Interdisciplinary Journal of Information, Knowledge, and Management

An Official Publication of the Informing Science Institute

SCOPUS INDEXED

Vol. : 20,Issue 2 2025

ISSN: (E) 1555-1237

ESG Mutual Funds and Portfolio Resilience Across Market Phases : Evidence from India

Ms Supriya[a], Dr Puneeta Goel[b] and Dr Vibhash Kumar[c]

[a]Research Scholar, Amity College of Commerce and Finance(ACCF), Amity University, Noida ,Uttar Pradesh 201301, supriyadangi89@gmail.com**,**

[b]Professor, Amity University, Noida, Uttar Pradesh 201301, pgoel4@amity.edu,

[c]Associate Professor, O.P. Jindal Global University, Sonipat, Haryana 131001, vkumar3@jgu.edu.in ,

ABSTRACT

Purpose: This study is a comparative analysis of the financial performance of ESG mutual funds, conventional equity funds, ESG indices, and general market indices in India across three distinct periods: pre-COVID, during COVID, and post-COVID. The aim is to evaluate the performance of these investment vehicles during varying market conditions, with a focus on key metrics including returns, volatility, and risk-adjusted performance measures.

Methodology: The study employs quantitative analysis to assess performance metrics, such as returns, volatility, and risk-adjusted measures. Key performance indicators include the Sharpe ratio, Treynor's ratio, Jensen's alpha, Information Ratio, and Fama's Decomposition measure. Performance data is analyzed across three periods (pre-, during, and post-COVID) to capture shifts in risk and return dynamics among ESG and conventional funds.

Findings: ESG funds and indices exhibited greater resilience and lower volatility during periods of market stress while conventional funds delivered superior performance during recovery phases. However, in the post-COVID period, conventional funds experienced a strong rebound, delivering higher returns and improved risk-adjusted performance compared to ESG funds, which struggled to maintain competitiveness. The study reveals that while ESG funds offer lower volatility, suitable for risk-averse investors, conventional funds show greater growth potential during recovery-driven market conditions.

Practical Implications: These findings provide valuable insights for investors, fund managers, and policymakers. The study underscores the complementary strengths of ESG and conventional funds across crisis and recovery phases, suggesting a role for each in diversifying portfolios based on market conditions and investor risk tolerance.

Originality: This study contributes to the empirical literature risk, portfolio performance and ESG investing in emerging markets. It offers guidance for structuring resilient portfolios in a post-pandemic world, highlighting the differentiated roles of ESG and conventional funds in adapting to varied market conditions and economic recovery stages.

Keywords: ESG funds, Financial Performance, COVID-19 Impact, Portfolio Resilience

JEL Classification: G01; G11; G14

Do ESG Funds outperform Conventional Funds? A Three-Period Analysis

Interdisciplinary Journal of Information, Knowledge, and Management

An Official Publication of the Informing Science Institute

SCOPUS INDEXED

Vol. : 20,Issue 2 2025
ISSN: (E) 1555-1237

1. INTRODUCTION

Although numerous studies have examined the performance of ESG investments across global markets, empirical findings remain mixed (Rathner 2012; Friede et.al. 2015; Ait El Mekki 2020). However, the recent crises indicate that ESG investments may demonstrate superior performance during periods of heightened market uncertainty (Arefeen and Shimada,2020), thereby attracting increased investor attention, particularly in emerging markets like India. A critical question remains whether this observed outperformance is confined to crisis periods like the COVID-19 pandemic or persists during recovery and normal market phases. Consequently, a comparative analysis of returns of ESG investments and conventional investments across the pre-, during, and post-COVID phases is essential to understand how these investment portfolios perform under varying market conditions, especially during economic disruption and recovery.

