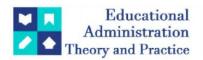
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Research Article



Performance Of ESG Mutual Funds During The COVID-19 Pandemic - A Study Of Indian Mutual Funds

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ABSTRACT

In the last decade, Environmental, Social, and Governance (ESG) investments have gathered significant attention and interest from both investors and customers globally. Over the past five years, this rises in interest for ESG investing has also made notable developments within the Indian financial viewpoint. Renowned asset management firms have introduced their own ESG programs, effectively attracting investors who are increasingly drawn to Socially Responsible Investments (SRI). This growing interest has been particularly evident during the financial instability caused by the outbreak of the COVID-19 pandemic. SRI investments, which are rigorously evaluated based on Environmental, Social, and Governance (ESG) criteria, have emerged as a key avenue for investors seeking to align their financial goals with broader societal and ethical considerations. ESG information plays a pivotal role by allowing investors to assess not only the financial risks associated with a particular firm but also how that firm intends to manage and mitigate future risks. During this growing interest in ESG products, our study seeks to investigate the value addition that ESG performance offers to investors during crisis periods, such as the recent pandemic-induced financial crisis. This research undertaking involved a comprehensive evaluation of the performance of the selected ESG mutual fund schemes and the examination of a diversified portfolio by using secondary data. The findings reveal that financial services and technology sectors were particularly attractive to ESG-integrated assets. The primary objective of this study is to gain a deeper understanding of the evolving landscape and growing popularity of ESG mutual funds in India. Key insights from the study indicate the changes in ESG fund investments in India. Academicians, investors, business professionals, and research scholars can use this study as a valuable resource and foundation for their own research and investment strategies.

Keywords: Environmental, Social, and Governance (ESG), Socially Responsible Investments (SRI), ESG mutual fund, COVID-19 pandemic

I. Introduction

ESG Mutual Funds represent a category of thematic mutual funds designed to align investments with socially responsible principles. These funds prioritize companies that demonstrate strong environmental (E), social (S), and governance (G) practices in their operations. By integrating ESG criteria into the investment process, these funds seek to support sustainable growth while also considering broader societal and environmental impacts. These funds typically select investments from companies that meet ESG standards, aiming to create value for investors over the long term. Depending on the specific investment strategy of the fund, it may allocate assets across different market capitalizations and even include international stocks that adhere to ESG principles. In essence, ESG Mutual Funds offer investors the opportunity to support companies committed to responsible practices while potentially realizing financial returns in line with their investment goals.

ESG stands for Environmental, Social, and Governance. ESG mutual funds are investment funds that incorporate environmental, social, and governance factors into their investment strategies. These funds consider a company's performance and practices in areas such as climate change, pollution, human rights, labour standards, board diversity, executive compensation, and shareholder rights. ESG mutual funds aim to invest in companies that demonstrate strong environmental and social practices, as well as good corporate governance. They seek to align investors' financial goals with their values by promoting sustainable and responsible investment practices. Investors who are interested in supporting companies with positive ESG

performance or aligning their investments with their values may consider investing in ESG mutual funds. It's important to note that while ESG factors can be valuable indicators, investors should still assess the fund's performance, fees, and overall investment strategy to make informed investment decisions.

ESG Metrics:

Environmental, social, and governance (ESG) metrics serve as a framework for evaluating an organization's business practices and performance concerning various sustainability and ethical issues. They provide a structured approach to assess how well a company manages its environmental impact, social responsibilities, and governance practices.

Environmental: This aspect assesses a company's impact on the environment and natural resources. It encompasses factors such as carbon emissions, energy efficiency, waste management, pollution control, and conservation efforts.

Social: The social component evaluates a company's impact on society and its stakeholders. It encompasses factors such as labour practices, employee relations, diversity and inclusion, community engagement, human rights, and product safety.

Governance: Governance pertains to how a company is managed and governed. It includes factors such as board composition, executive compensation, shareholder rights, transparency, and adherence to ethical business practices.

ESG Research and Analysis: Fund managers conduct research and analysis to evaluate companies based on ESG criteria. They assess factors such as a company's carbon footprint, environmental policies, labour practices, diversity and inclusion, community engagement, board structure, and transparency. This evaluation helps identify companies that align with the fund's ESG objectives.

