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Circular Economy Goals, Large Capitalisation, and ESG Funds: An Investment Perspective

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ABSTRACT

In the context of an obvious 32% growth, the relationship between the circular economy, risks and returns is becoming increasingly relevant. ESG indicators are increasingly pivotal in global investment decisions. The **purpose** of the study is to demonstrate that ESG-mandated companies are more likely to yield sustainable long-term performance, advocating for investors to consider ESG-based mutual fund schemes. The research evaluates the performance of the top 10 high-capitalization and ESG equity funds, comparing them to the Nifty-50 benchmark index using various performance metrics. An increasing trend in ESG-compliant investing is observed, contributing to the circular economy. It was **concluded** that even post-risk adjustment, ESG funds remain lucrative, offering sound long-term returns. Statistically significant returns are noted in both funds and index. The study recommends companies revise policies towards ESG compliance and investors kindness ESG funds. The **novelty** of the study is that it gives a new insight into the performance of two different categories of funds, how well circular economy strategies can contain investment risk and provide risk-adjusted returns.
Keywords: ESG funds; investment; productivity; risk; income; circular economy

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ОРИГИНАЛЬНАЯ СТАТЬЯ

Цели циркулярной экономики, большая капитализация и фонды ESG: инвестиционная перспектива

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АННОТАЦИЯ

В условиях очевидного роста экономики на 32% все более актуальными становятся вопросы о взаимосвязи между циркулярной экономикой, рисками и доходностью. Показатели ESG все чаще используются в качестве критерия выбора инвестиций по всему миру. **Цель исследования** — доказать, что компании, которые следуют мандатам ESG, с большей вероятностью обеспечат долгосрочную устойчивую производительность, поэтому инвесторы, ищущие привлекательные долгосрочные инвестиционные возможности, должны обязательно рассмотреть такие инвестиционные продукты, как схемы взаимных фондов, основанные на философии ESG. В статье оцениваются показатели десяти крупнейших паевых инвестиционных фондов с высокой капитализацией и ESG, включенные в рейтинги CRISIL и Morningstar 2021–2022 гг., и сравниваются с эталонным индексом Nifty-50 на основе соотношения риска и доходности. Применяются различные абсолютные и относительные показатели эффективности, такие как коэффициенты Шарпа, Трейнора и альфа Дженсена. Отмечается новая тенденция инвестирования в компании, соответствующие ESG, что помогает замкнуть петли циркулярной экономики. Сделан **вывод**, что даже после корректировки на риск фонды ESG являются чрезвычайно выгодными инвестиционными вариантами и способны генерировать устойчивый и долгосрочный доход. Кроме того, результаты исследования показывают, что доходность фонда и индекса статистически значимы. Компаниям рекомендовано пересмотреть свою политику в сторону соответствия требованиям ESG, а инвесторам — в сторону выбора фондов ESG. **Новизна исследования** состоит в том, что оно дает новое представление о результатах деятельности двух различных категорий фондов, о том, насколько хорошо стратегии циркулярной экономики могут сдерживать инвестиционный риск и обеспечивать доходность с поправкой на риск.
Ключевые слова: ESG-фонды; инвестиции; производительность; риск; доход; циркулярная экономика

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INTRODUCTION

The system of Circular Economy (CE) provides a solution and revolution framework that addresses the worldwide issues of change in climate, biodiversity, and pollution conditions. The progress of the industry is mostly dependent on the awareness of the industry's players and investors. Capital markets across the globe, along with international financial participants, are providing advanced efforts to formulate new reforms in the area of sustainable finance oriented towards a circular economy and sustainable finance that focus on reducing environmental traces and inequalities in social obligations. The global markets are also emphasizing strengthening capital market sustainability and competition (V.D. Beloskar and V.S.D. Rao [1]). The monetary sector is progressively snatching the opportunity in the area of CE, along with the with the persistent investment movement that is on the increase. Public equity funds In recent days, a shift in focus towards CE has amplified from 2 to 13 during 2018–2021, with world-famous NBFCs like Black-Rock, BNP Paribas, Credit Suisse, and Goldman Sachs selling investment products. In the previous two years, there has been an increase in demand for products that focus on CE. Instruments like equity funds, bonds, venture capital, private equity/debt, insurance, financing projects etc. are a few that have been introduced by the renowned firms (C. Zara and L. Bellardini [2]). Mutual funds have steadily become the most prominent financial products in the capital market, such as mutual funds affected by the securities markets, which are sometimes prone to unanticipated volatility and occasionally have a favourable or unfavourable reaction. Furthermore, market emotions influence price movement, and investors must determine how much the markets or benchmarks provide returns (K.V. Rao and N. Daita [3]).