The global outbreak of COVID-19 pandemic marked one of the most volatile periods of financial history, prompting investors to reconsider traditional investment paradigms (Omura, Roca, and Nakai 2021). This was a test of the resilience of various asset classes and investment strategies (Kayani et.al. 2024). Simultaneously, ESG investments gained significant momentum as the pandemic raised concerns for environmental sustainability, social responsibility and corporate governance. Firms with stronger ESG credentials were perceived as more resilient during crises due to their emphasis on risk management and long-term stability, further accelerating investor interest in ESG-oriented assets (Gianfrate, Kievid and Dijk, 2021). However, the post-COVID economic rebound highlighted the potential for conventional investments to generate high returns in recovery-driven markets (Gao and Geng,2024; Naseer et.al. 2024). By comparing ESG and conventional investments across these three phases, the study provides evidence-based insights into differential performance, risk exposure and resilience characteristics associated with each investment approach. These findings help investors and fund managers in designing more informed portfolio strategies that align with varying risk tolerance, investment horizons and shifting market conditions. Further, the analysis strengthens the understanding of how sustainable finance operates in emerging markets, particularly in periods of crisis and recovery. From a policy perspective, the study helps policymakers and regulators in designing frameworks that encourage responsible investment practices while maintaining market stability, transparency and long-term capital formation.

Our findings reveal that ESG mutual funds and indices outperformed conventional counterparts during the COVID-19 crisis, showcasing resilience and lower risk. However, during the post-pandemic recovery, the conventional funds delivered stronger returns and better risk-adjusted performance, thereby attracting growth-oriented investors seeking capital appreciation in an expanding economy.

This study contributes to the growing literature on ESG investing by providing comprehensive evidence from an emerging market context across distinct market phases. While much of the existing literature is concentrated in developed economies, empirical evidence from India remains Limited, particularly at the mutual fund level. By employing a matched pair methodology (Kreander et al., 2005) and a multi metric performance evaluation framework, this study offers a detailed comparison of ESG mutual funds, conventional equity funds, ESG Indices, and market benchmarks across pre-crisis, crisis and recovery phases.

Interdisciplinary Journal of Information, Knowledge, and Management
An Official Publication of the Informing Science Institute
SCOPUS INDEXED
Vol. : 20,Issue 2 2025
ISSN: (E) 1555-1237

The findings demonstrate that ESG investments in India exhibit lower volatility and stronger resilience during periods of market stress, while conventional funds outperformed during recovery-driven environments. Rather than treating ESG performance as universally superior or inferior, the study highlights the state dependent nature of ESG performance, emphasising its role as a stabilising component in diversified portfolios. These results extend the ESG performance literature by offering context specific insights from an emerging market and provide practical implications for investors and fund managers seeking to balance risk mitigation and return optimisation across market cycles.

2. LITERATURE REVIEW

The roots of ESG investing are embedded in long-standing historical, societal, and religious norms. Ancient practices, such as Islamic banking prohibiting interest-based activities (Ahmad et. al. 2011), and pre-modern movements like the Quaker's discouragement of investments in armament and tobacco firms (Martini,2021), laid the philosophical foundations for socially responsible investment. Over time, increasing global concerns related to climate change, corporate social responsibility, worker welfare, and disarmament have amplified calls for sustainable and responsible investing (Allen and Craig,2016; EBA Report,2021). In developed economies such as the US, UK, Australia, and Japan, robust regulatory frameworks now govern corporate ESG disclosures and promote responsible investing. These markets boast an extensive network of sustainable finance instruments, fostering a substantial body of literature on ESG investing (Tripathi and Kaur, 2020b; Lozano and Ferrero, 2022). In contrast, ESG investing is still at a nascent stage in emerging economies like India, despite its significant potential to support financial inclusion and socio-economic development (Tripathi and Kaur 2020b). Limited market depth, regulatory maturity and empirical research restrict ESG adoption and understanding in these regions (Liou and Huang, 2023).

This study seeks to address this gap by empirically examining ESG mutual funds and indices in India and comparing their performance with conventional counterparts and market benchmarks. A fundamental question in ESG investing is its financial performance, measured on the basis of risk and returns. An investment strategy is deemed effective only if it enhances financial value, mitigates risk, or accomplishes both objectives. A substantial body of literature has empirically assessed and contrasted the performance of ESG/SRI investments with traditional investing. Based on the prior literature the findings can be categorised into three groups (Statman 2000).

1. Performance of ESG Investments Compared to Conventional Investments

The literature on ESG investment performance relative to conventional investments presents mixed evidence and maybe classified into three main perspectives: neutral, underperformance, and outperformance.