ESG Portfolio Construction: Using the research and analysis, the fund manager constructs a portfolio of securities (stocks, bonds, or other financial instruments) that meet the fund's ESG criteria. The portfolio typically includes companies with strong ESG performance or those that show potential for improvement in ESG practices. Asset Management Companies (AMCs) manage and oversee investment funds on behalf of investors. They play a crucial role in the investment industry by providing professional management services and expertise to help investors achieve their financial goals. The investment decisions aim to generate returns while managing risk according to the fund's investment objectives.

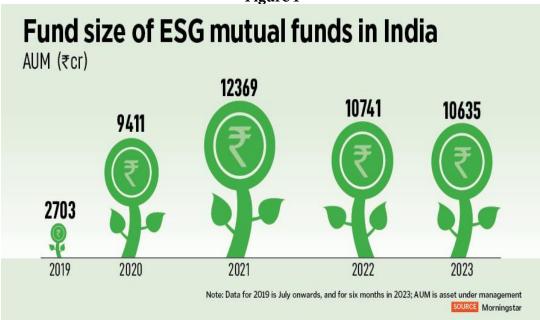
In recent years, there has been a notable rise in investor interest towards Socially Responsible Investments (SRI), particularly during the economic turbulence triggered by the COVID-19 pandemic. SRI investments are rigorously evaluated using Environmental, Social, and Governance (ESG) criteria. These ESG metrics provide investors with valuable insights into the risks associated with specific firms and how these companies are actively addressing and planning to mitigate these risks in the future. This growing emphasis on SRI indicates a broader shift towards responsible and sustainable investing practices in today's financial landscape. SRI represents a progressive investment approach focused on identifying companies with strong Corporate Social Responsibility (CSR) profiles. These evaluations are established in Environmental, Social, and Corporate Governance (ESG) criteria, integrating environmental, social, and ethical factors into the investment decision-making process. The term "ESG investing" gained prominence following the Global Compact Leaders' Summit held at the UN Headquarters in June 2004. During this summit, twenty major financial institutions, collectively managing \$6 trillion in assets, agreed to incorporate social, environmental, and governance considerations into their investment analyses and decisions.

This paradigm shift in investment philosophy reflects a broader trend worldwide, where investors are moving beyond purely financial motivations to embrace socially responsible investments. Contemporary investors are increasingly concerned with the impact companies have on global issues such as climate change, workplace equality, poverty alleviation, and more, alongside traditional financial metrics. Notably, surveys highlight that, millennials exhibit a strong inclination towards supporting companies with solid social and environmental reputations, demonstrating a growing awareness of the importance of responsible business practices.

The evolution towards SRI is supported by statistics. Globally, there has been a significant uptick in the adoption of Environmental, Social, and Governance (ESG) principles in investment portfolios. In 2017, 48 percent of investors, including both retail and institutional, integrated ESG criteria into a minimum of 25 percent of their portfolios. By 2019, this figure had surged to an impressive 75 percent, underscoring the widespread embrace of socially responsible investment strategies. This shift signifies more than just a change in investment trends; it represents a collective realization among investors that financial gains can be harmonized with positive societal and environmental impacts. As the world becomes more interconnected, investors are recognizing their power to influence positive change through strategic investment choices.

In the last decade, Environmental, Social, and Governance (ESG) investments have gathered significant attention and interest from both investors and customers globally. Over the past five years, this rises in interest for ESG investing has also made notable developments within the Indian financial viewpoint. Renowned asset management firms have introduced their own ESG programs, effectively attracting investors who are increasingly drawn to Socially Responsible Investments (SRI).

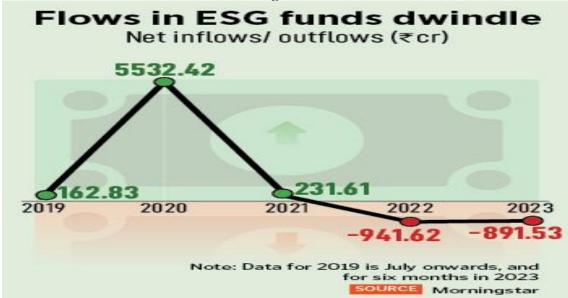
Figure 1



Source: Morningstar India

The growing interest has been particularly evident during the financial instability caused by the outbreak of the COVID-19 pandemic. Socially Responsible Investments (SRI) investments, which are rigorously evaluated based on Environmental, Social, and Governance (ESG) criteria, have become an important choice for investors aiming to support their financial objectives with broader societal and ethical concerns.

