Macroeconomic conditions may also hinder the results. By restricting the comparison to two ESG funds operating within the same market, over the same time period and against the same benchmark holds these factors largely constant. This increases the internal validity of the study, meaning the screening methodology largely explains the performance difference.

Methodological Rationale

The paper selected this study design for the following reasons:

First, a mixed methods approach introduces methodological triangulation. While the quantitative component establishes whether statistically meaningful differences in risk-adjusted performance exist through the Sharpe Ratio, Treynor Ratio and paired t-tests, it does not explain why these differences occur. The qualitative analysis using sector holdings and portfolio composition fulfills that role. Agreement between these two forms of evidence in analysis increases the probability that the conclusions are robust.

There is a reason why mutual funds are used for comparison as opposed to individual companies. Retail investors in India typically allocate capital by selecting investment products, rather than individual companies. This substantially affects the study's relevance to retail investors. Further, idiosyncratic firm-specific events may distort company-level analysis. Using ESG mutual funds prevents this from happening.

Using the Nifty 50 as the main benchmark also strengthens the research design against which the study evaluates the two mutual funds. Comparing two funds alone would only show their performance relative to each other. Suppose one fund achieved a Sharpe ratio of 0.62 and the other 0.52; it would be impossible to tell what this means in the context of the broader market. It can be argued that an ESG-specific benchmark, such as the Nifty100 ESG Index, could have been used instead. However, there is a deliberate reason why that is not the case. Since it would include companies screened for ESG, using it for comparison would not measure the incremental value of ESG screening itself. By using the unscreened Nifty 50, the analysis isolates whether applying ESG screening adds value for an investor choosing between an ESG mutual fund and a conventional large-cap index investment. The Nifty 50 represents the 50 largest and most liquid Indian companies by market capitalisation. This makes it appropriate from a

comparison standpoint because its major holdings form the primary investment universe of both ESG funds as well. This is because large-cap equities comprise the majority of allocations for both the funds. This study rejects alternative benchmarks, such as sector-specific indices, because they would not capture the diversified market exposure that both funds maintain, despite their ESG constraints.

Quantitative Analysis

The paper evaluates risk-adjusted returns using the Sharpe and the Treynor ratio.

The Sharpe Ratio measures return earned per unit of total portfolio risk and is calculated as

$$(R_p - R_f) / \sigma_p$$

where R_p represents portfolio return, R_f is the risk-free rate, and σ_p is portfolio standard deviation.

The Treynor Ratio measures return earned per unit of systematic market risk and is calculated as

$$(R_p - R_f) / \beta_p$$

where β_p represents portfolio beta.

The Sharpe and Treynor ratios were selected because they measure different dimensions of risk-adjusted performance. The Sharpe, on the one hand, measures returns relative to total portfolio risk. This makes it appropriate for overall investment efficiency. The Treynor, on the other hand, works by isolating systematic market risk. This reflects the perspective of diversified investors for whom unsystematic risk has largely been eliminated. Using both reduces the likelihood that only one definition of risk drives the performance result, making the design more so reliable.

The combination of the Sharpe ratio and the Treynor ratio is also purposeful for a reason that the former represents total risk and the latter represents systematic risk. By comparing the two ratios, this research can find out if any performance superiority of the ESG funds is due to their lower individual risk or their lower correlation to general market trends or both.

The study could have used raw returns as well, but doing that would prevent a fair assessment. Higher returns may simply reflect higher risk, and so this would not properly reflect investment robustness. Risk-adjusted measures overcome this limitation by evaluating the return generated for each unit of risk assumed.

This is particularly important for evaluating ESG investing, which is often argued to reduce downside risk and improve portfolio resilience rather than maximise absolute returns. Comparing ESG funds solely on raw returns would therefore overlook one of ESG screening's principal objectives. Risk-adjusted

measures provide the theoretically appropriate framework for testing whether ESG screening improves portfolio quality by reducing risk exposure while maintaining competitive returns.