Neutral Performance of ESG Investments

Several studies suggest no significant performance differences between ESG and conventional investments, indicating that ESG investments neither outperform nor underperform the market on average. This viewpoint is supported by studies showing that ESG funds match traditional funds in risk-return profiles, suggesting comparable long-term performance (Hamilton et al., 1993; Luther and Matatko, 1994; Guerard, 1997; Statman, 2000; Amenc & Sourd, 2008, 2010; Mollet & Ziegler, 2012; Revelli and Viviani, 2014; Auer and Schuhmacher, 2016; Kiymaz, 2019; Thakrar and Bhurat, 2023).

Interdisciplinary Journal of Information, Knowledge, and Management
An Official Publication of the Informing Science Institute
SCOPUS INDEXED
Vol. : 20,Issue 2 2025
ISSN: (E) 1555-1237

Almazan et al. (2004) find that, after adjusting for factors like fund size, portfolio turnover, and investment constraints, socially responsible investments (SRI) show no distinct performance advantages or disadvantages relative to conventional firms. Similarly, Statman and Glushkov (2009) find that sector-based ESG screening enables socially responsible investors to achieve returns comparable to conventional portfolios. Lee et al. (2010) identify a curvilinear relationship where screening intensity and systematic risk in socially responsible investing align SRI performance with conventional investments.

Underperformance of ESG Investments

A second body of literature indicates that ESG investments may underperform compared to conventional funds. This underperformance is often attributed to reduced diversification due to a restricted investable universe and the added "cost of screening" (Adler and Kritzman, 2008; Belghitar et al., 2014). Studies by Bauer et al. (2005), Jones et al. (2008), and AitEl Mekki (2020) suggest that ESG funds often incur higher systematic and unsystematic risks due to restricted investment options and market inefficiencies. In emerging markets, underperformance may also be linked to less stringent ESG disclosures, creating information asymmetries and agency concerns (Jensen, 2002; Tripathi and Bhandari, 2014; Ur Rehman et al., 2016). Additionally, adverse market conditions, such as recession, prolonged bear markets, may exacerbate the risk and volatility of ESG investments (Statman, 2006; Hume and Larkin, 2008). Rathner's (2012) meta-analysis of 517 SRI funds found that a significant subset underperformed relative to conventional funds, reinforcing the variability in ESG performance.

Outperformance of ESG Investments

A third set of studies provides evidence of ESG investments outperforming traditional funds, often during times of economic uncertainty and market turbulence. Research in this domain highlights three primary reasons for ESG outperformance. First, companies with sustainable practices enhance their brand loyalty and social image, attracting customers who value corporate responsibility (Flammer, 2015; Albuquerque et al., 2020 ;Atz et.al.,2023). This increased loyalty can contribute to profitability and economic resilience. Second, ESG-oriented companies tend to exhibit strong managerial ethics and attract principled leadership, resulting in greater productivity, organizational performance, and profitability (Siddiq & Javed, 2014). Third, ESG investments attract a loyal investor base driven by non-financial values, reducing fund outflows during crises and ensuring steady capital even when markets are volatile (Bollen, 2007; Nofsinger & Varma, 2014; Nakai et al., 2016). These factors collectively suggest that responsible enterprises may be more resilient and offer favorable returns, particularly in crisis periods (Bauer et al., 2005; Kempf & Osthoff, 2007; Tripathi & Bhandari, 2015a, 2015b; Sarkar, 2020).

2. The Resilience of ESG Investments during crises

Research on the comparative performance of ESG or socially responsible investments (SRI) versus traditional investments during crisis periods is limited and yields mixed findings. Some studies indicate that ESG investments outperform traditional investments in times of crisis, suggesting that the emphasis on sustainability and governance provides resilience against market downturns (Nofsinger & Varma,

Interdisciplinary Journal of Information, Knowledge, and Management
An Official Publication of the Informing Science Institute
SCOPUS INDEXED
Vol. : 20,Issue 2 2025
ISSN: (E) 1555-1237

2014; Nakai et al., 2016; Tripathi & Bhandari, 2012; Gangi & Trotta, 2013; Tripathi & Bhandari, 2016; Bhanumurthy et al., 2014; Arefeen & Shimada, 2020). Conversely, other studies report contradictory findings or conclude that there is no substantial difference in performance, with some noting that ESG investments may be just as vulnerable as conventional funds during crises (Morales et al., 2019; Leite & Cortez, 2015).