Figure 2



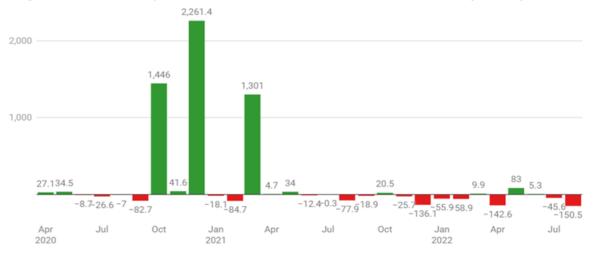
Source: Morningstar India

Between July 2019 and 2020, ESG funds witnessed a significant surge in fund inflows. However, this trend gradually declined in 2021. Subsequently reductions observed in 2022 and 2023, coinciding with the onset of the COVID-19 pandemic. Notably, during the COVID-19 pandemic, there was initially a positive inflow of funds into ESG, but this trend later reversed, resulting in negative flows.

Figure 3

ESG Mutual Fund Flows

Large net inflows have only come in months where new fund offers were launched. (Rs Crore)



Note: Five new funds were launched between October and December 2020.

Source: Morningstar India

Bloomberg | Quint

Source: Morningstar India, Bloomberg

In the last quarter of 2020, from October to December, the launch of 5 new ESG funds aligned with a notable rise in fund inflows. However, this momentum gradually declined in 2021 and 2022. Hence, the introduction of these new ESG funds primarily led the substantial increase in fund inflows during that period.

II. Literature Review

The value of Environmental, Social, and Governance (ESG) performance in Indian stocks listed on the Bombay Stock Exchange during the COVID-19 crisis was examined in this study (Beloskar & Rao, 2023). The researchers found that ESG-rated firms outperformed during the pandemic, providing downside protection to investors. Positive associations were observed between ESG scores and cumulative returns during the crisis. However, the study also revealed limitations, such as the limited ESG coverage of Indian companies by Bloomberg and the focus on large and mid-cap stocks, neglecting small-cap stocks. Despite these limitations, the study highlighted the potential of ESG investing in emerging markets like India, as ESG-rated firms demonstrated resilience and reduced stock return volatility during the market-wide financial crisis caused by the pandemic. The surge in ESG investing in India calls for increased investor awareness and greater sustainability disclosures by companies to enhance ESG coverage by research agencies. Largely the study contributed to the literature on ESG investing during crisis periods and highlighted the benefits of considering ESG performance for long-term investing practices globally.

The impact of Environmental, Social, and Governance (ESG) controversies scores on the performance of global mutual funds during the later phase of the COVID-19 pandemic was precisely examined in the study (Petridis et al., 2023). Employing advanced techniques such as Data Envelopment Analysis (DEA) and hypothesis testing, the research examined into the relationship between ESG performance and mutual fund efficiency. The study comprised a vast sample of 17,961 mutual funds worldwide, analysing data available during the pandemic's later stages. By employing these intense methodologies, the research aimed to shed light on how ESG factors influenced mutual fund performance in the challenging context of the pandemic's later phase. The sample was divided into two groups based on the quartile of ESG controversies score, to examine the effect of ESG controversies scores on mutual fund performance. The results revealed that mutual funds with lower ESG controversies scores, indicating fewer ESG controversies, demonstrated better performance compared to those with higher scores.

The study explored the great impact of the COVID-19 pandemic on the Environmental, Social, and Governance (ESG) performance of European listed companies, specifically those within the STOXX 600 index (Bifulco et al., 2023). Analyzing a sample comprising 600 European listed companies over the period from 2018 to 2021, the study revealed an encouraging trend. Even amidst a global health crisis with profound economic consequences, companies continued to expand their commitment to ESG targets. This noteworthy finding holds true when examining the individual components of the ESG score - environmental, social, and governance practices. The study suggested the first evidence of how businesses addressed the global crisis caused by the COVID-19 epidemic while adhering to the best ESG principles. The findings revealed that despite the significant impact of the COVID-19 pandemic on various aspects of company's operations such as workforce management,

investments, and supply chain dynamics, it did not change the firms' inclination to maintain optimal ESG practices. Companies continued to prioritize investments in ESG initiatives, like the pre-COVID-19 period, resulting in notable improvements in their ESG scores.

