

ESG Ratings in India: Assessing Their Reliability for Investment Decisions

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Abstract

This study aims to evaluate the reliability of ESG ratings in making investment decisions. By analyzing the relationship between asset class concentration and ESG ratings, this study determines the extent to which investors rely on these ratings for profitable investment outcomes. For this study, the ESG mutual fund rating provided by CRISIL¹ for the years 2022-23 was considered. Portfolio performance metrics, risk-reward, and portfolio selection ratios were calculated for these funds. A comparative analysis using a Kendall t-test was performed to measure the differences between CRISIL ratings and performance metrics outcomes to determine if the variations were statistically significant. The study offers insights into the sustainability practices of mutual funds and shows that there is no correlation between traditional performance metrics and ESG ratings. While some highly ESG-rated funds outperformed their peers, others lagged in standard performance indicators, underscoring the ratings' complex nature. While good ESG performance can increase financial outcomes, there is a caveat. Companies often adopt ESG practices to mask business performance leading to a trade-off with genuine financial gains. These ratings are informative, but investors should also weigh traditional metrics to achieve sound financial returns.

Keywords: ESG Ratings, Mutual Funds, Investment Decisions, Portfolio selection ratios, Asset class concentration

1.0 Introduction

India is experiencing a transition towards sustainable investments, paving the way for responsible investments. As there is growing global awareness for responsible investing, the India's financial market is also showing favorable trends towards sustainable investments. Based on the ESG principles, ESG mutual funds are playing a crucial role towards mindful investing. These mutual funds are the investment instruments that have a mandate to invest in companies that are excelling in their environmental, social, and governance (ESG) practices. These ESG ratings are indicators of how companies fulfill their obligations towards investors, employees, communities and the environment, and beyond. It is generally measured in terms of company's adherence to ESG standards adding market appeal of these thematic funds. These mutual funds work with an objective of getting positive bottom lines along with the positive impact. They aim to build a future where companies thrive and contributing in achieving SDG goals through their investment goals. The investors use these ratings to mitigate risks, capture long-term value, and contribute to a sustainable global economy. The companies in turn make use of these ratings to get third-party feedback on their sustainability initiatives. Due to the complexity of measuring ESG criteria, the reliability of any ESG rating is often debated. The reliability of any ESG rating depends upon rigorous evaluation criteria, transparency in disclosure, and consistent benchmarking methodologies. The paper is an attempt to investigate the dynamics, challenges, and growth prospects of ESG funds within the Indian investment landscape. The paper conducts a comprehensive analysis of ESG mutual fund rating to understand the factors driving their acceptance.

The given paper follows a sequence starting with a need of Sustainable Responsible Investing (SRI) and its importance in investment decision making process. This is followed by the focus on ESG mutual funds, exploring their performance metrics and the role of sustainability agencies in shaping their journey among customers. The study considered portfolio concentration as an important consideration in exploring the ESG factors that influence portfolio design and allocation strategies. Within this framework, the concept of ESG ratings has been examined to provide a measure of a company's ESG performance. The subsequent sections put forward the literature review and discuss the relevance of ESG ratings in guiding investment decisions. Within the context of sustainability criteria and financial performance, this article is an attempt to help investors in exploring the complex world of socially responsible investing with clarity.

1.1 Sustainable Responsible Investing

¹ CRISIL, formerly Credit Rating Information Services of India Limited, is an Indian analytical company providing ratings, research, and risk and policy advisory services and is a subsidiary of American company S&P Global.

Sustainable Responsible Investing (SRI), commonly known as socially responsible investing, are introducing new set of principles and priorities into the traditional investment world. It is an investment approach that considers both financial gains and long-term value based on societal or environmental impact (Edmans, 2023). The goal of SRI is to invest in companies that are committed to sustainable practices, ethical behavior, and responsible governance (Boffo & Patalano, 2020; Clément et al., 2023; Rousseau et al., 2021). Bloomberg Media's Sustainable Future Study, 2023, sponsored by Mubadala, suggested that sustainable investing has gained significant traction and has become widely adopted. The study indicates that in the fiscal year of 2022, the total assets under management in sustainable investments reached approximately \$37.8 trillion, and this figure is projected to surpass \$53 trillion by 2025². Many asset managers and financial institutions now offer SRI funds or portfolios to meet the growing demand for socially conscious investments (Curtis et al., 2021; Helwig et al., n.d.; Muñoz et al., 2014). There is a growing demand for dependable data on companies' social contributions to the SRI sector. Henceforth, the ESG rating agencies have increasingly gained prominence (Avetisyan & Hockerts, 2017; Pagano et al., 2018; Townsend, 2020).

ESG scores assess the company's promise to sustainability, social responsibility, and the and governance effectiveness through data-driven assessment (Clementino & Perkins, 2021). The government has introduced both regulatory pressure and financial incentives to address the ESG climate. The Securities and Exchange Board of India (SEBI) has implemented the Business Responsibility and Sustainability Reporting framework, with the objective of bringing standardized reporting practices for divulging information regarding the ESG parameters within Indian companies (India, 2021). Even the global investors and private equity firms are advised to prioritize ESG integration as a prerequisite for evaluating new investment opportunities.

1.2 ESG Mutual Funds

Among the variety of investment options, mutual fund investing has gained lot of attention. From INR 7.46 trillion in assets under management (AUM) as of September 30, 2013, the AUM shot up to INR 46.58 trillion by September 30, 2023, a six-fold increase in just 10 years. In the last five years, the AUM surged from INR 22.04 trillion in 2018 to the 2023 figure, doubling in value. Also a milestone was achieved in May 2021 when the industry grew over INR 10 crore folios.³ These funds help investors to drive benefit from diversified portfolios managed by experts. These mutual funds can be classified into two main groups, namely conventional mutual Funds and ESG mutual funds. While conventional mutual funds focus primarily on financial returns, ESG mutual funds incorporate Environmental, Social, and Governance factors into their investment criteria.