While recent research has begun to explore the impact of the COVID-19 pandemic on financial markets (Cep et. Al. 2020 ; Heyden & Heyden, 2020; Sakurai & Kurosaki, 2020), the relative performance of SRI/ESG investments versus conventional investments during the pandemic remains underexplored. To address this gap, our study investigates the performance of ESG mutual funds and ESG indices across three phases—pre-COVID, during COVID, and post-COVID—and compares these with conventional funds and indices. This research contributes to the emerging literature on the resilience of ESG investments during market crises, specifically focusing on the COVID-19 pandemic.

3. DATA AND METHODOLOGY

To evaluate the performance of ESG investments before, during, and after the COVID-19 pandemic, this study analyzes the daily returns, Sharpe ratio, Treynor's ratio, Jensen's alpha, and Information ratio of ESG-aligned investments in the Indian market. Specifically, we examined the NSE NIFTY 100 ESG Index and a sample of 10 ESG mutual funds. Most ESG funds in India are relatively new, as only one fund was established before January 1, 2019. We compare these ESG funds with a matched sample of 24 conventional equity funds, constructed using a modified Matching Pair Technique.

The Matching Pair Technique, initially proposed by Mallin et al. (1995) and later used by Kreander et al. (2005), ensures that ESG and conventional funds are matched based on comparable characteristics to control for differences in age, size, and investment universe. Age is measured in months from the inception date to April 30, 2024, while size is determined by the average assets under management (AUM) in crore rupees. The investment universe is also matched, ensuring comparability. All selected funds are direct, growth-oriented, open-ended equity schemes.

Our initial sample comprised 170 equity funds. We first screened these based on size, resulting in a subset of 104 funds. Subsequently, we matched funds by age, primarily including funds established after January 1, 2019, narrowing the pool to 40 funds. Finally, matching the investment universe produced a sample of 24 conventional equity funds. Finally, the study examines 34 funds (10 ESG and 24 conventional equity funds) over the period from January 1, 2019, to April 30, 2024. Daily NAV data for these funds are sourced from the Association of Mutual Funds of India (AMFI) website (amfiindia.com). Use of daily NAVs helps capture short-term volatility and market reactions, making it particularly suitable for risk analysis and assessment of performance during crisis periods like COVID-19 (Maheen,2021).

This study also examines two additional portfolios over the same period, January 2019 to April 2024: an ESG stocks portfolio and a market portfolio. We use the CNX NIFTY 100 ESG Index as a proxy for the ESG stocks portfolio and the CNX NIFTY 50 as a market proxy. Daily adjusted closing index values obtained from the National Stock Exchange website (nseindia.com) were converted into percentage

Interdisciplinary Journal of Information, Knowledge, and Management
An Official Publication of the Informing Science Institute
SCOPUS INDEXED
Vol. : 20,Issue 2 2025
ISSN: (E) 1555-1237

daily returns using Equation (1). The yield on the 91-day Treasury Bill serves as the risk-free rate (Rf) in our analysis.

Finally, we compare the financial performance of the various portfolios, including the NIFTY 50, the NIFTY 100 ESG Index (ESG stocks portfolio), and both ESG and conventional mutual funds, across three distinct periods: pre-COVID (January 2019 to January 2020), during COVID (February 2020 to March 2022) and post-COVID (April 2022 to April 2024) (Katella,2021; www.who.int). This categorisation aligns with significant milestones in the COVID-19 pandemic timeline. The daily returns used in the analyses are calculated by:

$$Rt = \frac{Pt - Pt\text{-}1}{Pt\text{-}1} \quad (1)$$

where Rt is the daily return from the fund, Pt is the closing NAV of the fund scheme and Pt-1 is the opening NAV of the fund scheme. To analyse the performance of the sample funds, we use the Sharpe Ratio which is estimated by

$$Sharpe\ Ratio = \frac{Rp - Rf.}{S.D.p} \quad (2)$$

where Rp is the average daily portfolio return or the return of a fund, Rf is the risk-free rate of return and S.D.p is the total risk of the portfolio/fund measured by standard deviation of the portfolio. Second measure of performance is the Treynor's Ratio estimated by