ESG-profiled mutual funds have become increasingly leading within the financial services industry. Although appearing similar at first glance, there exists significant variation in how these funds incorporate ESG considerations into their investment portfolios. Two experiments were conducted (Hauff & Nilsson, 2023) to investigate how strategic choices surrounding ESG implementation impact retail investors' perceptions of sustainable quality, financial quality, and overall fund quality. The research revealed that the choice of ESG strategy influences the perceived quality of mutual funds, with a notable preference for the inclusion strategy. Unexpectedly, the study found that the effect on overall fund quality was facilitated by apparent financial quality rather than sustainable quality. Additionally, the study examined the effects of implementing the strategy through in-house sustainability experts versus relying on external sustainability expertise. It was found that utilizing in-house expertise positively affected perceived quality through perceived financial quality. These findings highlighted the significance of how ESG factors were integrated into investment portfolios, as investors attribute different financial expectations to various strategies, intentionally or unintentionally.

Over the past decade, ESG investments have gained significant attention from both investors and consumers globally. In the Indian context, particularly over the last five years, there has been a noticeable rise in interest in these investments. Several prominent asset management firms have introduced ESG programs, attracting investors' attention. The analysis (Singh, 2023) aimed to assess the performance of ESG mutual fund schemes and analysed a diverse portfolio. The findings indicated that financial services and technology emerged as the most attractive sectors for ESG-integrated assets. In addition, a benchmark was used to compare the performance of ESG schemes, shedding light on the industries and businesses that were particularly popular within each sector. The primary objective of the study was to understand the evolution and growing popularity of ESG mutual funds in India. Key conclusions from the study suggested a rising trend in ESG fund investments in the country. However, growth remains relatively slow compared to the major economies of other developed nations. This may be attributed to Indian investors' partial adoption of ESG factors when constructing portfolios, indicating extent for further awareness and adoption in the future.

The research (Dikolli et al., 2023) examined how mutual funds with governance, social, and environmental (ESG) goals voted on shareholder motions pertaining to CEO compensation. Investigating a sample comprising 94,695 votes by 2,354 mutual funds between 2012 and 2021, it was found that ESG funds were 9.4% more likely than non-ESG funds to vote in favour of such proposals. When suggestions were made to match CEO compensation with environmental and social (ES) goals, the chance increased to 19.2%. ESG funds also determined a 14.9 % higher likelihood of supporting proposals aimed at improving transparency, though only a 7.0% higher likelihood of supporting proposals related to restructuring compensation structures. The findings suggested that ESG funds perceived greater net benefits from supporting shareholder compensation proposals, particularly those pertaining to ES objectives and transparency. The study indicated that ESG funds were more inclined to vote in favour of shareholder proposals concerning executive compensation compared to non-ESG funds. Moreover, this increased inclination was more pronounced for ES-related proposals than governancerelated ones, and particularly so for proposals aimed at increasing transparency rather than redesigning compensation structures. These findings indicated that ESG mutual funds may derive benefits such as higher capital inflows from their support of ES-related proposals. However, their stronger support for enhancing transparency around compensation, especially in ES-related contexts, suggested a sensitivity to potential higher costs associated with supporting for changes to executive compensation in favour of environmental and social

During the changing environment of risks and the increasing demand for sustainable practices, there has been a remarkable surge in Environmental, Social, and Governance (ESG) investment practices worldwide. ESG-themed mutual funds have emerged as an alternative possibility for ESG investing. The study (Gupta, 2022) intended to examine the growth of ESG mutual funds in India and assess their performance using various standalone return and risk measures, along with well-established risk-adjusted measures such as the Sharpe Index, Treynor Ratio, Sortino Measure, and Jensen's Alpha. Regarding growth, the study suggested that the industry was still in its early stages, although it showed steady and positive momentum in terms of both the number of funds and assets under management. While considering only financial aspects and not the social benefits of sustainable investment, the performance analysis revealed that the Quant ESG Equity Fund stands out as the top performer. Interestingly, the study indicated that all sample funds have outperformed the market and achieved superior returns. These findings highlighted the view that ESG investing not only aligned with investors' sustainability goals but also generated returns higher than traditional investment routes.