ESG mutual funds invest in companies that pursue positive social impact along with financial returns (Larcker et al., 2022; Søren Hvidkjær, 2017). These mutual funds follow the approach of exclusive screening where these funds exclude companies that conflict with certain ESG principles and avoid sectors like tobacco, weapons, fossil fuels, or other sectors (Boffo & Patalano, 2020). These funds go for positive screening and select companies that focus on those that have positive environmental or social practices like renewable energy, sustainable agriculture, or community development. Certain funds are incorporating ESG factors alongside traditional financial metrics when evaluating company's long-term viability and potential performance. (Whelan et al., 2021). Numerous responsible investment guidelines and policies have emerged to guide investors for ethical investing and making ethically sound choices (Clementino & Perkins, 2021).

1.3 Fund Performance

Fund performances varies across various categories like large-cap, mid-cap, and small-cap within a portfolio and leads to different performance outcomes for each category (Pati 2008, Das, Chatterjee, et al., 2018; Das, Ruf, et al., 2018; Guimarães & Malaquias, 2023; Iamandi et al., 2019). As a result, investment portfolio trackers are crucial instruments for guiding ESG investment choices and assessing risks (Pagano et al., 2018). Therefore, adopting a comprehensive investment method that integrates both active and passive strategies is crucial to mitigating these risks. The passive investment approaches observed in index funds, seek to replicate the performance of market indices (Chakrabarti et al., 2014; Cruciani & Santagiustina, 2023). This approach relies on the market dynamics including both developed markets and emerging ones. Market fundamentals guide the direction of these passive investments, with the goal of reflecting the market index and achieving parallel market return.

The performance of a mutual fund is influenced by multiple factors like fund size, the expertise of the fund manager, and prevailing market conditions. The larger funds may face challenges in moving in and out of positions without impacting the market whereas smaller funds may offer agility (Chakrabarti et al., 2014; Das, Chatterjee, et al., 2018). This allows the fund manager to make quick decisions and capitalize on short-term market opportunities. The fund manager's expertise plays a central role in the overall success of the funds (Billio et al., 2021; Muñoz et al., 2014). Their knowledge and approach directly edict the fund's returns. Even a supportive fund sponsor offers vital resources so that the fund operates efficiently and meets its performance objectives. The market factor returns based on factors like size, value, momentum, and volatility provide investors with an outlook for informed decision-making (Candelon et al., 2021). The ratios like the

² <https://sponsored.bloomberg.com/article/mubadala/the-future-of-esg-Investing>

³ <https://www.amfiindia.com/indian-mutual>

Sharpe ratio, Jansen alpha ratio, Taylor ratio and CSR Expense ratio (Farhan et al. 2022) are instrumental in evaluating mutual fund performances. Many scholars base their research on these metrics to conduct their studies.

Satheesh Kumar Rangasamy, Dr. Vetrivel T and Athika M (2016) assessed the performance of mutual funds in the Indian context by using Treynor, Sharpe, and Jensen ratios. The study suggested that past performance does not ensure future outcomes. The researchers recommended that investors should weigh their personal risk tolerance, investment objectives, and time horizon. The study also emphasized the importance of conducting a comprehensive analysis before making investment decisions in any mutual fund.

Avijit Mallik, Saad Niamatullah and Swarup Saha (2019) prepared a detailed study to distinguish skilled asset managers from unskilled asset managers. For this research, the weekly NAV based on market value was collected from 76 mutual funds supervised by 16 asset management companies (AMCs). The weekly returns of the DSEX and each individual fund were determined separately using metrics, Jensen Alpha, Sharpe Ratio, Treynor Ratio, and Modigliani M2 Alpha ratio. For AMCs handling several funds, these metrics were weighted by assets to develop an overall measure for the AMC. The study established that only 5 of the 16 AMCs surpassed the DSEX index, earning an alpha above the benchmark.

1.4 Sustainability Rating Agencies

ESG ratings offer a snapshot of a company's overall ESG performance, its impact, and comparative standing within its industry for making informed investment choices by the investors. These rating systems can be classified into three main categories, Impact ratings, Risk ratings, and Benchmark-related products. The Impact Ratings attempt to measure the positive impact of companies' operations on environmental, social, and governance (ESG) issues. They explore the net positive benefit or contribution of a company's products, services, or operations towards specific sustainability goals like SDGs. For example, the rating offered by Sustainalytics in the form of an Impact Score. Risk ratings focus on how companies manage and mitigate ESG risks intrinsic to their operations. For example, the Company ESG Risk Rating from Sustainalytics and MSCI's ESG Ratings.

In India, several agencies are offering ESG ratings and assessments for companies. Some of the prominent ones include CRISIL, Moody's ICRA, India Ratings and Research, Sustainalytics, MSCI ESG Research, and many more. Given that CRISIL holds the dominant market share in the credit rating agency business, the study has used CRISIL's ESG credit rating score for its analysis⁴. These agencies are evaluating the Indian companies' ESG practices, offering investors critical data to make informed decisions. Institutional investors, both domestic and foreign, consider ESG scores when making investment decisions. However, while awareness and adoption were growing, standardization of ESG metrics and concerns about greenwashing remained challenges in the Indian context.

