

# Sustainable investment funds in India: a synthesis of the academic literature

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#### **Abstract**

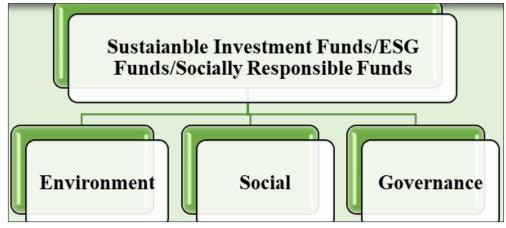
Sustainable Investment Funds offer investors alternatives to invest their savings in shares of companies from a different perspective, extending the conventional medium of investing. These mutual funds encourage investors to consider the environment and society in which they live while investing in the stock market. This paper aims to review the existing literature on sustainable investment funds. Sixteen research papers selected from different countries are thoroughly studied. The findings reveal that the concept of SIFs is continuously increasing and gaining popularity. SIFs outperformed conventional funds, particularly in the wake of the COVID-19 outbreak. Some studies have supported the notion that non-SIFs outperform SIFs. However, when investors consider societal and environmental factors while making an investment, they are willing to sacrifice commercial or economic benefits in favor of social benefits.

Keywords: Sustainable Investment Funds, Thematic funds, Environment, Social, Governance

#### Introduction

The Sustainable Development Goals were developed by the United Nations in 2015 to achieve a sustainable environment and society. These goals can be achieved relatively easily through Sustainable Investing (Sharma & Garg, 2024) [15]. Mutual funds are investment vehicles that pool money from multiple investors to invest in a diversified portfolio of securities, including stocks, bonds, and money market instruments (AMFI, 2024) [1]. They are collective investment vehicles that collect and pool money from various investors. Open-ended schemes, Closed-ended schemes, Interval schemes, Equity funds, Debt funds, Hybrid schemes, Money market funds, Growth funds, Income funds, offshore funds, etc., are the types of mutual fund schemes (AMFI, 2024) [1]. Due to the consistent growth in mutual funds, particularly in green-related funds, every investor desires to comprehend the correlation between mutual funds and ESG. ESG stands for Environmental, Social, and Governance. It is also known as sustainable investing. ESG investing refers to an investment approach where funds are allocated to companies that adhere to ethical practices alongside profitability (IBEF, 2024) [4]. The fund aims to deliver decent financial returns while having a positive environmental impact. To comply with the ethical standards, ESG scores are assessed by research entities such as MSCI, Sustainalytics, and Morningstar. Environmental funds, social funds, governance funds, integrated ESG funds, and

thematic ESG funds are the types of mutual funds that fall under the ambit of ESG investing (Press Trust of India, 2024). The SEBI has mandated that the top 1000 listed companies disclose their ESG efforts. In their research paper, Guimarães & Malaquias (2023) [7] revealed that ESG-related funds demonstrated higher risk-adjusted returns during periods of financial constraint. SBI Magnum Equity ESG Fund was the first ESG fund in India. It was launched in May 2018, and since then, the market has seen the introduction of several other ESG-The ESG theme or responsible investing themed funds. garnered popularity post-COVID. Between 2020 and 2021, eight new ESG funds were launched. Experts believe that such funds will attract greater attention in the years to come. ESG mutual funds invest in companies with high ESG ratings and sustainable growth, unlike traditional mutual funds, which focus on profitability and past performance. They also affect positive social and environmental change by investing in companies that reduce their carbon footprint or have good employee practices. ESG funds prioritize sustainability over short-term gains, unlike traditional funds, focusing on financial returns (Responsible Investing Tribune, 2024) [13]. An ESG controversy score measures the frequency and severity of a company's environmental, social, and governance (ESG) controversies. It's calculated and published by financial information providers.