This study uses a paired-sample t-test to calculate whether observed differences are statistically significant. The paper uses a paired design because it makes observations using the same monthly periods, which controls for time-specific market conditions. The tests assume approximate normality of the difference series, an assumption considered reasonable given the sixty monthly observations under the Central Limit Theorem. What this does is separate genuine performance differences from those that may have occurred by chance. It improves the precision of the comparison by ensuring differences are more likely to reflect fund characteristics than changing market environments, strengthening the overall validity of the conclusions.

Qualitative Analysis

This complements the quantitative findings by explaining why the observed differences may possibly occur.

Data Collection

This study utilises monthly total return data for the SBI ESG Exclusionary Strategy fund, the Quantum ESG Best In Class Strategy Fund, and the Nifty 50 from Yahoo Finance (January 2021 to January 2026). Monthly returns were calculated using adjusted closing prices sourced from Yahoo Finance, computed as simple percentage returns: $(P_2 - P_1) / P_1$.

The 10-year Government Bond yields from Macrotrends serve as the risk-free rate proxy to establish a baseline for excess returns, converted into a monthly risk-free rate using the formula $(1+r)^{(1/12)} - 1$. The values for the standard deviation and the beta are computed directly in Excel using the monthly return values, which enables the calculation of the Sharpe ratio and the Treynor ratio.

This study calculates beta values using a regression of monthly fund returns against monthly Nifty 50 returns over the sample period.

Justification of the methodological choices

It uses a purposive sampling technique to select the two ESG funds that used pure methods of distinct screening methodologies. The SBI ESG Exclusionary Strategy Reg Gr employs a pure negative exclusionary screening, eliminating specific sectors deemed unethical, while the Quantum ESG Best In Class Stgy Fund Gr follows a pure best-in-class strategy, selecting only the firms with very high ESG scores within each sector. The structure of the Indian ESG fund universe makes this deliberate selection

necessary. With only eleven active ESG funds (Center for Sustainable Finance, 2024) operating in the market, many employ mixed or hybrid screening approaches that would confound the results. Funds combining multiple methodologies or lacking clear strategy definitions were excluded to ensure clear identification of how each screening method affects performance.

The period from 2021 to 2026 was chosen for two reasons. For one, it captures a full post-pandemic market cycle, including rising interest rates followed by a decline in them in 2025 (Trading Economics, 2026). This reflects how ESG funds and the market benchmark performed across changing economic conditions rather than during only stable conditions. Second, it coincides with introduction of India's mandatory Business Responsibility and Sustainability Reporting framework, ensuring that the comparison takes place during the period in which standardised ESG disclosures became available across major listed companies.

The exclusive use of publicly available financial data and established performance measures improves the transparency and reproducibility of the research, allowing future studies to replicate or extend the analysis as the Indian ESG market grows. This also increases the transparency since independent parties can verify the results.

The following section applies this framework to determine whether differences in screening methodology translate into measurable differences in risk-adjusted performance.