Company	Headquartered	Services Offered	Market share
CRISIL	Mumbai	Rating, Market Intelligence and Analytics, Global Research and Risk Solution, Global Analytics	Rating of 35000+ companies of Indian companies
ICRA	Gurgaon	Rating, Grading, and Research	Rating of 200000+ Indian companies
India Ratings and Research	Bandra, Mumbai	Rating, Research & Publication	Mainly into Research and Publication
Morningstar Sustainalytics	Amsterdam, Netherland	ESG Rating Risk	
MSCI	London	Investment Decision, Data technology, ESG Investing and Rating	

Table 1 Leading Credit Rating Agencies in India
 Source: Author's Compilation

1.5 ESG Ratings

ESG ratings are gaining prominence in responsible investment because they assess a company's environmental, social, and governance practices. These ratings enable investors to align their portfolios with ethical standards and capitalize on sustainable opportunities. The investors support companies that are transparent about their ESG performance. These ratings which offer standing in the market to the companies are greatly significantly influenced by market characteristics. A mature market with strong ESG practices witnesses higher investor demand for responsible investments. This in turn affects the stock prices and capital flows and help businesses to identify opportunities for growth and innovation. As ESG awareness grows, companies with high ratings may enjoy premium valuations, better access to capital, and lower capital costs. Conversely, in emerging markets or sectors less exposed to ESG scrutiny, the impact might be subdued. However, regulatory environments, stakeholder expectations, and societal values continuously reshape ESG practices and their market impact. Hence ESG ratings along with market characteristics has a potential to shape the investment decisions for

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both investors and corporate behaviors. These ratings are based on various performance indicators mostly nonfinancial in nature like environmental impact, internal governance structure and corporate social responsibility (CSR).

1.6 Portfolio Concentration

Portfolio concentration refers to portfolio diversification and indicate the extent to which it is invested in a specific asset, sector, or geographic region. A highly concentrated portfolio consisted of significant allocation of its capital to a few investments or a particular market segment. Conversely, a diversified portfolio allocates its holdings across various asset classes, industries, and regions. This helps in mitigating the potential impact of adverse performance in any single investment or market segment. An asset-concentrated portfolio would be having investments in stocks, bonds, real estate, or commodities whereas sector concentrated would be having investments in specific industry sectors like technology or healthcare. The allocation of investments in specific geographic regions or countries is referred to as geographic concentration a portfolio concentrated in a single country or region may be more exposed to local economic, political, or regulatory risks.

The companies have to tradeoff between risk and potential returns on the basis of portfolio concentration. A concentrated portfolio can deliver substantial gains if the investments perform well, but it also carries higher risks due to the lack of diversification. Conversely, a diversified portfolio aims to reduce risk by spreading investments across various assets, sectors, and regions, but it may sacrifice the potential for outsized returns from concentrated positions. Hence, portfolio design strategies are important parameters for determining the performance of the portfolio. The selection and information of the security market determine the performance of fund managers.

2.0 Study Objectives

ESG (Environmental, Social, Governance) fund rating evaluates investment funds based on their commitment to environmental, social responsibility, and good governance. The funds with high ESG ratings exhibit a strong commitment to ethical and sustainable practices. It makes them appealing to socially conscious investors. The rating system allows the investors to align their financial goals with ethical values and support companies that prioritize long-term impact and responsible practices. *This paper aimed to understand the significance and reliability of ESG Funds ratings, and the role of asset class concentration and security selection in portfolio construction. This paper is an attempt to review the ESG rating given by a third party and analyze the risk-adjusted financial performance of these ESG mutual funds.*

3.0 Literature Review

ESG investing traces its origins back over 200 years to the Methodist Movement, which protested against investing in companies involved in the production of tobacco, weapons, and other contentious industries. They refrained from supporting companies engaged in environmentally and socially irresponsible practices (Clément et al., 2023). A similar sentiment emerged during the 1960s, particularly in response to the Vietnam War and other financial crises over a period of time eroding the investor value proposition. The research in the 1990s focused on the risk implications of ESG whereas the subsequent research in the 2000s explored the relationship between ESG practices and financial benefits (Jennifer Bender, 2017). Various theories like stakeholder theory, legitimacy theory, resource-based theory, and agency theory have been used to explain the motives of companies to engage in ESG activities.

Extant literature suggested a positive link between high ESG scores and profitability (Das, Ruf, et al., 2018; Giese et al., 2019; Helwig et al., n.d.; Mobius & Ali, 2021; Shaikh, 2021; Søren Hvidkjær, 2017; Wan et al., 2009; Wong et al., 2022). The reason could be that these companies exhibit robust operational and risk management, leading to better long-term financial outcomes (Boffo & Patalano, 2020; Townsend, 2020). These companies are resilient against regulatory changes (Gerard et al., 2021), reputational risks (Boffo & Patalano, 2020; Iamandi et al., 2019; Zumente & Bistrova, 2021), and potential environmental or social liabilities (Ademi & Klungseth, 2022). Because of their rating, they can attract better talent (Larcker et al., 2022) and enjoy customer loyalty. However, it's interesting to note that there is a correlation (Larcker et al., 2022; Stubbs & Rogers, 2013), however it doesn't necessarily imply causation. The ESG ratings should be considered alongside other financial metrics when assessing a company's profitability potential (Boffo & Patalano, 2020). Stakeholder theory emphasizes the importance of connecting to various stakeholders (Fuadah et al., 2022), while ESG ratings assess the company's expansive societal influence. A good ESG score reveals that a company's practices bring into line with societal expectations (Deloitte Global Millennial Survey, 2019; Iamandi et al., 2019; Moody-Stuart, 2021), improving its acceptability. Many times, high ESG ratings frequently associate with pro-environmental initiatives (Ademi & Klungseth, 2022; Clementino & Perkins, 2021), stakeholder relationships, and good governance (Wong et al., 2022). Mastering these domains not only bolsters a company's standing but also diminishes risks, fortifies stakeholder confidence, and paves the way for enduring value creation—echoing principles of the resource-based theory. From an agency theory perspective (Wong et al., 2022), an impressive ESG rating signifies that company leadership is more attuned to shareholders' long-term aspirations, rather than fleeting gains, encouraging alignment and minimizing inherent conflicts by underscoring the symbiotic relationship between sustainable practices and sustained financial prosperity.