Source: Authors' compilation

### Literature review

| S.<br>N. | Author's name                          | Title   | Objectives   | Research<br>methodology  | Findings  |
|----------|--|---|--|--|---|
| 1.       | Vishali & Shafi M.K. (2024) [20]       | Emerging paradigms in socially responsible investment (SRI)—A study with focus on ESG mutual funds in India | 1. To explain the concept of Socially Responsible Investment (SRI) in the context of Indian financial markets.  2. To assess the performance of selected ESG mutual funds  3. To examine the opportunities and challenges associated with SRI and ESG funds within the Indian financial markets. | Sample Data: Secondary data Time period: April 2022 to March 2023 Tools and techniques: Four risk-adjusted portfolio performance metrics: the Sharpe ratio, Jensen's Alpha, Treynor ratio, and Sortino ratio | The study finds that Socially Responsible Investment (SRI) is gradually expanding in India, with the ICICI Prudential ESG Fund's Direct Plan-Growth option outperforming other selected ESG funds. In contrast, the Aditya Birla Sun Life ESG Fund's Direct Plan-Growth option ranked the lowest. Despite a growing trend, the expansion of ESG funds in India has been slow due to investor hesitancy about sustainability-focused portfolios, limited options, and higher costs associated with ESG analysis. Additionally, the Securities and Exchange Board of India (SEBI) has introduced a Social Stock Exchange (SSE), which facilitates capital access for social enterprises and promotes impact investing in India.   |
| 2.       | Wong & Li<br>(2024) [21]               | Investigating ESG<br>Funds in China:<br>Management Fees<br>and Investment<br>Performance                    | 1. To investigate the relationship between management fees, ESG scores, and the investment performance of ESG funds in China.  2. To analyze the performance of open-end funds in China.  3. To analyze the impact of ESG factors on fund performance.   | funds in China <b>Time period:</b>   | The study reveals that funds with higher management fees yield higher annualized returns but experience greater volatility and maximum drawdown, indicating higher associated risks. However, these higher-fee funds do not show superior performance in risk-adjusted metrics. A specific management fee group (1.1%-1.2%) consistently shows exceptionally high returns. The study also finds that funds with moderate ESG scores, slightly above the median, demonstrate the best risk-adjusted returns. While high ESG scores may not necessarily lead to better investment outcomes, moderate ESG integration can contribute to superior risk-adjusted returns.  |
| 3.       | Vilas et al.<br>(2024) <sup>[19]</sup> | The limited role of sustainability in mutual fund investor decisions: A machine learning approach           | Assess the importance of ESG (Environmental, Social, and Governance) performance in mutual fund investment decisions.     Develop predictive models to forecast mutual fund flows, financial returns, and ESG performance.   | Sample Data:<br>Secondary data<br>Sample size:<br>3767 US mutual   | The study examined the factors influencing mutual fund purchases, with a focus on the importance of past returns and ESG performance. Investors tended to favor funds with higher past returns, better ESG scores, lower volatility, smaller size, lower fees, and lower turnover ratios, with these variables showing statistically significant differences between funds with above-median and below-median flows. The analysis found that past returns and fund characteristics were more critical in attracting flows than ESG performance, despite ESG scores being statistically significant. Panel data regression confirmed that financial variables, such as fees and yield, had higher predictive power for fund flows than ESG scores, which played a lesser role in |