FINDINGS

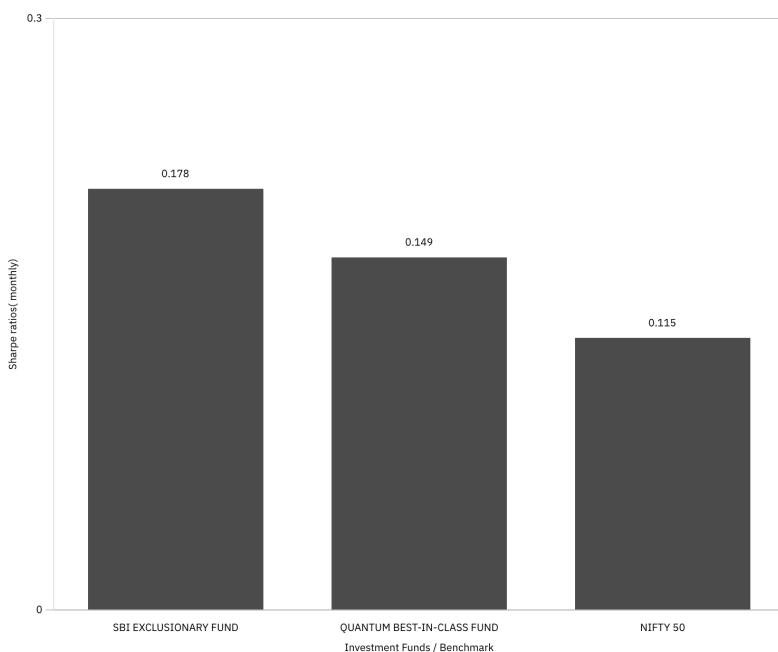
Sharpe ratio results

The computed Sharpe ratios provide a comprehensive assessment of total risk-adjusted performance across the investment vehicles examined. The SBI ESG Exclusionary fund achieved a mean monthly Sharpe ratio of 0.178, which translates to an annualised measure of 0.617 following the conventional $\sqrt{12}$ scaling methodology. The Quantum ESG Best-in-Class Fund, however, registered a monthly Sharpe ratio of 0.149, which, when annualised, meant a Sharpe ratio of 0.517. Additionally, the Nifty 50 market benchmark produced a 0.115 monthly return, equivalent to 0.399 annualised.

The Nifty 50 definitely offers higher excess returns, beating the exclusionary fund by 11 basis points and the best-in-class fund by 22 basis points. However, one pays for that performance with much higher volatility. The Nifty 50's standard deviation (6.44%) is nearly double that of the ESG funds (~3.51%). This classic risk-return tradeoff shows up clearly when we look at the Sharpe ratio hierarchy:

SBI exclusionary (0.178) > Quantum best-in-class (0.149) > Nifty 50 (0.115)

Figure 11: Monthly Sharpe ratios of the investment vehicles.



Source: data compiled by the author

Treynor ratio results

Treynor ratio performance reveals even more pronounced discriminatory power, primarily driven by differential beta values. SBI Exclusionary Fund exhibits exceptional systematic risk efficiency with a monthly Treynor ratio of 2.28% (annualised: 27.38%), substantially exceeding Quantum ESG Best-in-Class Fund's 1.86% monthly (22.31% annualised) and the Nifty 50 benchmark's 0.74% monthly (8.91% annualised).

In this case, the Nifty 50 also exhibits greater excess returns than both the ESG funds considered. However, the ESG funds have lower non-diversifiable risk, resulting in better risk-adjusted performance, ultimately.

Table 2: Risk-Adjusted Performance of ESG Funds and the Nifty 50 (Sharpe and Treynor Ratios, Monthly and Annualised)

Metric	SBI exclusionary fund	Quantum best-in-class fund	Nifty 50
Average excess returns	0.63%	0.53%	0.74%
Standard deviation	3.52%	3.51%	6.44%
Beta	0.2744	0.2823	1
Sharpe Ratio (monthly)	0.178	0.149	0.115
Sharpe Ratio (annually)	0.617	0.517	0.399
Treynor Ratio (monthly)	0.0228	0.0186	0.0074
Treynor Ratio (annually)	0.2738	0.2231	0.0891

Source: data compiled by the author

Statistical Significance Test

To examine whether statistically significant differences exist in mean monthly excess returns between the ESG funds and the market benchmark, as well as between the ESG funds themselves, the paper uses paired t-tests. The null hypothesis in each case stated that the mean excess returns of the two compared portfolios were equal.

First, the mean excess return of the SBI exclusionary fund was compared to that of the Nifty 50. The t-test produced a t-value of 0.123 with a corresponding p-value of 0.903. Since the p-value exceeded the 5% significance level, the null hypothesis was not rejected, indicating no statistical difference between this ESG fund and the market benchmark.

Next, the mean excess return of the Quantum best-in-class fund was compared to that of the Nifty 50. The t-test produced a t-value of 0.218 with a corresponding p-value of 0.828. Since the p-value also exceeded the 5% significance level, the null hypothesis was not rejected, indicating no statistically significant difference between this ESG fund and the market benchmark.

Finally, a comparison between ESG Fund 1 and ESG Fund 2 yielded a t-statistic of 0.405 and a p-value of 0.687. This result indicates that the difference in mean excess returns between the two ESG funds is also not statistically significant.

Overall, the results indicate that neither ESG fund exhibits statistically significant outperformance or underperformance compared with the market benchmark. Moreover, there is no substantial difference between the two funds in terms of mean excess returns over the sample period as well. This diagram below shows this.