A reservoir of funds was contributed by a cluster of individuals dealt by a qualified and experienced fund manager, termed a mutual fund. It is a trust that accumulates savings from a large quantity of individuals with a likely investment purpose and invests in capital, the money market, and other securities (K.V. Rao and N. Daita [3]; M.M. Goyal [4]). Mutual funds are referred to as means or instruments that carry funds that are offered by a trust or a sponsor to heave up money from individuals by offering units for sale at market-defined rates through schemes under the defined borders by the authorities (R. Narayanasamy and V. Rathnamani [5]; M.S. Annapoorna and P.K. Gupta [6]). Several individual investors begin their first foray into the world of "money" investing through this means. The global mutual fund assets segment appeared to be worth 54.93 trillion USD in 2019 and is likely to increase at a compounded annual growth rate of 11.3% from 2020 to 2027, reaching $ 101.2 trillion before 2027.[1] The assets under management with Indian companies were found to have increased from Rs. 6.59 trillion to Rs. 38.01 trillion, indicating an over-fivefold increase in value during a decade. As of 31 January, 2022, the overall count of folios stood at Rs. 12.31 crore, whereas the count of folios in equity, debt, hybrid and solution-oriented schemes found the maximum contribution being the retail sector with over Rs. 9.95 crore.[2] However, in a world that is gradually shifting away from the traditional profit-driven business model, non-financial factors such as an organization's commitment to ensuring environmental and social responsibility, as well as good governance, are increasingly being recognised by investors in their investment decisions.

ESG [environmental, social, and (corporate) governance] investment has recently become popular (S. Sarkar [7]). Businesses all across the globe are increasingly confronted with a new species of dangers that were previously unidentified. Global concerns such as climate change, governmental pressure to conform with governance rules, social and demographic transformations, terrorism, privacy, and data security are progressively generating emerging risks that, if not included into business models, would render a company unsustainable in the long term. Furthermore, it is an established truth that firms that perform well on sustainability metrics have historically been the most successful. Thus, from a value investing standpoint, investors should consider these environmental, social, and governance concerns when selecting a firm for long-term investment, not only to expect a consistent long-term return but also to complete their bit in encouraging sustainability.

The gains of mutual funds, just like all the other gains in the securities market, are dangerous because similar factors such as regulatory conditions, rate of interest patterns, the staging of firms, and so on are applied (S. Manoj and B. Avinash [8]). Increased investment in mutual funds, which facilitates tiny and large fund owners to park their excess funds in various plans, is becoming a significant intensification in the industry. Investors, investment managers, and scholars are all concerned about the factors that go into mutual fund performance reviews. Such assessment is essential in assisting investors and asset managers in making future investment decisions.

ESG mutual funds have excelled in their direct approach to ESG investing over the past decade. This is

[1] URL: www.alliedmarketresearch.com

[2] URL: www.amfiindia.com

due to the fact that appraising firms on environmental, social, and (corporate) governance characteristics necessitates the extraction and analysis of massive amounts of data from public reports, which may be too expensive for an investor. Furthermore, these funds offer other mutual fund investing benefits such as lower risk through diversification, smaller investment sizes, expert management, and tax efficiency. As a result, ESG funds have acquired substantial traction throughout the world. Global ESG assets are predicted to hit $ 53 trillion by 2025, with an estimated negative growth rate of 15%. Among the sub-categories, ESG ETF assets are estimated to enjoy a $ 1 trillion influx over the next five years. Furthermore, even if the $ 2.2 trillion ESG debt market expands at half the rate of the previous five years, it may reach $ 11 trillion by 2025.[3] Following in the footsteps of its worldwide counterparts, the Indian mutual fund sector has demonstrated increasing interest in ESG investment. Though the number of ESG funds in India remains fewer than in the USA and the UK (more than 500), Japan (182), and China (119), Indian investors are becoming more familiar with this investing concept. Seven mutual fund schemes with the ESG label have been introduced in the previous three years (S. Sarkar, [7]). In India, with high volatility in the stock market and a general lack of investor knowledge, the trustworthiness of mutual funds is called into question, making it a key topic for research (K.K. Bhuvaand and A. Bantwa [9]). The mutual fund industry has indeed been greatly impacted by the COVID-19 pandemic, owing to the uncertainties underlying companies' profitability, the economic slowdown, and investors' ability to return money in the market[4] provoking which investment avenue is better for investment, i.e., mutual funds or ESG-labelled funds.

In this context, current research intends to quantify selected ESG's and fund risk-adjusted yield. Further research demonstrates that circular economy policies reduce investment risk and provide a superior adjusted yield. The remainder of the paper is structured as follows: A diminutive introduction is supported by studies of empirical literature, as well as an explanation of the study's methodology, concept, and database. Following that, the data and discoveries are thoroughly explored, and eventually, a conclusion is presented.