The extant literature depicted a complex picture on the link between sustainability reporting and firm performance. Some studies (Gupta and Gupta, 2020; Aboud and Diab, 2018; Bernardi and Stark, 2018; Li et al., 2017; Han et al., 2016; Nyead

et al., 2018, Agyemang and Ansong, 2017; Ikram et al., 2020) have indicated a positive impact of sustainability reporting on firms' performance. Whereas other studies conducted by Gonzalez-Benito (2005), Brammer et al. (2006), Lopez et al. (2007), and Nakamura (2015) have suggested a negative association between sustainability reporting and performance metrics. However, studies such as Barnea and Rubin (2010), Fauzi et al. (2007), and Siew et al. (2013) have failed to establish a statistically significant relationship between sustainability reporting and firm performance. This mixed bag of findings highlighted the need for further research to understand this relationship and identify factors that influence the direction and strength of the impact.

ESG investments gained significant momentum in further years and subsequent reports reveal that companies performing strongly on ESG parameters experienced improved financial outcomes between 2014 and 2016. ESG scores have become a popular tool for sustainability measurement and are frequently used index for evaluating companies' commitment to sustainability standards (Howard-Grenville, 2021). There are multiple theoretical frameworks that highlights various dimensions of ESG and their impact on value and performance (De Grosbois, 2012). The initial investments may impact short-term financial performance (Abdi et al., 2022) and can also generate profits by establishing and creating brand awareness (Branco & Rodrigues, 2006).

With the integration of ESG factors into operational and strategic decision-making, it is important for firms to adopt a consistent method for identifying and measuring the ESG risks across all levels. This will also help organization to strengthens their operations and develop effective communication strategies with stakeholders. The impact of ESG initiatives on company performance remains an enigma as suggested by mix messages from researchers (Miralles Quirós et al., 2019; Moore, 2001). The influence of ESG initiatives on company performance remains a puzzle, as indicated by different findings from researchers (Miralles Quirós et al., 2019; Moore, 2001). The effects can be positive, negative, or neutral depending on the details. Therefore, there is a need of further research involving applying different methodologies with various samples (Lee et al., 2013; Park et al., 2017) to investigate the influence of ESG initiatives on firm value and performance.

4.0 Data Description

This study is based on quantitative analysis through an empirical examination of the top nine active ESG mutual funds operating in India. These top nine ESG mutual funds rating has been offered by the independent credit rating agency CRISIL MI&A Research for the year 2022-23. The selection criteria for these funds included having a socially responsible mandate, being domiciled in India, and for their track record from 1991 to 2021.

The oldest fund was SBI Magnum Equity ESG Fund - Regular Plan – IDCW which was launched in the year 1991 and the youngest fund was Invesco India ESG Equity Fund - Regular Plan-Growth launched on Mar 22, 2021. The selected sample mutual funds are rated based on their environment, social and corporate governance initiatives and ESG composite score was derived as a weighted average of E, S, and G scores. Two ESG rankings were developed on the basis of Crisil rating and the other based on the calculation of mutual fund performance. This performance was calculated on the basis of risk and return criteria where Nifty 50 and ESG ETF categorical average were considered as a benchmark The portfolio's risk-return performance was evaluated using the Sharpe ratio, Treynor ratio, and Jensen alpha ratio. In order to have a thorough understanding of returns from both active and passive investments, the study has employed Fama's three-stage superior selectivity and information ratio. In addition to this, performance parameters of selected mutual funds were analyzed by relating them to an ESG category indexed fund, serving as a benchmark for evaluation.

5.0 Data Analysis

In order to understand the ESG integration into mutual funds, a content analysis was performed for the best ESG Mutual fund in India as per the CRISIL rating shown in Table-2.

Table2: ESG Mutual fund in India

S. No.	Fund name	E Score	S Score	G Score	ESG Score	Ranking*
1	Mirae Asset Nifty 100 ESG Sector	62	61	75	67	1
2	Quantum India ESG Equity Fund - Regular Plan - Growth	60	59	75	66	2
3	Invesco India ESG Equity Fund - Regular Plan - Growth	58	58	74	64	3
4	Axis ESG Equity Fund - Regular Plan - Growth	57	57	74	64	4
5	Aditya Birla Sun Life ESG Fund - Regular Plan - Growth	57	57	73	63	5
6	Kotak ESG Opportunities Fund - Regular Plan - Growth	57	59	72	63	6
7	ICICI Prudential ESG Fund - Regular Plan - Growth	58	57	72	63	7
8	Quant ESG Equity Fund - Regular Plan - Growth	55	60	71	63	8
9	SBI Magnum Equity ESG Fund - Regular Plan - IDCW	57	56	70	62	9
	Average	58	58	73	64	
	Standard Deviation	2.02	1.64	1.80	1.61	
	Coefficient of Variation	0.03	0.03	0		

Source: CRISIL ESG Rating 2022

According to the CRISIL reports, Mirae Asset Mutual Fund leads the pack with a top ESG score of 67, exceeding the average of 64 across nine analyzed funds. While the average scores for governance was 73, environmental and social scores lag at 58. It can be concluded that ESG fund managers should focus on governance in stock selection over environmental and social aspects. It can also be inferred that despite strong ESG credentials, these funds haven't shown exceptional performance. This could be due to many factors like their recent launch post-2019 and their large-cap tilt, resulting in performance similar to broader market indices. These ESG-tilted funds enhance their overall value proposition however their performance requires closer monitoring.