Socially Responsible Investment (SRI) involves directing funds towards practices with significant social impact. It comprises evaluating businesses based on Environmental, Social, and Governance (ESG) criteria. Socially conscious investors may invest directly in financial markets or opt for investment instruments such as mutual funds through ESG fund schemes. SBI Mutual Fund distinguished out as the first AMC to adopt this strategy, benchmarked against the Nifty 100 ESG indices, despite the fact that only a small number of mutual fund companies have established ESG fund schemes to offer to SRI clients. The study (Anis Akthar Sulthana Banu et al., 2021) adopted a methodological approach, analysing published

secondary data sources from SBI Mutual Fund and the NIFTY indices. The aim was to assess the effectiveness of the ESG Equity Fund in the mutual fund investors' portfolio and enable small and medium-sized investors to participate in ESG-driven mutual fund schemes. The SBI Magnum Equity Mutual Fund offered investors the potential for long-term capital gains through aggressive investment management in a diversified portfolio of companies adhering to environmental, social, and governance (ESG) requirements.

There is a growing global focus on financial products that prioritize Environmental, Social, and Governance (ESG) or Sustainable Investing, in line with the guidelines set by the United Nations Environment Programme Finance Initiative (UNEP FI). Indian investors, who are always eager for a wider range of financial products, are no exception to this trend. India has seen a significant increase in Net Assets Under Management (AUM) due to rising investments from domestic investors. This is evident from the swift launch of New Fund Offers (NFO) or rebranding of existing schemes by Asset Management Companies (AMCs) to capitalize on opportunities in the Indian mutual fund industry. The study (Manda Vijaya Kittu, 2021) examined the status of ESG and Sustainable Investing in the context of Indian mutual funds. The findings revealed that ESG investing in India is still in its early stages but is gaining momentum with the rapid introduction of schemes in 2020-2021. The analysis of competition and market concentration indicated that the market is moving towards perfect competition and is moderately concentrated. Indian mutual funds are following their global counterparts by introducing schemes that cater to investors interested in supporting companies aligned with the Environmental, Social, and Governance (ESG) theme. As of March 2022, there are a total of eight openended equity schemes focused on ESG themes in India. Among these, the SBI Magnum Equity ESG Fund stands out as a dominant leader and was the sole scheme operating in the Indian ESG Mutual Funds market before several others joined the competition.

ESG practices have become the focal point in the Indian corporate landscape following corporate governance and corporate social responsibility. ESG, which incorporates environmental, societal, and corporate governance policies, presents a more comprehensive concept compared to traditional corporate governance and CSR. These three pillars of performance serve as metrics to evaluate a company's impact on society and environmental sustainability. During the pandemic COVID19, ethics and values, climate change awareness, regulatory environment, reduced risk, environmental consciousness, and other factors were the driving forces behind ESG-rated firms experienced a rise in popularity among investment portfolios around the world. Investors were increasingly drawn to sustainable investments due to the reputational benefits and the potential for a larger risk-reward ratio.

Moreover, investing in ESG-rated firms offered investors valuable insights into a company's behaviour, responses, and evolution regarding various ESG factors. Companies that do not support sustainable business strategies may face difficulties in raising both shares and loans in the future. ESG compliance has become essential for organizations striving to succeed in the current and future business environment. Globally, the number of ESG funds have risen over the past decade, surpassing 3,300 funds. The study (Akhileshwari et al., 2021) described sustainability ratings, explored various ESG Mutual Funds in India, and used ARIMA to forecast the NAV of ESG mutual funds.

Despite several studies indicating no apparent difference in profitability between sustainable and conventional investments. Further difficulties such as lack of knowledge and education about these funds, unfavourable risk and return perceptions, among others continue. Therefore, investment managers should adopt a more intentional approach towards sustainable investments, actively integrating Environmental, Social, and Governance factors into their investment strategies.

III. Objectives of the study:

ESG information plays a crucial role by allowing investors to assess not only the financial risks associated with a particular firm but also how that firm intends to manage and mitigate future risks. This research undertaking involved a comprehensive evaluation of the performance of ESG mutual fund schemes. During this growing interest in ESG products, the present study aims on following objectives for analysis:

- To investigate the value addition that ESG performance offers to investors during crisis periods, such as the recent pandemic-induced financial crisis.
- To analyse the risk-adjusted performance of ESG mutual fund schemes and their contribution to portfolio diversification using secondary data.