PRIOR RESEARCH WORK

The term "characteristic line" was developed to describe the relationship between the predicted yield (RoR) of a fund and the market (J. Treynor [10]). The author developed a fund's yield performance metric that considers investment risk. Furthermore, while running through an application of this concept to a portfolio, "portfolio-possibility line" term was coined. This was used to relate predicted returns to the portfolio holder's risk tolerance. In a "modern portfolio theory" framework, it was demonstrated that the expected rate of yield on an optimum bundle of shares and its unsystematic risk are linearly connected (W. F. Sharpe [11]). The article demonstrated a Sharpe index by combining multiple notions. The study aimed to rate performance using the optimal portfolio, a riskier group, and a risk-free asset with the highest reward ratio. The specific securities have an associated risk of being unsystematic because of ineffective handling by the managers. Methods for distinguishing the obtained return owing to asset mix capacity provided from market price projections were also provided (E. F. Fama [12]). The study developed a multiperiod model that allows for period-by-period and cumulative examinations. The article outlined portfolio return as the sum of return on security selection as well as return on risk bearing. Contributions blended ideas from contemporary portfolio picking theories and money market balance with more customary ideas about fruitful management of a portfolio. P.K. Muthappan and E. Damodharan [13] opined that the return and risk capabilities of the Indian mutual funds were not properly balanced in terms of selectivity and diversity. S. G. Deb, et. al. [14] examined fund manager performance and discovered that, on average, Indian equity fund managers failed to outperform their style benchmarks (William Sharpe ratio), indicating fund management shortcomings.

D. Agrawal and D. Patidar [15] investigated empirical testing based on fund manager performance and analysed data at fund and investor's levels. The study reported that household saving and outlay behaviour affect the success of the industry. On the other hand, the confidence and loyalty of a manager with rewards have a positive impact on the industry. K. V. Rao and N. Daita [3] conducted a study using Sharpe and Treynor methodologies to evaluate the selected growth instruments and asserted that the that the diversification performance of selected risky funds has to be enhanced. B. Nimalathasan and R.K. Gandhi [16] undertook a study of diversified equity mid cap funds and employed Sharpe, Treynor, and Jensen. The study discovered equity-diversified schemes outperformed mid-caps.

[3] Source: Bloomberg Intelligence.

[4] URL: www.alliedmarketresearch.com

India is a heaven for investment, especially for foreign players. J.S. Yadav and O.S. Yadav [17] discovered that mutual fund investments were greater than FII investments, and that during the slack, the industry proved an important role in supporting the economy by staying invested while FIIs repatriated investments, demonstrating the importance of investments. T.S. Somashekar [18] empirically analyses the function of SEBI in mutual fund governance in India and compares the yields of SEBI-governed instruments with UTI-governed instruments. Analyses reveals that mutual fund governance contributes to the industry's remarkable performance. M. Dunna [19] investigated the mutual fund sector's obstacles and prospects since its inception, concluding that significant financial and economic shifts have offered the industry a flood of new opportunities. B. D'silva et. al. [20] compare the fund's performance with other investment instruments and conclude that, for tiny investors, mutual funds are good as they promise a high return during turbulent times too. The study also contributed to the significant need for investor's education before investing in this avenue. K.P. Prajapati and M.K. Patel [21] examined large diversified stocks' performance in India from 2007 to 2011 and discovered that mutual funds fared well overall, with HDFC and Reliance mutual funds performing the best. M.S. Annapoorna and P.K. Gupta [6] compared CRISIL-ranked funds to the term deposit rates of SBI and discovered, majority of schemes did not offer SBI domestic term deposit rates. When comparing CAGR, M.S. Pal and A. Chandani [22] discovered that all of the funds fared equally well; therefore, they filtered them out using the expenditure ratio. As a result, the remaining funds are sorted according to standard deviation, with the fund with the lowest risk ranking first. Investment through mutual instruments is better than the other types (R. Karrupasamy and V. Vanaja [23]). Mutual funds and individual investors can buy stocks and bonds at significantly lower prices. According to this study, the majority of those chosen for external research have used a variety of techniques based on Sharp, Treynor, and Jensen's performance metrics. M.S. Pal and A. Chandani [22] assessed yield of some income and debt schemes based on closing NAVs during 2007–2012. The study revealed HDFC Mid Cap Opportunity, Birla Sun Life MNC Fund, and Quantum Long-Term Equity were the top offerings. M.M. Goyal [4] examined CRISIL-rated mutual funds and discovered that among the top ten mutual funds, Franklin India Opportunity Fund had the minimum coefficient of variation and the maximum Sharp, Treynor, and Jensen alpha analytical tools. S. Shukla [24] and Murthy et al. [25] used statistical tools to evaluate the risk-return association of schemes, especially infrastructure offered, small-medium-big cap, and hybrid funds. Mamta and O.S. Chandra [26] researched diversified Indian schemes employing risk and return, concluding that 33% of the funds had a higher yield and the rest had a lower yield. In terms of risk, 90% of the instruments are less risky than the market. S.M. Alagappan [27] assessed 12 open-ended schemes, turning out a risk-return connection and further assisting savers in selecting ideal fund.