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|----|---------------------|---|---|---------------------------------------|---|
|    |                     |   |   | and Regression<br>analysis            | predicting fund flows. The study also employed machine learning models to predict fund flows, with random forests demonstrating the best accuracy, particularly when segmenting by fund type and investor |
|    |                     |   |   |                                       | class. Ultimately, while ESG factors were considered, traditional financial metrics continued to be the   |
|    |                     |   |   |                                       | dominant drivers of fund flows.   |
|    |                     |   | 1. To test how financial performance indicators and   | Sample Data:                          | The study reveals that market capitalization has a negative impact on stock returns in Greece and France,   |
|    |                     |   | combined ESG (Environmental, Social, and  | Secondary data                        | suggesting a preference for smaller companies among investors.  |
|    |                     | Catalyzing                                  | Governance) scores impact   | Sample size:                          | The price-to-book value (P/RV) and Sharpe ratio have a  |
|    |                     | Sustainable                                 | stock returns for large-cap   | 186 companies' data from six European | positive effect on stock returns in all countries except  |
|    | Momparler           | Investment:                                 | firms.  | countries                             | Portugal. ESG scores exhibit a significant negative   |
| 4. | et al.              | Revealing ESG                               | 2. To assess how firm size  | Time period:                          | correlation with stock returns in Italy, but not in other   |
|    | (2024) [10]         | Power in<br>Predicting Fund                 | affects stock returns in Greek and French firms.  | 2010 to 2020                          | countries, suggesting that the importance of ESG factors  |
|    |                     | Performance with                            | 3. To study the relationship  | Tools and                             | varies across Europe.  No evidence of ESG-related herding behavior was  |
|    |                     | Machine Learning                            | between ESG performance   | techniques:                           | found in most countries, except during the COVID-19   |
|    |                     | <i>-</i>                                    | and stock returns, especially   | Regression Analysis                   | outbreak in Portugal, Italy, and Greece. The study's  |
|    |                     |   | in Italian firms, where a   | and Herd Behavior                     | findings align with previous research, which has shown  |
|    |                     |   | significant negative  | Analysis                              | a negative relationship between ESG performance and   |
|    |                     |   | correlation is identified.  |                                       | stock returns, particularly in Europe.  |
|    |                     |   |   |                                       | The study demonstrates that mutual funds with higher  |
|    |                     | of mutual funds: Does ESG controversy score | Investigate the Influence of ESG Performance on Mutual Fund Efficiency     Evaluate Mutual Fund Performance Using DEA | Sample data:                          | ESG controversy scores, which indicate fewer ESG controversies, outperformed those with lower scores.   |
|    |                     |   |   | Secondary data                        | Specifically, funds embroiled in fewer ESG  |
|    |                     |   |   |                                       | controversies exhibited higher financial efficiency. ESG  |
|    |                     |   |   | 17961 mutual funds worldwide          | controversies could harm financial efficiency during  |
|    | Petridis et         |   |   | Time period: July                     | health, environmental, or market crises. European   |
| 5. | al. (2023)          |   |   | 2021 to July 2022.                    | mutual funds exhibit the highest risk, while U.S  |
|    | [12]                | affect the mutual                           | 3. Analyze the Impact of ESG  | •                                     | focused funds tend to have the lowest expenses, with<br>returns generally consistent across regions, although   |
|    |                     | fund performance during the COVID-          | Controversies Scores  | techniques:                           | there are notable outliers. The study suggests that   |
|    |                     | 19 pandemic?                                |   | Data Envelopment                      | incorporating ESG criteria particularly ESG   |
|    |                     | •   |   | Analysis (DEA) and hypothesis testing | controversy scores, into investment strategies can  |
|    |                     |   |   | nypoinesis testing                    | enhance financial performance without sacrificing   |
|    |                     |   |   |                                       | returns.  |
|    |                     |   | 1. To classify mutual funds as  | Sample data:<br>Secondary data        |   |
|    |                     |   | ESG-related or conventional.  | Sample size:                          |   |
|    |                     |   | 2. To analyze the risk-   | 3840 equity mutual                    | The study reveals that ESG-related funds  |
|    |                     | Performance of                              | adjusted performance of   |                                       | demonstrated higher risk-adjusted returns during periods  |
|    | Guimarães           | Equity Mutual Funds Considering             | ESG-related and conventional funds, particularly during   | Time period:                          | of financial constraint. This implies that investors tend   |
|    | &                   | ESG Investments,                            | financial constraints and the   | January 2006 to                       | to achieve better returns by investing in green funds   |
| 6. | Malaquias           | Financial                                   | COVID-19 pandemic.  | December 2020.                        | when faced with market downturns. The study   |
|    | (2023) [7]          | Constraints, and                            | 3. To compare the   | Tools and techniques:                 | suggested that, during market downturns, investors tend<br>to obtain better risk-adjusted returns for investing in  |
|    |                     | the COVID-19                                | performance of ESG-related  | Four-factor Model                     | green funds (similar results were observed during the   |
|    |                     | Pandemic                                    | funds with conventional funds   | and Returns-Based                     | COVID-19 pandemic).   |
|    |                     |   | during the COVID-19 pandemic and periods of   | Style Analysis are                    |   |
|    |                     |   | financial constraints.  | used to classify                      |   |
|    |                     |   |   | funds.                                | The COVID 10 man 1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1   |
|    |                     | Analysis of the                             | 1. To assess the impact of the  | Sample data:<br>Secondary data        | The COVID-19 pandemic in Indonesia affected various mutual funds, with equity, balanced, and fixed-income   |
|    |                     | effects of the                              | COVID-19 pandemic on the  | Sample size:                          | funds experiencing significant declines in returns.   |
|    | 37 1                | COVID-19                                    | performance of different  | Four different types                  | Equity funds showed the highest volatility and risk but   |
| 7. | Yerdian (2023) [22] | pandemic on                                 | types of mutual funds in<br>Indonesia   | of mutual funds.                      | gradually recovered, showing improved returns over  |
|    |                     | mutual fund                                 | 2. To analyze the   | Time period:                          | time. Money market funds remained the most stable,  |
|    |                     | performance (using                          | performance of these mutual   | 2018 to 2022.                         | consistently providing positive returns throughout the  |
|    |                     | the Sharpe method)                          | funds using the Sharpe Ratio  | Tools and                             | pandemic. All mutual funds performed better after the   |
|    |                     |   | 5 1   | techniques:                           | pandemic than before, although none surpassed their   |