Table 3: Coefficient of variation within equity investment of ESG Mutual fund

Asset Class Investment	Coefficient of Variation
Large Cap	0.25
Mid Cap	0.6
Small Cap	0.57
Other	0.5

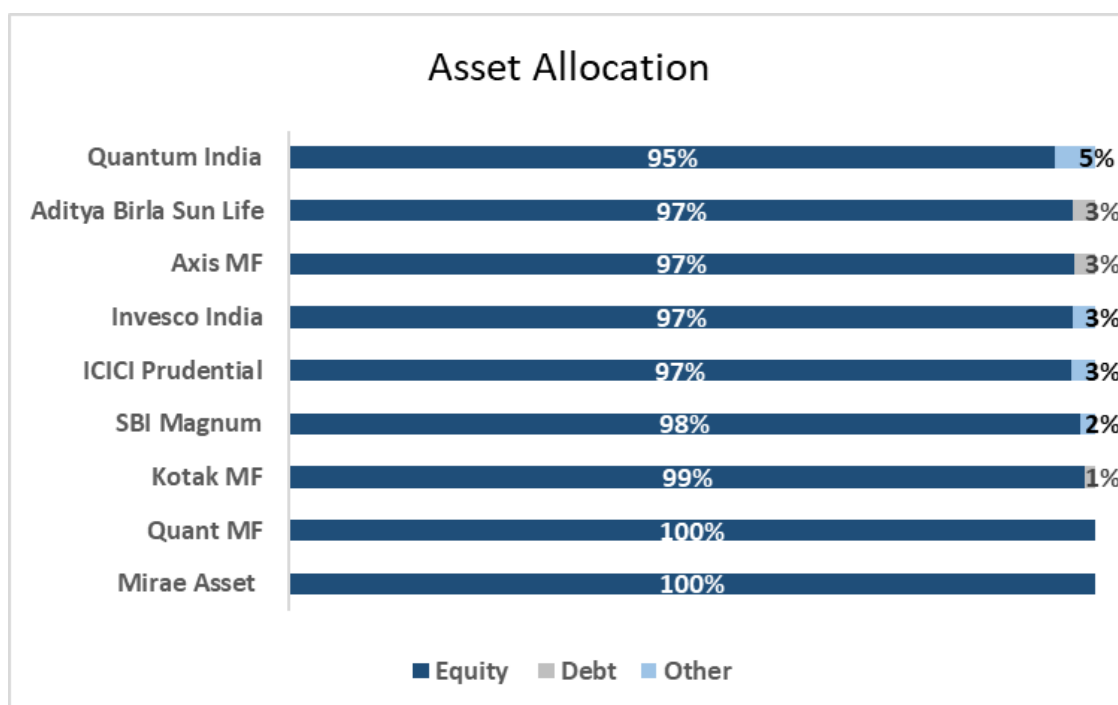
Source- Author Calculation

From the above table-3, it can be observed that the coefficient of variation (CV), is the ratio of the standard deviation to the mean, for E, S, and G scores are 0.03, 0.03, and 0 respectively. The coefficient of variation for E and S scores are similar indicating that all the ESG fund managers are currently placing less emphasis on environmental and social considerations in their investment decisions. They focus more on the governance practices of the companies as defined by the statutory requirements. This includes their board structure, executive compensation, shareholder rights, transparency, and ethical business practices reflecting the strong corporate governance practices. This can reduce the risk of misconduct, fraud, and other governance-related issues.

5.2 Portfolio Design Strategies

Portfolio design strategies refer to the various approaches and techniques used by fund managers to construct and manage the performance of investment portfolios. The performance of the mutual fund is determined by various metrics and measures that assess the fund's returns and compare them to relevant benchmarks. It is highly dependent on the asset allocation and security selection done by the fund manager. In order to determine the portfolio performance, it is crucial for the fund manager to analyze the concentration of holdings in terms of sectors and types of securities. Hence, the understanding of portfolio concentration across different sectors and types of securities is vital in assessing its performance. The below graph-1 represented the preferred investment asset classes selection of the selected sample.