Parking ideal funds in sustainable avenues carries a lower risk than standard ones (X.G. Yue et, al. [28]. The sustainable funds consistently beat the market on most criteria over the research period (H. Naffa and M. Fain [29]). D. Adhana [30] evaluated the risk and return of equity instruments versus groups of funds. Studies reported a considerable dissimilarity between the two investment types and that they are exposed to market risk. Research by Bocconi University (2021) revealed that the more the company complies with circular economy models, the greater the risk-adjusted yield. The study further explored the higher level of casual relationship that exists between risk and return, leading to the exploration of possible research opportunities post-2021 in the area of investment, whether ESG-backed or large-cap mutual funds are beneficial. Hence, a study to evaluate both schemes, considering a sample, is undertaken.

METHODOLOGY

Objectives

The main purpose of this paper is to analyse the degree of risk and returns that exist between the ESG and large-cap mutual funds offered in the Indian economy, and secondly, to compile performance against the benchmark index using risk-adjusted returns.

Hypothesis:

HS 1:

H0: There is no significant positive relationship between fund returns and index returns.

H1: There is a significant positive relationship between fund returns and index returns.

HS 2:

H0: There is no significant difference among the outcomes of performance evaluation measures as suggested by Sharpe, Treynors and Jensen

H1: There is a significant difference among the outcomes of performance evaluation measures, as suggested by Sharpe, Treynors and Jensen.

Methodology

The paper is primarily based on secondary data. To examine the performance of ESG and large-cap mutual

fund schemes based on Crisil and Morningstar rankings of 10 large-cap and 10 ESG mutual fund schemes. The performance of the sampled mutual fund schemes was evaluated using Net Asset Value (NAV). The required daily NAV for sampled mutual funds is obtained from the website of the Association of Mutual Funds in India (AMFI) (www.amfi.com). A risk-free rate asset has no return variability. In this paper, the yield on a 10-year government bond has been used as a risk-free rate of 6%. The National Stock Exchange of India's official website is used to collect data on the daily closing price of the benchmark index (NSE-Nifty). The study spans one fiscal year, from 1 April 2021 to 31 March 2022, the peak period of the COVID-19 pandemic. The NSE-Nifty is a market portfolio. Other sources of information include books, journals, magazines, and various websites.

The following statistical tools, discussed below, were employed for analysis.

***Index Benchmark*:** The Nifty 50 Index was used as the benchmark portfolio. The Nifty 50 is an Indian index that constitutes the top 50 stocks, covering over 25 financial and non-financial areas. It is employed for a range of things, like benchmarking against fund groups, index-based derivatives, and funds (G. Nandini, [31]: M.M. Goyal, [4]).

Limitations:

• The analysis concentrated on the selected Indian mutual fund schemes.

• Only ESG and large cap funds were considered.

TOOLS OF ANALYSIS

There are five key investment risk indicators that can be used to analyse stock, bond, and mutual fund portfolios. SD.β. Sharpe, Treynor, and Jensen Alpha are the metrics employed for analysis. The above are effective tools as they are accurate predictors of risk/volatility, and weight high in portfolio theory. Modern portfolio theory is a standard financial benchmark and academic approach employed to compare stock, fixed-income, and fund performance market benchmarks (M. Malviya, & P. Khanna [32]). All of these risk assessment tools are intended to help investors identify the risk-reward criteria of their investments.10-year G-bond yields are considered as risk-free rate of return (M.M. Goyal [4]).

***Return*:** Daily closing NAV of different schemes have been used to calculate the returns from the fund schemes. This is the yield obtained during selected period.

$$R = \frac{NAV_{(t)} - NAV_{(t-1)}}{NAV_{(t-1)}} \times 100, \qquad (1)$$

where

$$NAV = Net\ Asset\ Value,\ NAV_{(t)} = \\ = NAV\ of\ \ fund\ in\ period\ t\ and\ NAV_{(t-1)} = \\ = NAV\ of\ \ fund\ in\ period\ (t-1).$$

Standard Deviation (SD)

The inherent risks of a fund (market, security-specific, and portfolio risk) are evaluated. The SD in funds depicts a deviation in fund return from the expected one (R. Narayanasamy and V. Rathnamani [5]; M. Malviya & P. Khanna [32]) A fund with a high standard deviation is always risky.

Beta (β)

A fund's volatility against a benchmark index is measured through beta. It reflects the magnitude of funds reaction to that of the market. A statistical measure known as regression analysis is used to calculate beta. Unusually, benchmark indexes have a beta of 1.0 as defined. Cautious investors should park in low β funds, while aggressive investors can choose higher beta funds in order to get a higher yield while taking on more risk (R. Narayanasamy and V. Rathnamani [5]). A fund with beta of 1.0 indicates that the fund's NAV will move in lockstep with the market. A beta less than 1.0 suggests that the investment's price will be less volatile in nature, while greater than 1.0 indicates more volatility (M. Malviya & P. Khanna [32]).