|   |     |   |   | as a risk-adjusted return metric. 3. To determine the best-performing mutual fund type during the pandemic.   | Comparative<br>analysis   | values from early 2018. Fixed-income funds performed better before the pandemic, but the rise in global interest rates negatively impacted their returns. Equity mutual funds exhibited significant differences in returns between the pre- and post-pandemic periods, while money market funds performed the best throughout the entire period.   |
|---|-----|---|---|---|---|--|
|   | 8.  | Gavrilakis<br>& Floros<br>(2023) <sup>[6]</sup>         | ESG performance,<br>herding behavior,<br>and stock market<br>returns: evidence<br>from Europe | 1. To test the impact of financial performance indicators and combined ESG scores on stock returns for European large-cap firms.  2. To analyze the influence of ESG performance on investor behavior.  3. To examine the stock performance of large-cap firms in Europe.   | Sample Data: Secondary data Sample size: 80% of the global market cap Time period: 1 April 2010 to 31 December 2020 Tools and techniques: Regression analysis and Herding behavior analysis | The study reveals that market capitalization has a negative impact on stock returns in Greece and France, suggesting that smaller companies may offer higher returns. The price-to-book value and Sharpe ratio have a positive influence on stock returns in all countries except Portugal, indicating that higher valuation and risk-adjusted returns enhance stock performance. ESG scores do not significantly affect stock returns in most countries except Italy. European stocks exhibit a significant negative correlation between ESG performance and returns, suggesting that investors may be willing to sacrifice returns for companies with strong ESG performance. Herding behavior motivated by ESG performance is evident in Greek and French markets but not in others. During the COVID-19 pandemic, herding behavior was observed in Portugal, Italy, and Greece, but not in Spain, France, or Germany.  |
| • | 99. | Rohilla<br>(2023) <sup>[14]</sup>                       | Evaluation of<br>Performance of<br>Selected Indian<br>ESG Funds                               | 1. To analyze the performance of selected ESG funds in terms of annualized return and risk.  2. To assess the performance of ESG funds based on different ratios.  3. To analyze the interdependence of selected ESG funds using the Granger causality test.  4. To identify shocks in the selected ESG funds and their timing. | Sample Data: Secondary data Sample size: 3 ESG funds Time period: 29 December 2020 to 12 August 2022 Tools and techniques: Comparative analysis, Sharpe Ratio, and Granger causality test   | The study reveals that as of August 12, 2022, India's mutual fund market had only 10 ESG schemes, compared to those of countries such as the USA, UK, Japan, and China. SBI was the only mutual fund company offering ESG funds in India until 2018; since then, nine more schemes have been launched. As of March 31, 2022, total ESG assets under management were ₹12,447 crore, with the ESG fund of fund at ₹140.64 crore and the ESG ETF at ₹166.73 crore. The inflow in ESG funds increased from ₹2,094 crore in 2019-20 to ₹4,884 crore in 2020-21, but declined to ₹315 crore in 2021-22. The Aditya Birla Sun Life ESG Fund was the best performer, with a 35.64% annualized return, but also had the highest risk and downside risk.  All selected ESG funds showed significant intercorrelations, and no Granger causality was found among the funds. The study concludes that, despite low awareness, ESG funds in India can offer good risk-adjusted returns. |
| 1 | 0.  |   | Drifting from the<br>Sustainable<br>Development<br>Goal: Style Drift in<br>ESG Funds          | sustainability goals versus   | Sample Data: Secondary data Sample size: 31 ESG-themed funds Time period: 2018 to 2022 Tools and techniques: Descriptive analysis, correlation, and funds flow calculation                  | The study examines the relationship between mutual fund ESG drift (deviation from stated ESG objectives) and fund characteristics. It finds that funds with higher ESG drift tend to invest more in lower-ranked ESG stocks and generally underperform compared to funds without ESG drift. ESG-drift funds are smaller, have lower returns, subscription rates, and fund flows, and exhibit higher turnover rates and lower industry concentration. Additionally, the study reveals that ESG drift enhances the sensitivity of fund flows to performance, particularly among individual investors, suggesting they are more influenced by ESG drift in their investment decisions. However, there is no substantial evidence that ESG-drift predicts future fund performance.   |
| 1 | 1.  | Carlsson<br>Hauff &<br>Nilsson<br>(2023) <sup>[2]</sup> | Is ESG mutual<br>fund quality in the<br>eye of the<br>beholder? An                            | To examine the influence of<br>ESG Investment strategies on<br>perceived sustainable quality,<br>financial quality, and the   | Sample size:<br>261 participants<br>(41% female)<br>Time period:  | The study indicated that the inclusion strategy was favored, with participants perceiving it as the best in terms of financial quality ( $M = 2.86$ ) and overall quality ( $M = 3.22$ ). Engagement was rated highest for perceived   |