Table 3: Results of the Paired T-Tests.

Comparision	Mean difference	Standard error	t-statistic	df	p-value
SBI vs Quantum	0.101%	0.00642	0.405	59	0.687
SBI vs Nifty 50	-0.166%	0.00948	0.123	59	0.903
Quantum vs Nifty 50	-0.217%	0.00947	0.218	59	0.828

Source: data compiled by the author.

Paired t-tests assess differences in mean excess returns only; comparisons of Sharpe and Treynor ratios are descriptive in nature and are not subject to formal hypothesis testing.

ANALYSIS AND DISCUSSION

Qualitative Analysis: Screening Method Impact

The SBI exclusionary strategy achieves superior risk-adjusted performance (Sharpe ratio of 0.617 vs. Quantum's 0.517) despite marginally higher total risk ($\sigma = 3.52\%$ vs. Quantum's standard deviation of 3.51%). This is a result of excess return generation. SBI achieved 0.63% monthly return, while Quantum achieved 0.52%. SBI's returns exceed Quantum's by 21%, which more than offsets the negligible difference in volatility.

The difference in performance between the SBI ESG Exclusionary Strategy Fund and the Quantum ESG Best in Class Fund can be best explained by their contrasting sector inclusion rules and the portfolio compositions that result from this. The exclusionary approach omits entire unethical sectors, while the

best in class strategy keeps all sectors but only includes the firms with very high ESG scores within each of these sectors. This structural distinction between the two ESG funds directly shapes sector exposure, which affects the stock selection and thus the excess returns generated ultimately.

This is particularly prominent in the financial sector. SBI allocates 22.43% to India's three largest private banks (HDFC Bank (9.36%), ICICI Bank (7.98%), and Axis Bank (5.09%)), capturing the structural banking upswing of 2021-2025. In contrast to this, Quantum's best-in-class methodology excludes firms that do not rank among the highest ESG performers within the sector. Due to this, ICICI Bank and Axis Bank are omitted due to their medium ESG ratings, reducing Quantum's exposure to one of the strongest return-generating segment of the Indian equity market during the sample period considered. Quantum's financial services allocation is nearly 9 percentage points underweight relative to SBI, emphasising the returns it potentially forgoes.

These findings suggest that screening methodology alone doesn't affect risk-adjusted returns. Instead, the realised performance also depends on how the structural characteristics of each screening interact with the market conditions. During the sample period, India's financial sector experienced sustained earnings growth and credit expansion. Since the exclusionary strategy was able to take advantage of it, it had comparatively higher risk-adjusted returns than the best-in-class strategy, which avoided certain companies in the financial sector due to low ESG scores.

This gap is not statistically significant, however, so it should be read as a feature of this sample rather than a proven advantage.

Connection to Literature

The results are in proximity to previous studies, mainly those that prove that integrating ESG does not always lead to statistically significant outperformance. The lack of significant differences in mean excess returns between both ESG funds and the Nifty 50 confirms the results of Milonas et al. (2022) and Hamilton et al. (1993), who also could not find a statistically significant difference in the risk-adjusted returns from ESG investing. At the same time, the result that both ESG funds show better risk-adjusted performance compared to the conventional benchmark, although the difference in mean excess returns is not statistically significant, is in line with the wider results of Michaelsson and Svensson (2020), Gardenier, Lac, and Ashfaq (2021), and Sherwood and Pollard (2018).

The paper finds that exclusionary screening outperforms best-in-class screening. While Gardenier, Lac, and Ashfaq (2021) show that best-in-class screening outperforms exclusionary screening on a risk-adjusted basis, which is different from what is found in the Indian landscape, the pattern is consistent with their conclusion that screening methodology can influence ESG fund performance. This brings forward the relevance of screening design in shaping fund outcomes at the end of the day.

Investor Recommendations

For the risk-averse investor, both mutual funds act as good moderators for volatility due to their low standard deviation and beta compared to the Nifty 50 Index. It indicates lower total and systematic risk, respectively, which makes both ESG mutual funds ideal investment avenues for those investors who want to participate in the stock markets with lesser downside volatility.