It can be computed as follows:

$$\beta = \frac{Co\,\mathrm{var}\,iance\left(R_i - R_m\right)}{Var\left(R_m\right)}, \qquad (2)$$

where

$$R_i = Return\,on\,individual\ \ fund\ and\ R_m = \\ = Return\ \ on\,the\,overall\ market.$$

Sharpe Ratio (SR)

2William F. Sharpe devised the SR to measure overall portfolio return after deducting the risk-free rate divided by the SD, quantifying inherent risk. It depicts the excess return per unit of risk, as measured by the portfolio's SD. Higher the SR, better is the fund's risk-adjusted yield (R. Narayanasamy and V. Rathnamani [5]; M.M. Goyal [4]; M. Malviya, P. Khanna [32]).

It can be computed as follows:

$$SR = \frac{R_p - R_f}{\sigma_p}, \quad (3)$$

where

$$R_p = Portfolio\,return,\ R_f = \\ = Risk\ free\,rate,\ \sigma_P = Portfolio\,risk.$$

Treynor Ratio (TR)

Popularised by Jack Treynor, it contrasts the portfolio risk premium with the portfolio's systemic risk, as assessed by its β. TR implicitly requires a well-diversified portfolio since systematic risk is a risk metric (R. Narayanasamy and V. Rathnamani [5]; M.M. Goyal [4]; M. Malviya & P. Khanna [32]).

It can be computed as follows:

$$TR = \frac{R_p - R_f}{\beta_P}, \ldots \quad (4)$$

where

$$R_p = Portfolio\,return,\ R_f = \\ = Risk\ free\,rate,\ \beta_P = \\ = systematic\,risk\ of\ portfolio.$$

Jensen Alpha:

It's the variation in a portfolio's actual returns versus predicted based on the beta of the capital pricing model (M.C. Jensen [33]). As a result, the Jensen index is an important metric. Fund assessment services usually depend significantly on Alpha since it is a risk-adjusted metric. The positive value of alpha depicts good performing funds, while the alpha with negative value depicts poor (M.M. Goyal [4]; M. Malviya & P. Khanna [32]). It is computed as below:

$$Jensen\ Alpha = R_p - R_f + \beta_p \times \left[R_m - R_f\right], \ldots \quad (5)$$

where

$$R_p = Portfolio\,return,\ R_f = Risk\ free\,rate,\ \beta_P = \\ = systematic\,risk\ \ of\ \ portfolio,\ R_m = \\ = Market\,return.$$

DATA SET

Large Cap Funds (L–Cap): Fund houses pool resources from households and park them in blue-chip organizations with a valuation of over Rs. 1000 crore. Such an investment carries a lower risk due to the promised performance of the large organization, which meets all requirements of various agencies. They also carry out huge research and development work, keeping them updated always. The benefits of L-cap funds are that they are less volatile as compared to other funds because of long-term perspective of the investors. It helps to ride the volatility of markets (M. Malviya & P. Khanna [32]).

ESG mutual funds are those schemes that invest in firms that outperform on environmental (E), social (S), and governance (G) metrics. In other words, they invest in ESG-compliant firms that aspire for long-term growth (S. Sarkar [7]). The schemes selected are presented in *Table 1*.

EMPIRICAL RESULTS

In this section, the computed risks and volatility present with the L-cap and ESG funds are presented. The purpose is to analyse the selected sample funds through mean return, market risk and total risk. The tables below in the section help in analysis and present empirical findings.

Summary information for ESG mutual fund schemes that have been selected is presented in *Table 2*. The mean, which displays each scheme's average return, the SD, which examines the risk factor connected with each scheme, and beta, which is a measure of a scheme's volatility in contrast to the broader market, are among the data. The average value of the series is the mean. Four out of ten schemes outperformed the market, five underperformed and one performed on par. The HSBC Global Equity Climate Change Fund's performance was found to be negative. Quant ESG Equity Fund outperformed the market with a rate of return of 0.18%. The SD is a measure of a distribution's absolute variability. The Quant ESG Equity Fund has the highest SD of 1.39%, which is comparatively higher than the market index. The volatility of a scheme in respect to the general market is measured by beta. As a result, high-beta schemes are seen to be volatile but have a larger return potential, whereas low-beta schemes have lower volatility but a lower return potential. So, despite having the highest beta of 1.10% among all the other schemes, the Quant ESG Equity Fund has succeeded in offering a fruitful return despite the greater risk, whilst other schemes have delivered decent returns against the risk. A conservative investor will always look for a lower beta in the hopes that if the index falls or rises by 1%, the schemes will fall or rise by a percent less than the index in order to be safe, whereas an aggressive investor will look for an upper beta in the hope that the index will fall or rise by a percent less than the index in order to be safe.