|     |              | experimental study | overall quality of ESG-        | 21 September 2001      | sustainable quality ( $M = 3.40$ ), though differences      |
|-----|--------------|--------------------|--------------------------------|------------------------|---|
|     |              | of investor        | profiled mutual funds.         | to 30 June 2022        | between strategies were minimal. The multi-categorical      |
|     |              | responses to ESG   | To evaluate the impact of      | Tools and              | mediation model revealed that the inclusion strategy had    |
|     |              | fund strategies    | ESG strategy implementation    | techniques:            | a significantly positive effect on overall quality,         |
|     |              |                    |                                | Mixed method           | primarily through its impact on perceived financial         |
|     |              |                    |                                | approach and CFA       | quality. However, no significant mediating effect was       |
|     |              |                    |                                | **                     | found for sustainable quality or economic risk, resulting   |
|     |              |                    |                                |                        | in the rejection of the related hypotheses. Overall, the    |
|     |              |                    |                                |                        | findings underscore the importance of financial returns     |
|     |              |                    |                                |                        | in shaping investors' perceptions of mutual fund quality,   |
|     |              |                    |                                |                        | with the inclusion strategy being particularly effective in |
|     |              |                    |                                |                        | enhancing these perceptions.                                |
|     |              |                    |                                | Sample Data:           | <u> </u>  |
|     |              |                    |                                | Secondary data         |   |
|     |              |                    | 1. To assess the growth in the | Sample size:           | The study demonstrated that the growth of ESG funds in      |
|     |              |                    | number and Assets Under        | 8 ESG-themed           | India is in its early stages compared to global markets,    |
|     |              | Growth and         | Management (AUM) of ESG        | mutual funds in        | with only eight ESG-themed funds by December 2021.          |
|     |              | Performance        | funds in India.                | India                  | Despite being a small market, India has experienced         |
|     |              | Measurement of     | 2. To evaluate the             | Time period:           | significant momentum in recent years, particularly since    |
| 12  | Gupta        | ESG-themed         | performance of ESG equity      | 1 January 2021 to      | the launch of its first ESG fund in May 2018. The sector    |
| 12  | (2022) [8]   | Mutual Funds in    | funds based on annualized      | 31 December 2021       | recorded a 76% increase in AUM from Rs. 2,094 crores        |
|     |              | India: An          | returns, portfolio total risk, | Tools and              | in 2019-20 to Rs. 3,686 crores in 2020-21, reaching Rs.     |
|     |              | Empirical          | downside risk, beta, and risk- | techniques:            | 11,651 crores by the end of 2021. While India's position    |
|     |              | Investigation      | adjusted return measures such  | Descriptive analysis,  | is negligible globally, the rapid launch of new funds and   |
|     |              |                    | as Sharpe, Treynor, Jensen's   | Sharpe Index,          | substantial AUM growth highlight a growing interest in      |
|     |              |                    | alpha, and Sortino             | Treynor Ratio,         | ESG investments among Indian investors.                     |
|     |              |                    |                                | Sortino Measure,       |   |
|     |              |                    |                                | and Jensen's Alpha     |   |
|     |              |                    |                                | Sample Data:           | The research indicated that sustainability funds typically  |
|     |              |                    |                                | Secondary data         | yield an average annualized excess return of 7.6%, with     |
|     |              |                    |                                | Sample size:           | a standard deviation of 9.1% and a market beta of 0.71.     |
|     |              |                    |                                | 146 mutual funds in    | Portfolios with lower betas suggest reduced market risk.    |
|     |              | Is there a         | 1. To analyze the relationship | Norway                 | In contrast, high-sustainability portfolios often have      |
|     |              | relationship       | between Morningstar's ESG      | Time period:           | higher betas, being influenced more by growth and           |
|     | Steen et al. | between            | ratings and the performance    | January 2014 to        | small-cap stocks, whereas low-sustainability portfolios     |
| 13  |              | Morningstar's ESG  |                                | December 2018          | carry more unsystematic risk. The study noted a 0.3%        |
|     | (2020)       | ratings and mutual | 2. To examine the existence    | Tools and              | monthly alpha disparity between high- and low-              |
|     |              | ~                  | of an ESG momentum effect.     | techniques:            | sustainability portfolios, especially in European funds,    |
|     |              | 1                  |                                | Descriptive statistics | indicating superior risk-adjusted returns for the former.   |
|     |              |                    |                                | and the Fama-          | Additionally, an "ESG momentum" phenomenon was              |
|     |              |                    |                                | French three-factor    | observed, where funds that improved their ESG scores        |
|     |              |                    |                                | regression model       | achieved an annualized alpha of 3.6%, highlighting the      |
|     |              |                    |                                |                        | potential benefits of enhancing sustainability ratings.     |
|     |              |                    |                                |                        | The study reveals that equally weighted portfolios based    |
|     |              |                    |                                | G 1 P                  | on low Thomson Reuters (TR) scores and high                 |
|     |              |                    |                                | Sample Data:           | controversy scores exhibit significant outperformance,      |
|     |              |                    | 1 77                           | Secondary data         | particularly among smaller companies, indicating that       |
|     |              |                    | 1. To examine the              | (Thomson Reuters'      | investors may reward firms that avoid excessive ESG         |
|     |              | EGG :              | Relationship between           | ESG rating)            | spending. While value-weighted portfolios show no           |
|     | D 41 '       |                    | Corporate Social Performance   | _                      | consistent positive alphas, equally weighted strategies     |
| 1.4 | Dorfleitner  |                    | (CSP) and Corporate            | 2500 companies per     |   |
| 14  |              | ESG: about silent  | Financial Performance          | month during the       | score portfolios, supporting the trade-off hypothesis.      |
|     | (2020) [3]   | saints and small   | 2. To analyze the Impact of    | given time period      | Rank-weighted portfolios further amplify returns, and       |
|     |              | sinners            | Controversies on CFP           | Time period:           | the performance remains robust across different market      |
|     |              |                    | 3. To evaluate Portfolios      | 2002 to 2018           | conditions, portfolio splits, and after accounting for      |
|     |              |                    | Based on ESG Ratings           | Tools and              | transaction costs. Overall, the findings suggest that       |
|     |              |                    |                                | techniques:            | small companies with fewer controversies can achieve        |
|     |              |                    |                                | Regression analysis    | sustained stock performance, whereas large firms with       |
|     |              |                    |                                |                        | high ESG scores do not consistently outperform their        |
|     |              |                    |                                |                        | smaller counterparts.                                       |