$$Treynor's\ Ratio = \frac{Rp - Rf}{Beta(p)} \quad (3)$$

where Rp is the average daily portfolio return, Rf is the risk-free rate of return and beta(p) is the beta of the portfolio/fund representing systematic risk. Beta of the portfolio is calculated as follows

$$Beta = \frac{Covariance\ (Rp\ ,\ Rm)}{Variance\ (Rm)} \quad (4)$$

where Rm is the daily market return for a specific period, taken from NIFTY 50 daily return. Thirdly, we calculate the Information Ratio with the help of the following formula

$$Information\ Ratio = (Rp\text{-}Rm)/S.D.(er) \quad (5)$$

where Rp is the average return of a fund for a specific period; Rm is the average return for the market benchmark portfolio for that specific period and S.D.(er) is the standard deviation of excess return of the fund. Excess return refers to the difference between the average return of the fund and the average return of the selected benchmark. Jensen's alpha has also been used as a measure of performance estimated by

$$Jensen's\ alpha = Rp - [Rf + Bp\ (Rm - Rf)] \quad (6)$$

Interdisciplinary Journal of Information, Knowledge, and Management
An Official Publication of the Informing Science Institute
SCOPUS INDEXED
Vol. : 20,Issue 2 2025
ISSN: (E) 1555-1237

Where Rp is the average daily portfolio/fund return, Rf is the risk-free rate of return, Bp (beta) represents the systematic risk of the portfolio/fund, and Rm represents the average daily return of the market portfolio.

To further analyze the financial performance of managed portfolios, we employ Fama's Decomposition Measure (Fama, 1972). According to Fama, the excess return of a portfolio comprises three main components. Firstly, the compensation for systematic risk, which is the return that compensates the portfolio for market risk exposure (beta). Secondly, compensation for unsystematic risk, which is the return related to risk that can be diversified. Thirdly, net selectivity, which represents the manager's ability to select investments that outperform on a risk-adjusted basis.

Selectivity reflects the portion of excess return not explained by the portfolio's beta or the market risk premium. It includes compensation for unsystematic risk or diversification and net selectivity. Compensation for Diversification (unsystematic risk) measures the difference between returns expected based on the Security Market Line (SML) and those expected from the Capital Market Line (CML). If the portfolio is perfectly diversified, this value should approach zero, as unsystematic risk is eliminated. Net Selectivity can be calculated by subtracting the compensation for unsystematic risk/diversification from total selectivity. A positive net selectivity indicates a manager's skill in achieving returns beyond what would be expected based on systematic risk and diversification alone. In a perfectly diversified portfolio, selectivity and net selectivity will typically converge, as unsystematic risk is minimised.

Different constituents can be calculated as per the following equations

Compensation for non-diversification/ systematic risk = Bp (Rm - Rf) (7)
Compensation for diversification/ unsystematic risk = (Rm - Rf) [(S.D.p / S.D. m) - Bp] (8)
Net Selectivity = Selectivity - Compensation for unsystematic risk
= (Rp - Rf) - (S.D. p / S.D. m)(Rm - Rf) (9)

4. EMPIRICAL RESULTS

4.1. ESG performance before , during and post COVID-19 pandemic

Table 1 compares the financial performance of various portfolios, including NIFTY 50, ESG index (NSE NIFTY 100 ESG) , and mutual funds (both ESG and Conventional), across three key periods: pre-COVID (January 2019 to January 2020), during COVID (February 2020 to March 2022), and post-COVID (April 2022 to April 2024). The analysis focuses on several performance metrics, such as average daily returns, standard deviation, beta, Sharpe ratio, Treynor ratio, Jensen's Alpha, and information ratio, which together provide a comprehensive view of the comparative risk and return performance of these portfolios.