Table 3 depicts summary sample information for all large-cap mutual fund schemes. The mean, which displays each scheme's average return, the SD, which examines the risk factor connected with each scheme, and beta, a measure of a scheme's volatility in contrast

Table 1

Names of Selected ESG and Large Cap Fund Schemes

Sl. No	ESG fund schemes	L–Cap schemes
1	Aditya Birla Sunlife ESG Fund (ABS ESGF)	Axis Bluechip Fund (ABF)
2	Axis ESG Equity Fund (A ESGF)	BNP Paribas Large Cap Fund (BNP L-cap)
3	HSBC Global Equity Climate Change Fund (HSBC GECCF)	Canara RobecoBluechip Equity Fund (CRBEF)
4	ICICI Prudential ESG Fund (ICICIP ESGF)	Franklin India Bluechip Fund (FIBF)
5	Invesco India ESG Equity Fund (II ESG EF)	IDBI India Top 100 Equity Fund (IDBI–IT100)
6	Kotak ESG Opportunities Fund (K ESG OF)	JM Large Cap Fund (JM L-cap)
7	Mirae Asset ESG Sectors Leaders (MA ESG SL)	Kotak Bluechip Fund (KBF)
8	Quant ESG Equity Fund (Q ESG EF)	Mirae Asset Large Cap Fund (MALCF)
9	Quantum India ESG Equity Fund (QI ESG EF)	Union Largecap Fund (ULF)
10	SBI Magnum Equity ESG Fund (SBIME ESG F)	UTI — Mastershare Unit Scheme (UTI–MUS)

Source: CRISIL and Morningstar.

Table 2

Descriptive Statistics and Performance of ESG Schemes

Sl. No	Name of Scheme	Mean Return	Total Risk	Market risk
		ESG Fund	ESG Fund	ESG Fund
1	ABS ESGF	0.08	1.10	1.01
2	A ESGF	0.05	0.85	0.75
3	HSBC GECCF	-0.02	1.11	0.44
4	ICICIP ESGF	0.05	0.79	0.69
5	II ESG EF	0.10	0.93	0.83
6	K ESG OF	0.06	0.96	0.91
7	MA ESG SL	0.07	0.93	0.90
8	Q ESG EF	0.18	1.39	1.10
9	QI ESG EF	0.05	0.91	0.84
10	SBIME ESG F	0.08	0.98	0.95
	Nifty 50	0.07	1.00	1.00

Source: Compiled by the authors.

to the broader market, are among the data. The average value of the series is the mean. Out of ten schemes, one has outperformed the market, while four have underperformed, followed by five performing on par with the market. IDBI India Top 100 Equity Fund has overperformed the market with a rate of return of 0.09 The SD computes the variability of the distribution's absolute. The UTI — Master share Unit Scheme has the highest SD of 1.05%, which is comparatively higher than the other schemes and market indexes. The

Table 3

Descriptive Statistics and Performance of L–Cap Funds

Sl. No	Name of Scheme	Mean Return (%)	Total Risk	Market risk
		L–Cap Funds		
1	ABF	0.06	0.98	0.95
2	BNP L-cap	0.07	0.98	0.97
3	CRBEF	0.06	0.96	0.95
4	FIBF	0.06	1.00	0.94
5	IDBI–IT100	0.09	1.01	1.00
6	JM L-cap	0.07	0.95	0.91
7	KBF	0.07	0.96	0.95
8	MALCF	0.07	0.96	0.94
9	ULF	0.07	1.00	0.99
10	UTI–MUS	0.05	1.05	0.97
	Nifty 50	0.07	1.00	1.00

Source: Compiled by the authors.

volatility of a scheme in respect to the general market is measured by beta. As a result, high-beta schemes are seen to be volatile but have a larger return potential, whereas low-beta schemes have a lower volatile but lower return potential. So, despite having the highest beta of 1.00 among all the other schemes, IDBI India Top 100 Equity Fund has succeeded in offering a fruitful return despite the greater risk, while other schemes have delivered decent returns against the risk.

Table 4 shows summary information for all ESG mutual fund schemes that have been selected. A negative SR depicts a greater risk-free rate than the portfolio while a positive indicates a lesser rate. As a consequence, the Quant ESG Equity Fund has a higher SR compared to other schemes, showing that portfolio gains exceeded the risk-free rate return. Investors' diminishing income levels, a lack of savings, and unfavourable market moves contribute to negative fund returns. The TR calculates the excess returns over the risk-free return at a given level of market risk. It emphasises the risk-adjusted profits made by a mutual fund scheme. Quant ESG Equity Fund has a higher TR, but due to a decline in investor income, a lack of savings, and unfavourable market movements, some schemes have generated negative returns for various funds. Alpha is a metric that compares an investment's performance to that of a market index. The Quant ESG Equity Fund has the greatest alpha of 34.32 compared to the other schemes, indicating that the scheme is outperforming the Nifty — 50 indexes. Whereas HSBC Global Equity Climate Change Fund is the least performer.