IV. Research Methodology

The study is empirical in nature and using secondary sources of information for analysis. Various parameters such as the selected of ESG funds launched in the Indian market over the years, Expense Ratio, Sectorial Allocation, Company Holdings, ESG Score and AUM have been used to assess the growth of this sector. In order to gather published secondary data, reliable and genuine research websites were used. The secondary data have been collected related to 5 top performing Environmental, Social, and Governance (ESG) Mutual funds, which are as follows:

Fund Name	Returns Since Inception
Quantum ESG Fund	16.40%
Axis ESG Equity Fund	14.50%
SBI Magnum Equity ESG Fund	14.70%
Aditya Birla Sun Life ESG Fund	11.20%
Kotak ESG Opportunities Fund	10.80%

V. Data Analysis

As of 31st March 2023, the top 5 performing ESG thematic schemes are available in India. The schemes that have the highest returns are listed first, followed by the returns from highest to lowest as of 31st March 2023. The following provides an overview of these schemes:

Table - 1 Overview of the Selected ESG mutual funds

Fund Name	Launch	Expense	1YR	3YR	Returns	AUM	NAV
	date	Ratio %	Returns	Returns	since		
			%	%	inception,		
					till 31st		
					March		
					2023		
Quantum ESG							Rs.
Fund	12-Jul-19	1.72	16.80%	21.60%	16.40%	Rs. 71.79 Cr	18.95
Axis ESG						Rs. 1409.43	Rs.
Equity Fund	12-Feb-20	2.2	15.40%	17.63%	14.50%	Cr	17.60
SBI Magnum							
Equity ESG						Rs. 4977.98	Rs.
Fund	27-Nov-06	1.99	16.10%	21.50%	14.70%	Cr	17.60
Aditya Birla							
Sun Life ESG							Rs.
Fund	24-Dec-20	2.36	12.80%	NA	11.20%	Rs. 751.34 Cr	13.40
Kotak ESG							
Opportunities						Rs. 1060.30	Rs.
Fund	11-Dec-20	2.16	18.80%	NA	10.80%	Cr	13.97

Source: CRISIL

Table – 2 Top Sectoral exposure and Companies in the Portfolio of the Selected ESG mutual funds

iditas						
Fund Name	Sectorial Allocation			Company Holdings		
	1	2	3	1	2	3
Quantum ESG	Financial	Technology	Automobile	HDFC		TVS
Fund	(19.99%)	(15.90%)	(14.15%)	Bank Ltd.	Treps	Motors
Axis ESG	Financial	Technology	Services	Torrent	HDFC	Bajaj
Equity Fund	(22.84%)	(19.38%)	(16.62%)	Power Ltd.	Bank Ltd.	Finance
SBI Magnum						
Equity ESG	Financial	Technology	Automobile	HDFC	Infosys	
Fund	(29.12%)	(21.54%)	(11.82%)	Bank Ltd.	Ltd.	TCS
Aditya Birla						
Sun Life ESG	Financial	Technology	Automobile	ICICI Bank	HDFC	Infosys
Fund	(28.10%)	(19.90%)	(9.71%)	Ltd.	Bank Ltd.	Ltd.
Kotak ESG						
Opportunities	Financial	Technology	Automobile	HDFC	Infosys	
Fund	(26.85%)	(18.05%)	(15.19%)	Bank Ltd.	Ltd.	TCS

Source: CRISIL

The Table 2 exhibits the top sectoral exposures and company holdings in the portfolio of selected ESG mutual funds. Across all funds, the financial sector holds a significant allocation, followed by technology and automobile sectors. The top three sectors with the highest allocation in the funds include Financial, Technology, and Automobile. In terms of company holdings, HDFC Bank Ltd. appears to be a common top holding across all funds, followed by other prominent companies such as Infosys Ltd., TCS, and ICICI Bank Ltd. This suggests a strong emphasis on established players in the financial and technology sectors within the ESG thematic funds. The funds demonstrate a consistent focus on sectors such as Financial and Technology, reflecting their importance in ESG investing. HDFC Bank Ltd. emerges as a key holding across all funds, indicating its strong

presence and perceived sustainability within the ESG framework. Technology companies like Infosys Ltd. and TCS also feature prominently, suggesting the sector's relevance in ESG investment strategies. The analysis of these results indicates a consistent trend among ESG funds in their sectoral allocations and company holdings, reflecting a focus on sectors and companies with strong ESG practices and performance.