| 1: | Friede et 5. al. (2015)           | ESG and financial performance: aggregated evidence from more than 2000 empirical studies  | 1. To provide a comprehensive overview of the relationship between environmental, social, and governance (ESG) criteria and corporate financial performance (CFP)  2. To overcome the limitations of previous review studies   | Sample Data: Secondary data Sample size: 2200 individual studies Tools and techniques: Vote-count studies and Meta-analysis  | The study found that 90% of studies show a nonnegative relationship between Environmental, Social, and Governance (ESG) criteria and corporate financial performance (CFP). The correlation is strong, with 47.9% of vote-count studies and 62.6% of meta-analyses showing positive correlations. Nearly 50% of studies found positive ESG-CFP relations, while only 10% found hostile ties. Meta-analyses supported positive findings, with 74.9% showing significant positive correlations. However, portfolio studies, particularly those focusing on mutual funds, showed 15.5% positive results, possibly due to overlapping risks and costs. North America showed a higher share of positive results than Europe and Asia/Australia. Environmental and Governance studies showed slightly more positive results than Social, though the differences           |
|----|-----------------------------------|---|--|--|---|
| 1  | Muñoz et<br>6. al. (2014)<br>[11] | Environmental<br>Mutual Funds:<br>Financial<br>Performance and<br>Managerial<br>Abilities | 1. To analyze the financial performance and managerial abilities of US and European socially responsible (SR) mutual funds.  2. To compare green fund managers' performance with conventional and other forms of SR mutual fund managers.  3. To investigate the effect of market conditions (crisis vs. regular periods) on the performance of SR funds in the US and Europe. | Sample data: Secondary data Sample size: 18 US and 89 European green funds Time period: January 1994 to January 2013. Tools and techniques: Multifactor model (four-factor Carhart model) and Treynor and Mazuy (TM) market-timing model | were marginal.  The study reveals that the financial performance of green funds in the US and Europe is generally similar to that of their conventional and ESG counterparts. In the US, green funds underperform during non-crisis periods but perform similarly during crises. However, they perform worse in non-crisis periods due to poor market-timing abilities. In Europe, green funds show no significant difference in performance compared to conventional and ESG funds, but underperform conventional funds during crisis periods. The study also indicates that managerial abilities, such as stock picking and market timing, are generally weak. However, unlike their European counterparts, US green fund managers show better timing abilities during crisis periods.  Overall, the success of green fund managers depends on market conditions. |