The risk-adjusted returns reveal that a fund with a higher yield is not always a promising fund standard, since we must also consider the risk associated with that fund, according to the overall research. In addition, the return on investment should be adequate, not too low.

Table 5 shows summary information for all L-cap mutual fund schemes that have been selected. IDBI India Top 100 Equity Fund has a higher SR, TR and alpha of 0.97, 15.55 and 4.87 compared to other schemes, showing that scheme gains exceeded the risk-free rate return.

HYPOTHESIS

Hypothesis 1:

Ho: There is no significant positive relationship between fund returns and index return.

Ha: There is a significant positive relationship between fund return and index return.

The above *Table 6* represents the results of Pearson's correlation coefficient to examine the hypotheses of equality of fund and index return. The Pearson's correlation coefficient proved that all the schemes have shown a strong positive relationship with Nifty 50 and p-value obtained from all the schemes is less than the alpha value of 0.05, which states that the fund's

Table 4

Sharpe, Treynor and Jensen Ratio of Sample Funds

Sl. No	Name of Scheme	Sharpe Ratio	Treynor Ratio	Jensen Alpha
		ESG Fund	ESG Fund	ESG Fund
1	ABS ESGF	0.75	12.88	2.23
2	A ESGF	0.45	7.94	–2.04
3	HSBC GECCF	–0.71	–27.83	–17.08
4	ICICIP ESGF	0.45	8.01	–1.84
5	II ESG EF	1.39	24.51	11.47
6	K ESG OF	0.55	9.21	–1.32
7	MA ESG SL	0.64	10.49	–0.16
8	Q ESG EF	2.11	41.84	34.32
9	QI ESG EF	0.38	6.48	–3.53
10	SBIME ESG F	0.86	13.93	3.10

Source: Compiled by the authors.

Table 5

Performance of L-cap Funds

Sl. No	Name of Scheme	Sharpe Ratio	Treynor Ratio	Jensen Alpha
		L–Cap Fund		
1	ABF	0.50	8.04	–2.50
2	BNP L–cap	0.61	9.75	–0.89
3	CRBEF	0.51	8.16	–2.38
4	FIBF	0.40	6.71	–3.73
5	IDBI–IT100	0.97	15.55	4.87
6	JM L–cap	0.73	11.97	1.18
7	KBF	0.62	9.94	–0.69
8	MALCF	0.69	11.01	0.32
9	ULF	0.69	10.95	0.28
10	UTI–MUS	0.31	5.21	–5.30

Source: Compiled by the authors.

returns have a significant relationship with the Nifty 50 (benchmark) return and hence, the hypothesis i.e., "There is no significant positive relationship between fund return and index return" is statistically rejected. The overall analysis reveals that the performance of the funds largely depends on the respective benchmark return and moves in the same direction but varies substantially at a different rate. Risk reduction is possible, but not zero.

Table 6 represents that the correlation for the ESG Fund scheme between Sharpe and Treynor's Ratio is 0.99 (r = 0.99, p-*value* < 0.05), Sharpe and Jensen's

Table 6

Pearson Correlation between ESG, L–Cap Funds and Index Return

Sl. No	Name of Schemes	Correlation coefficient	p value	Name of Schemes	Correlation coefficient	p value
1	ABS ESGF	0.92	0.000	ABF	0.97	0.000
2	A ESGF	0.88	0.000	BNP L-cap	0.99	0.000
3	HSBC GECCF	0.4	0.000	CRBEF	0.99	0.000
4	ICICIP ESGF	0.87	0.000	FIBF	0.94	0.000
5	II ESG EF	0.89	0.000	IDBI–IT100	0.98	0.000
6	K ESG OF	0.94	0.000	JM L-cap	0.96	0.000
7	MA ESG SL	0.96	0.000	KBF	0.98	0.000
8	Q ESG EF	0.79	0.000	MALCF	0.98	0.000
9	QI ESG EF	0.92	0.000	ULF	0.98	0.000
10	SBIME ESG F	0.96	0.000	UTI–MUS	0.93	0.000

Source: Compiled by the authors.

Alpha are 0.97 (r = 0.97, *p-value* < 0.05) and between Treynor's Ratio and Jensen' Alpha is 0.94 (r = 0.94, *p-value* < 0.05).

Table 8 represents that the correlation for L-cap mutual fund scheme between Sharpe and Treynor's Ratio is 1.00 (r = 1.00, *p-value* < 0.05), Sharpe and Jensen's Alpha are 1.00 (r = 1.00, *p-value* < 0.05) and between Treynor's Ratio and Jensen's Alpha is 1.00 (r = 1.00, *p-value* < 0.05).