Table - 3 Absolute and Annualized Return of the Selected ESG mutual funds

Fund Name	Expense Ratio %	1YR Return s %	3YR Returns %	Returns Till 31st March
				2023
Quantum ESG Fund	1.72	16.80%	21.60%	16.40%
Axis ESG Equity Fund	2.2	15.40%	17.63%	14.50%
SBI Magnum Equity ESG Fund	1.99	16.10%	21.50%	14.70%
Aditya Birla Sun Life ESG Fund	2.36	12.80%	NA	11.20%
Kotak ESG Opportunities Fund	2.16	18.80%	NA	10.80%

Source: CRISIL

The data presented in the Table 3 provides the expense ratio, 1-year returns, 3-year returns, and returns until March 31st, 2023, for the selected ESG mutual funds. Overall, these results provide insights into the performance of selected ESG mutual funds, enabling investors to make informed decisions based on their financial objectives and risk preferences. Among the funds with available data, Quantum ESG Fund exhibits the highest return of 16.40% since inception indicating strong performance relative to its expense ratio. Its returns have been consistently positive over the specified period. Axis ESG Equity Fund and SBI Magnum Equity ESG Fund also demonstrate competitive returns. Axis ESG Equity Fund follows closely with an absolute return of 14.50%, suggesting competitive performance despite its higher expense ratio. SBI Magnum Equity ESG Fund also demonstrates a respectable return of 14.70%, indicating satisfactory performance in generating returns for investors. Aditya Birla Sun Life ESG Fund and Kotak ESG Opportunities Fund show relatively lower returns of 11.20% and 10.80%, respectively, suggesting comparatively lower returns after considering expenses. This may warrant further analysis to understand their performance drivers and potential areas for improvement. Overall, the analysis highlights the relative performance of each fund, considering their expense ratios and returns over the specified period. Investors may use this information to make informed decisions based on their investment objectives and risk tolerance.

Table - 4 Risk Profile of the Selected ESG mutual funds as on 31st March 2023

Fund Name	Beta
Quantum ESG Fund	0.88 vs 0.85
Axis ESG Equity Fund	0.79 vs 0.85
SBI Magnum Equity ESG Fund	0.97 vs 0.85
Aditya Birla Sun Life ESG Fund	0.96 vs 0.85
Kotak ESG Opportunities Fund	0.89 vs 0.85

Source: CRISIL

The Table 4 provides the beta values for selected ESG mutual funds, along with the category average beta of 0.85 as on 31st March 2023. Beta measures the volatility or systematic risk of a fund compared to the overall market, with a beta of 1 indicating the fund moves in line with the market, higher than 1 indicating higher volatility, and lower than 1 indicating lower volatility. Quantum ESG Fund and Kotak ESG Opportunities Fund have beta values close to the category average of 0.85, suggesting their risk levels are in line with the market average, but more than the average, hence considered as high volatility. Axis ESG Equity Fund exhibits a beta value lower than the category average, indicating relatively lower volatility compared to the market. SBI Magnum Equity ESG Fund and Aditya Birla Sun Life ESG Fund have beta values higher than the category average, suggesting higher volatility compared to the market. Funds with beta values lower than 1 (such as Axis ESG Equity Fund) may offer diversification benefits as they tend to be less volatile than the overall market. Funds with beta values closer to 1 (such as SBI Magnum Equity ESG Fund and Aditya Birla Sun Life ESG Fund) may carry higher systematic risk, potentially leading to higher returns during bull markets but also higher losses during bear markets. Investors seeking lower volatility may prefer funds with beta values lower than the category average. Those comfortable with higher risk levels may consider funds with beta values higher than the category average, potentially expecting higher returns over the long term. Overall, the beta values provide

insights into the risk profiles of the selected ESG mutual funds, helping investors make informed decisions aligned with their risk tolerance and investment objectives.