## Conclusion

The study concludes that mutual funds with higher ESG controversy scores, which indicate fewer controversies, generally outperform those with lower scores, highlighting the financial benefits of incorporating ESG criteria into investment strategies. Specifically, funds with fewer controversies exhibit greater financial efficiency, even during crises such as health or environmental events. The research highlights the importance of considering ESG controversy scores to achieve enhanced financial performance without compromising returns. Additionally, the study finds that green funds, particularly in the US and Europe, exhibit higher risk-adjusted returns during financial constraints, notably during market downturns such as the COVID-19 pandemic. However, green funds underperform in non-crisis periods due to poor markettiming abilities. The study also highlights that sustainability funds, especially in Europe, yield superior risk-adjusted returns, driven by the "ESG momentum" phenomenon, where improving ESG scores leads to better financial outcomes. Despite the positive correlation between ESG criteria and corporate financial performance (CFP), the study suggests that in regions such as North America, the relationship is stronger than in Europe and Asia/Australia, with notable variations in the impact of ESG scores on stock returns across different countries. Lastly, the study indicates that India's ESG fund

market, though in its early stages, has shown significant growth, with increasing investor interest reflected in the rapid launch of new funds and substantial growth in assets under management (AUM). India's ESG model is expanding due to regulatory scrutiny, corporate governance, and global sustainability goals. The expected growth in ESG-oriented AUM aligns with India's commitment to a greener future. ESG investments shape India's financial ecosystem, creating a more sustainable and resilient economy. Strategic sectors and regulatory frameworks support this trend. In conclusion, the concept of SIFs is continuously increasing and gaining popularity. SIFs outperformed conventional funds, particularly in the wake of the COVID-19 outbreak. Some studies have supported the notion that non-SIFs outperform SIFs. However, when investors consider societal and environmental factors while making an investment, they are willing to sacrifice commercial or economic benefits in favor of social benefits.

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