Graph1- Asset Class Allocation in ESG Mutual fund in India



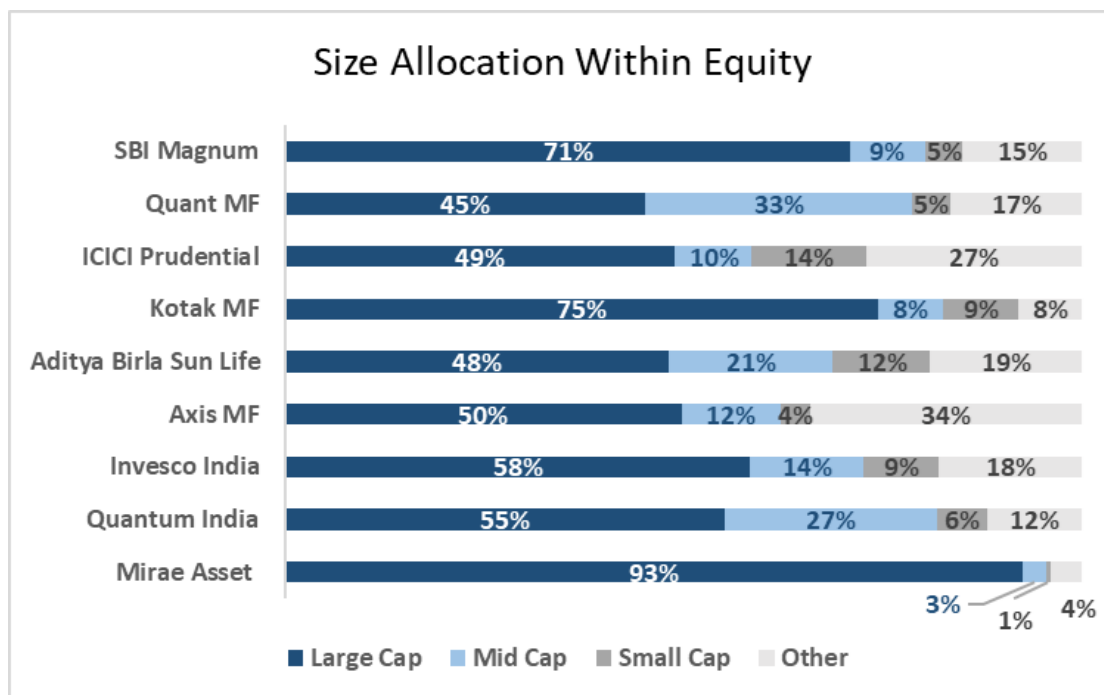
Data Source: Factsheet of Mutual Fund

From the above graph, it can be inferred that debt and equity are the preferred investment asset classes of the selected ESG mutual funds. The reason for such preference for these instruments could be the availability of comprehensive and standardized metrics for analysis. ESG data providers often offer detailed information on company practices, disclosure, and performance, facilitating the assessment of ESG factors for potential investment opportunities. Also, ESG investing is often seen as a long-term strategy, and debt and equity investments align well with this approach. These instruments tend to be more liquid compared to other asset classes, providing greater flexibility for ESG fund managers to buy or sell investments as needed. This liquidity allows for effective portfolio management and risk mitigation. However, these funds do not show a preference for other classes like green bonds, sustainable infrastructure, or impact investments.

With the given choices of debt, equity, and other, the selected ESG funds have shown a preference for equity where equity concentration in the portfolio ranges from min 95% to max 100%. Equity investments are often favored in ESG mutual funds as they provided a direct ownership stake in companies, and give ESG fund managers the ability to exercise shareholder rights, such as voting on company resolutions, participating in annual general meetings, and submitting shareholder proposals. This enables them to push for ESG-related initiatives, improve governance practices, and hold companies accountable for their environmental and social impacts. Also, the equities have the potential for capital appreciation over the long term.

ESG mutual funds manage the distribution of investment capital across companies of varying sizes within equity investments. The company size is commonly measured by market capitalization that influences the overall risk and return profile of the fund. When addressing size allocation, the options involve categorizing companies into different market capitalization segments like large-cap, mid-cap, and small-cap. Some ESG funds may have a specific size bias based on their investment strategy or focus. For example, an ESG fund focused on impact investing might favor smaller companies with high growth potential and a strong social or environmental mission.