Table - 5 ESG Score of the Selected ESG mutual funds

Fund Name	E Score	S Score	G Score	ESG Score
Quantum ESG Fund	60	59	75	66
Axis ESG Equity Fund	57	57	74	64
SBI Magnum Equity ESG Fund	57	56	70	62
Aditya Birla Sun Life ESG Fund	57	57	73	63
Kotak ESG Opportunities Fund	57	59	72	63

Source: CRISIL MI&A Research

The Table 5 provides the ESG scores for selected ESG mutual funds, with individual scores for Environmental (E), Social (S), and Governance (G) criteria, along with their overall ESG score. The scores are based on CRISIL's weightages, with E weighted at 35%, S at 25%, and G at 40%, and then aggregated to derive the overall ESG score. The ESG scores are categorized into five levels: Weak (0-30), Below average (31-45), Adequate (46-60), Strong (61-70), and Leadership (71-100). All selected ESG mutual funds have ESG scores ranging from 62 to 66, indicating their overall performance against environmental, social, and governance criteria. Quantum ESG Fund has the highest ESG score of 66, followed closely by Axis ESG Equity Fund with a score of 64. Aditya Birla Sun Life ESG Fund and Kotak ESG Opportunities Fund with scores of 63, and SBI Magnum Equity ESG Fund has slightly lower ESG scores of 62. Among the individual ESG factors, Governance (G) scores are generally higher than Environmental (E) and Social (S) scores for all funds, indicating relatively stronger governance practices. Environmental (E) and Social (S) scores are relatively consistent across the funds, showing similar levels of performance in these areas. Quantum ESG Fund has the highest Environmental (E) score of 60, indicating strong performance in environmental criteria. Quantum ESG Fund and Kotak ESG Opportunities Fund have the highest Social (S) score of 59, suggesting strong performance in social criteria. Quantum ESG Fund has the highest Governance (G) score of 75, reflecting strong governance practices.

Based on CRISIL's categorization, all selected funds fall within the Strong category (61-70), for overall ESG scores, indicating strong performance across environmental, social, and governance dimensions. The funds generally demonstrate balanced performance across environmental, social, and governance criteria. While none of the funds achieve a "Leadership" status (71-100), they demonstrate strong performance in certain ESG aspects. Investors seeking ESG-aligned investments can consider these funds as they demonstrate effective performance across ESG criteria. The funds' balanced performance across ESG dimensions suggests a comprehensive approach to sustainability and responsible investing. Investors concerned about ESG factors may consider funds with higher ESG scores, such as Quantum ESG Fund, for inclusion in their portfolios. However, it's essential to conduct further research and consider other factors such as risk, returns, and investment objectives before making investment decisions. Overall, the ESG scores provide valuable insights into the sustainability performance of the selected ESG mutual funds, helping investors make informed decisions aligned with their ESG preferences and investment objectives.

VI. Conclusion

The analysis reveals several key insights regarding the selected ESG mutual funds. Firstly, there is a consistent emphasis on sectors such as Financial and Technology across all funds, indicating their importance in ESG investing. HDFC Bank Ltd. emerges as a common top holding, underscoring its perceived sustainability within the ESG framework. Additionally, technology companies like Infosys Ltd. and TCS feature prominently, highlighting the sector's relevance in ESG investment strategies. Quantum ESG Fund demonstrates the highest return since inception, indicating strong performance relative to its expense ratio. Axis ESG Equity Fund and SBI Magnum Equity ESG Fund also exhibit competitive returns, while Aditya Birla Sun Life ESG Fund and Kotak ESG Opportunities Fund show relatively lower returns, suggesting further analysis may be required to understand their performance drivers. When considering risk profiles, beta values provide insights into the volatility of the funds. Funds with beta values lower than the category average (lower than 1), such as Axis ESG Equity Fund, may offer diversification benefits due to their lower volatility. On the other hand, funds with beta values higher than the category average (values closer to 1), like SBI Magnum Equity ESG Fund and Aditya Birla Sun Life ESG Fund, may carry higher systematic risk. Finally, the ESG scores indicate strong performance across environmental, social, and governance dimensions for all selected funds. Investors seeking ESG-aligned investments can consider these funds, which demonstrate a comprehensive approach to sustainability and responsible investing. Overall, the analysis provides valuable insights for investors to make informed decisions aligned with their investment objectives, risk tolerance, and ESG preferences. However, it's essential to conduct further research and consider other factors before making investment decisions.

The study on India's COVID-19 pandemic events reveals that ESG information serves as a signal for future stock performance. Particularly, ESG performance acts as a shield during crises, offering downside protection. Importantly, the study finds that ESG performance does not harm investment outcomes in normal circumstances.

VII. Limitations of the study

The major limitation of this study is that the sample size is limited to only 5 top performing Environmental, Social, and Governance (ESG) Mutual funds have been taken for analysis. In addition, there are various statistical techniques can be used to measure the performance of Environmental, Social, and Governance (ESG) Mutual funds in India.

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