On the other hand, for an investor who wishes to maximise profits while being open to taking on higher risks and volatility, the market benchmark becomes the best choice. As observed from the Data Analysis chapter, such preferences do provide higher returns, but they come with high volatility and increased downside risk, as shown in the findings above.

When it comes to socially conscious investors, investing in these ESG funds allows them to participate in the market without compromising their ethical investment preferences in any way. In addition to this, with these ESG funds demonstrating superior risk-adjusted performance, such investors don't have to forgo financial performance on a risk adjusted basis

For long-term growth investors, these ESG investment funds are more preferable, as they typically invest in companies with high ESG scores. This includes firms that adhere to stronger governance and regulatory standards, face fewer compliance and litigation risks, and therefore may offer more stable long-term compounding potential over the long run.

In regard to institutional investors, both ESG investments can be considered more suitable investments since they offer access to the stock market with low risk and better risk-adjusted returns, as well as meeting their regulatory requirements and sustainable goals.

Limitations of the Study

First, the examination conducted is based on a relatively short sample period. 2021-2026 may not fully capture different market cycles that have occurred in the past. This includes periods of extreme stress like the COVID pandemic itself or prolonged bull markets. As a result, the findings may not be results that can be generalised across longer investment horizons or varying macroeconomic conditions.

With that being said, the use of the Sharpe and Treynor ratios as the sole indicators of risk-adjusted performance means that only certain aspects of the risk and return are considered. These measures do not capture liquidity risk, as neither ratio measures the possibility that an asset cannot be sold quickly without significant price concessions.

Another factor worth considering is how both ratios are backwards looking, where they rely on historical data that may not accurately predict future performance or risk.

As a result, qualitative explanations for SBI's outperformance cannot be proven as definitive reasons for the outperformance but rather represent interpretations lacking statistical validation.

In addition to this, the study analyses only two ESG mutual funds. This limits the breadth of comparison and reduces the generalisability of the results. Including several exclusionary and several best-in-class ESG funds would improve the robustness and reliability of the findings that are not provided at this very moment.

A further limitation arises from selection bias inherent in the purposive selection of only one fund per screening methodology. The findings may therefore reflect the characteristics of those specific funds rather than the exclusionary and best-in-class strategies broadly, thereby limiting the generalisability of the conclusions.

CONCLUSION

The empirical analysis shows that both the ESG funds demonstrate superior risk-adjusted performance relative to the Nifty 50 benchmark. Although the Nifty 50 generated slightly higher average excess returns than both ESG funds, the ESG funds achieved superior Sharpe and Treynor ratios due to substantially lower volatility and systematic risk. Moreover, the differences in mean excess returns were not statistically significant. Therefore, investors do not appear to sacrifice risk-adjusted performance by incorporating ESG criteria into portfolio construction. When a comparison is drawn between the two funds, it is the SBI exclusionary fund that is found to have superior Sharpe and Treynor ratios. Despite these observations, however, statistical testing of mean excess returns reveals that neither ESG fund significantly outperforms the Nifty 50. This implies that while the exclusionary fund is superior in terms of a risk-adjusted basis and there exists qualitative reasoning for the same, ultimately, the evidence is not strong enough to establish a definitive performance advantage over the best-in-class strategy within the sample period. The results, therefore, highlight the importance of interpreting risk-adjusted performance metrics in conjunction with statistical significance.

Several avenues warrant investigation as India's ESG market matures. Studies addressing multiple market cycles, specifically bear markets and sustained periods of financial sector underperformance and distress, would clarify whether ESG funds still outperform the market benchmark and whether exclusionary screening maintains its advantage over the best-in-class framework. To understand this, research should be conducted to determine if ESG funds exhibit lower downside risk during market drawdowns compared to the market benchmark.

Future research should examine funds using other ESG screening methodologies, such as norms-based screening. This excludes companies involved in severe or systematic violations of the UN Global Compact and the International Bill of Human Rights. Although such funds may not be widely available in India at present, they may emerge as the market matures, which would allow researchers to assess

whether these approaches deliver superior risk-adjusted performance and strengthen portfolio construction to an even larger extent.

As the Indian ESG market matures, these strategies have the potential to become core components of long-term portfolios.

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