Graph 2: Size allocation within equity investment of ESG Mutual fund

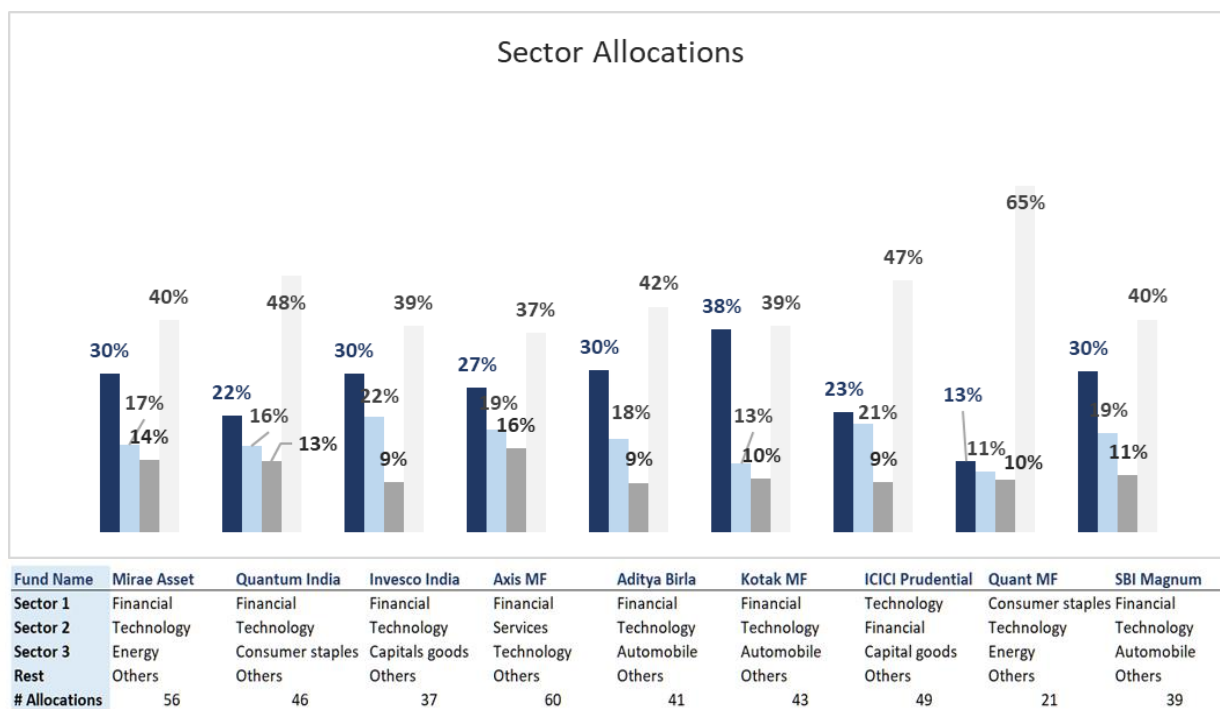


Source: Data from selected Mutual Fund factsheet, compiled by the Author

In the selected sample of ESG mutual funds, it was found that most funds showed a preference for large-cap investments, followed by small-cap and mid-cap investments. However, the Quant mutual fund and Quantum India indicated the preference for mid-cap investments as the second choice. Based on the analysis, it can be inferred that mid-cap securities exhibit the highest coefficient of variation, suggesting inconsistency in security selection and weighting within the mid-cap segment.

5.3 Sectorial Portfolio Concentration

Graph -3 Sectorial Portfolio Concentration of ESG Mutual fund



Source: Data from selected Mutual Fund factsheet, compiled by the Author

Sectorial portfolio concentration refers to the quantitative assessment of the degree to which a portfolio may be concentrated in a set of particular business sectors. It measures the allocation of investments across different sectors within the portfolio. In the selected sample, the average number of sectors in which investments were made ranged between 40 and 45 sectors. However, there were outliers in terms of the number of sectors invested in. The Quant ESG mutual fund had a lower number of investments in 21 sectors, while the Axis ESG mutual fund had investments in as many as 60 sectors. Within the given table, sectors 1, 2, and 3 indicate the highest levels of sectorial investment among the selected sample. Technology and finance emerge as the most favored sectors for investment. It is observed that nearly all portfolios within the 50% range have invested in companies from the technology and finance sectors, except for Quant MF and Quantum Mutual Fund. These two mutual funds have allocated their investments toward the consumer staples sector and other sectors.

Table-4 Frequency of stock selection across the selected sample

Sr. No	Company Name	Frequency
1	ICICI Bank Ltd.	8
2	Reliance Industries Ltd.	2
3	Housing Development Finance Corporation Ltd.	6
4	Infosys Ltd.	7
5	Tata Consultancy Services Ltd.	6
6	Larsen & Toubro Ltd.	2
7	Kotak Mahindra Bank Ltd	4
8	Axis Bank Ltd.	4
9	Hindustan Unilever Ltd.	1
10	Bharti Airtel Ltd.	2

Source- Author Calculation

The table-4 presents the frequency of stock selection across the selected sample, indicating the preferences of the fund managers. It revealed that ICICI Bank, Infosys Ltd, and Housing Development Finance Corporation Ltd are the preferred stocks among the fund managers.

5.4 Portfolio Performance

Portfolio performance refers to the measurement and evaluation of how well an investment portfolio has performed over a given period of time. It assesses the returns generated by the portfolio relative to its benchmark or relevant market indices, taking into account factors such as risk, volatility, and other performance metrics. The key components of portfolio performance evaluation included returns, benchmark comparison, risk-adjusted returns, consistency, and others. Hence the annualized rate of return, and risk-adjusted performance metrics like Sharpe ratio, assess the excess return generated per unit of risk taken. Various other performance metrics can also be used like alpha (excess returns compared to the benchmark), beta (sensitivity to market movements), and standard deviation (volatility). The benchmark comparison helps to determine if the portfolio has achieved its objectives and provides a reference point for evaluating the fund manager's skill and investment decisions. Along with these the funds should also show consistency in meeting the stated investment objectives.

Table 5: Mutual Fund Performance Indicator

Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10
Mutual Fund Performance Indicator	Mirae Asset Mutual Fund	Quantum Mutual Fund	Invesco India ESG Equity Fund	Axis ESG Equity Fund	Aditya Birla Sun Life ESG Fund	Kotak Mahindra Mutual Fund	ICICI Prudential Mutual Fund	quant ESG Equity Fund	SBI Mutual Fund
Sharpe Ratio	5	2	9	7	8	6	3	1	4
Treynor Ratio	4	3	8	7	9	5	1	2	6
Jensen Alpha	5	2	9	7	8	6	3	1	4
Average	4.67	2.33	8.67	7	8.33	5.67	2.33	1.33	4.67
Benchmark is Nifty-50	5	2	9	7	8	6	3	1	4
Benchmark is ESG ETF categorical average	5	2	9	7	8	6	3	1	4
Fama three stage									
Risk-Free Return	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Return due to market risk	-0.026	-0.018	-0.023	-0.022	-0.021	-0.026	-0.022	-0.022	-0.022
$r1 = bp*(rm-rf)$									
Return Resulting from imperfect diversification	-0.071	-0.061	-0.072	-0.074	-0.075	-0.079	-0.057	-0.091	-0.073
$r2$									
Superior return from pure selectivity	-0.017	0.014	-0.087	-0.026	-0.07	-0.013	0.011	0.045	-0.009
$r3 = rp - (rf + r1 + r2)$									
Information ratio	-10.48	-6.09	-19.22	-11.23	-16.02	-10.56	-6.84	-4.6	-9.58

Source- Author Calculation

The Quant ESG Equity Fund secured the top ranking according to both the Sharpe ratio and Jensen Alpha demonstrating robust risk-adjusted performance. In contrast, the Invesco India ESG Equity Fund received the lowest rating. Both the Quant ESG Equity Fund and Quantum ESG Fund have outperformed other ESG funds in the sample. The Fama net superior selectivity ratio of the Quant and Quantum ESG funds is positive and higher compared to the rest of the sample, suggesting their superior stock selection abilities. These ESG funds have primarily invested in mid-cap securities after large-cap investments, while the remaining funds have diversified their investments across other types of securities. The information ratio measures the active manager's performance against a passive benchmark. In the selected sample, the information ratio is negative, indicating that the active managers have underperformed the benchmark. Overall, the Quant ESG Equity Fund and Quantum ESG Fund have exhibited strong performance and superior selectivity, while the remaining funds have shown relatively weaker performance and negative information ratios.