Both *Table 7* and *8* states that there is a strong positive relationship between the variables. However, the significant (2-tailed) value i.e., p-value obtained is 0.00, which is less than the alpha value of 0.05 which states that there is significant difference among the results of three performance measures. Hence, the hypothesis i.e. "There is no significant difference among the results of performance evaluation measures as suggested by Sharpe, Treynor and Jensen" is statistically rejected.

CONCLUSION

Since the introduction of ESG funds in India, the market has been considering investing through these schemes. The study observes a new trend in investment patterns in companies that comply with ESG, i.e., environmental, social, and governance that helps to close the loops of circular economies. It is witnessed that investment in ESG funds is gaining traction in India, while growth is still moderate when compared to other top nations across the world, which is attributed to a lack of awareness about the benefits of discounting ESG concerns when constructing portfolios. However, with the market regulator, SEBI, increasing its efforts to promote environmental, social, and (corporate) governance factors to evaluate firms, as well as the attractive return potential, things are anticipated to change in the future.

The primary research question addresses the performance of the current ESG funds on the market and concludes that Quant ESG Equity Fund and Invesco India ESG Equity Funds, both of which are relatively new, have had the top performance thus far. Unfortunately, the eldest of the group, SBI Magnum Equity ESG Fund, has fallen short of investors' expectations. However, HSBC Global Equity Climate Change Fund has given negative returns compared to all other fund, except Axis, ICICI, Mirae and Quantum all other funds have beaten the market portfolio in terms of returns. In terms of the performance of the current ESG funds on the market, the analysis finds that IDBI India Top 100 Equity Fund has given fruitful returns except UTI — Master share Unit Scheme, Axis Bluechip Fund, Canara Robeco Bluechip Equity Fund and Franklin India Bluechip Fund all other funds are in line with market portfolio returns. Among the ESG and L-cap mutual funds, it is evident that ESG funds have delivered elevated returns as compared to L-cap funds.

Based on risk-adjusted returns, Quant ESG Equity Fund is the top performer in all criteria among the

Table 7

Spearman's Correlations Among Sharpe, Treynor and Jensen Measures (ESG Fund)

Particulars	Performance Measure		Sharpe measure	Treynor Measure	Jensen Measure
Spearman Rank Correlation	Sharpe measure	Correlation coefficient	1.00	0.99	0.97
		P value	0.00	0.00	0.00
	Treynor Measure	Correlation coefficient	0.99	1.00	0.94
		P value	0.00	0.00	0.00
	Jensen Measure	Correlation coefficient	0.97	0.94	1.00
		P value	0.00	0.00	0.00

Source: Compiled by the authors.

Table 8

Spearman's Correlations Among Sharpe, Treynor and Jensen Measures (L-cap Funds)

Particulars	Performance Measure		Sharpe measure	Treynor Measure	Jensen Measure
Spearman Rank Correlation	Sharpe measure	Correlation coefficient	1.00	1.00	1.00
		P value	0.00	0.00	0.00
	Treynor Measure	Correlation coefficient	1.00	1.00	1.00
		P value	0.00	0.00	0.00
	Jensen Measure	Correlation coefficient	1.00	1.00	1.00
		P value	0.00	0.00	0.00

Source: Compiled by the authors.

ESG funds and IDBI India Top 100 Equity Fund is the top performer in all criteria among L-cap funds. The risk-adjusted returns of ESG funds are evidenced to be high as compared to L-cap funds. This demonstrates that, even after adjusting for risk, ESG funds are extremely lucrative investment choices and possess capability to generate healthy long-term returns. The index values for a few funds have gone to the negative according to the Sharpes, Treynor, and Jensen alpha approach. Unfavourable risk-adjusted returns are caused by stock market declines, negative market moments, a lack of savings, a sense of uncertainty about their investments, and negative attitudes among the majority of capital market participants. In addition, the research found that the fund's returns had a statistically positive link with index returns. The higher the risk-adjusted returns of a company's stock, the more circular it is. This is a causal relationship: a higher level of circularity is associated with a higher risk-adjusted return. The circular economy can be used as a de-risking strategy to leverage higher returns. It can be concluded that investing in the circular economy can also drive superior risk-adjusted returns.

It can be concluded that three out of ten ESG funds provided returns above and beyond the market, while one out of ten L-cap schemes provided returns above the market. Considering total risk, 7 out of ten funds were found to be less risky as compared to the market, whereas in L-cap schemes, 6 funds were less risky, paving the way towards investment in new avenues of ESG-backed schemes that are superior at obtaining a risk-adjusted return.

This analysis was carried out on a modest scale, and it only includes the top performing mutual funds in the Indian context over the years. The present study provides insight to companies, policymakers, and fund managers. The companies would be able to attract investors by adopting sustainable changes. Further, the policymakers will be able to draft the policies in accordance with them so that corporations will accept the changes and be sustainable. At last, fund managers would park the investor corpus and earn better than the L-cap funds that have been lucrative over the years.

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