The research suggested that ESG funds haven't delivered standout returns and haven't outperformed the market within a specific timeframe. There are many reasons for the same. One of the primary reason is the relatively recent launch of numerous ESG funds post-2019 limiting their performance history. Furthermore, the most of the ESG funds are having

notable exposure to large-cap companies, resulting in performance akin to that of large-cap funds. It can be concluded that investors seeking alpha may need to look beyond the pure ESG funds for market-beating returns.

Table-6: Kendall Tau test Correlations

		Crisil_Rating	Rating_Performance
Kendall's tau_b	Crisil_Rating	1.000	-.278
	Correlation Coefficient		
	Sig. (2-tailed)	.	.297
	N	9	9
Rating_Performance	Rating_Performance	-.278	1.000
	Correlation Coefficient		
	Sig. (2-tailed)	.297	.
	N	9	9

Source- Author Calculation

A Kendall Tau test (table 6) was performed to examine the link between ESG mutual fund rankings from CRISIL and rankings derived from the funds' performance. The results revealed a slight, negative correlation between CRISIL's rankings and performance-based rankings, which wasn't statistically significant ($R_s(9) = .278, p = .297$). Hence there is no difference between CRISIL's rankings and those determined by fund performance evaluations.

6.0 Discussion

Investors and stakeholders consider a company's ESG performance as a measure of its long-term sustainability, risk management capabilities, and potential for value creation. The given study highlighted the challenges of ESG investments within the Indian context. The study suggested agreement between CRISIL's rankings and the performance calculations of ESG mutual funds. As institutional investors are quite gaga towards ESG funds, it can be concluded that both regulatory influences and the financial performance of these funds are primary drivers in India. However, the ESG ecosystem in India isn't without challenges. A lack of standardized ESG metrics, gaps in disclosure mechanisms, and a lack of investor awareness can block growth. The evident discrepancies in ESG rating methodologies call for a benchmarking approach. The integration of ESG funds and Sustainable Development Goals (SDGs) underscores the potential of these investments in terms of both financial and sustainable development objectives.

From a performance perspective, the Mirae Asset Nifty 100 ESG Sector emerged as the top player. It is followed by the Quantum India ESG Equity Fund - Regular Plan – Growth, Invesco India ESG Equity Fund - Regular Plan – Growth, Axis ESG Equity Fund - Regular Plan – Growth, Aditya Birla Sun Life ESG Fund - Regular Plan – Growth, Kotak ESG Opportunities Fund - Regular Plan – Growth, ICICI Prudential ESG Fund - Regular Plan – Growth, Quant ESG Equity Fund - Regular Plan – Growth, and SBI Magnum Equity ESG Fund - Regular Plan - IDCW.

A significant trend among ESG funds is their inclination towards large-cap companies, a similarity they share with traditional large-cap funds. It was followed by followed by small-cap and mid-cap investments. In the selected sample, the average number of sectors in which investments were made ranged between 40 and 45 sectors. Interestingly, while the environmental and social tenets of ESG are pivotal, the current investment trends lean heavily on governance, as determined by regulatory norms. Given the long-term nature of ESG investments, the predominance of liquid debt and equity instruments aligns well with the strategic vision of these funds. This offers flexibility and avenues for risk mitigation. A closer examination of investment trends revealed a preference for the technology and finance sectors. It was observed that nearly all portfolios within the 50% range have invested in companies from the technology and finance sectors, except for Quant MF and Quantum Mutual Fund. These two mutual funds have allocated their investments toward the consumer staples sector and other sectors. Notably, ICICI Bank, Infosys Ltd, and Housing Development Finance Corporation Ltd stand out as favored stocks among fund managers. In essence, the study provides an encompassing view of the ESG investment landscape in India, with implications for stakeholders ranging from policymakers to investors.

7.0 Conclusion

Good ESG performance is believed to contribute to better financial performance, and reputation enhancement for companies in the long run. Hence, companies must give serious attention to ESG factors, as customer demand is increasingly influenced by these considerations. The given study discussed the current state of ESG mutual funds in India. It suggested that ESG mutual funds have performed poorly in financial terms and are not able to deliver better ESG performance. The highest-rated funds in terms of sustainability have attracted more capital than the lowest-rated funds. However, the funds with the highest sustainability did not surpass any of the funds that have the lowest ratings.

Despite experiencing outflows and stagnant asset growth, industry experts believe it is too early to judge their success as an investing theme. There are many companies that publicly embrace ESG and use it as a cover for poor business

performance. These ESG mutual funds are sacrificing financial returns without gaining much. In conclusion, integrating ESG into decision-making is crucial for companies. However, the motivation should stem from a genuine desire to make a positive impact on the environment, society, and governance, rather than solely responding to investor pressure. There will always be early adopters who lead the way, followers, who eventually catch up, and some who approach ESG with a tick box mentality. In summation, this research paper offers a granular view of India's evolving sustainable investment journey marked by the rise of ESG mutual funds. By highlighting their challenges and societal impact, it provides valuable insights for policymakers, investors, and financial analysts navigating India's sustainable investment frontier.

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