Interdisciplinary Journal of Information, Knowledge, and Management

An Official Publication of the Informing Science Institute

SCOPUS INDEXED

Vol. : 20,Issue 2 2025

ISSN: (E) 1555-1237

Table 1. *Returns, Risk-Adjusted Measures of Different Portfolios for the Total Period and Different Sub-periods*

Portfolios	Total Period	Pre-covid years	Covid years	Post-covid years
	Jan 2019-April 2024 (5 years 4 months)	Jan 2019 - Jan 2020 (13 months)	Feb 2020 - March 2022 (1 year 5 months)	April 2022-April 2024 (2 years 1 month)
Average Returns %				
NIFTY 50	1.16	0.83	1.57	0.91
NSE NIFTY 100 ESG	1.2	0.82	1.75	0.83
ESG Funds	1.19	1.51	1.46	0.26
Conventional Funds	1.49	1.64	1.07	1.55
St Deviation (%)				
NIFTY 50	5.38	3.6	7.28	3.73
NSE 100 ESG	5.28	3.47	6.99	3.95
ESG Funds	4.31	3.45	4.62	3.99
Conventional Funds	4.03	2.54	4.73	3.7
Beta				
NIFTY 50	1	1	1	1
NSE 100 ESG	0.95	0.88	0.92	0.98
ESG Funds	0.81	0.68	0.67	0.91
Conventional Funds	0.87	0.22	0.76	0.89
Sharpe Ratio				
NIFTY 50	0.11	0.04	0.14	0.09

Interdisciplinary Journal of Information, Knowledge, and Management

An Official Publication of the Informing Science Institute

SCOPUS INDEXED

Vol. : 20,Issue 2 2025

ISSN: (E) 1555-1237

NSE 100 ESG	0.12	0.07	0.17	0.07
ESG Funds	0.15	0.3	0.19	-0.03
Conventional Funds	0.24	0.61	0.14	0.27
Treynor Ratio				
NIFTY 50	0.59	0.27	1.01	0.35
NSE 100 ESG	0.67	0.29	1.29	0.27
ESG Funds	0.78	1.57	1.26	-0.28
Conventional Funds	1.1	-1.67	0.97	1.13
Jensen's Alpha				
NIFTY 50	0	0	0	0
NSE 100 ESG	0.07	0.012	0.25	-0.077
ESG Funds	0.18	0.8	0.32	-0.63
Conventional Funds	0.51	0.95	0.18	0.65
Information Ratio				
NIFTY 50	—-	—-	—-	——
NSE 100 ESG	0.043	-0.013	0.176	-0.078
ESG Funds	0.024	0.49	0.005	-0.14
Conventional Funds	0.261	0.43	-0.067	0.38

Source: Authors' data analysis

During the pre-COVID period, conventional funds outperformed ESG funds and indices, achieving an average daily return of 1.64%, compared to 1.51% for ESG funds. ESG indices, such as the NSE NIFTY 100 ESG, performed similarly to the broader market index, NIFTY 50, with returns of 0.82% and 0.83%, respectively. This period reflects strong investor preference for conventional funds, as conventional equity funds were favoured in stable market conditions. Nonetheless, ESG investments also showed competitive performance, hinting at their potential for long-term gains.

Interdisciplinary Journal of Information, Knowledge, and Management
An Official Publication of the Informing Science Institute
SCOPUS INDEXED
Vol. : 20,Issue 2 2025
ISSN: (E) 1555-1237

The COVID-19 pandemic introduced heightened volatility and uncertainty, leading to a notable shift in portfolio performance. Despite global market disruption, ESG funds displayed resilience, posting a 1.46% daily return as compared to 1.07% for conventional funds. ESG indices, such as the NSE NIFTY 100 ESG, outperformed conventional indices, yielding a 1.75% return compared to NIFTY 50's 1.57%. This suggests that ESG-focused investments provided better downside protection during the crisis, likely due to their emphasis on sustainability, corporate governance, and social responsibility, which contributed to more stable earnings in turbulent times.

In the post-COVID period, however, this trend reversed. Conventional funds rebounded with an average return of 1.55%, far surpassing ESG funds, which saw a sharp decline to 0.26%. Similarly, ESG indices underperformed with the NSE NIFTY 100 ESG returning 0.83%, while NIFTY 50 held relatively stable performance at 0.91%. This shift indicates that while ESG investments were resilient during the market disruption, they struggled to keep up during the recovery phase as investors preferred maximizing returns over ESG criteria.

In terms of risk, the volatility (standard deviation) for conventional indices, such as NIFTY 50, peaked at 7.28% during COVID, compared to around 3.6% pre-COVID. ESG indices were slightly more stable, with the NSE NIFTY 100 ESG showing a volatility of 6.99% during the pandemic. ESG funds exhibited even lower volatility, with a standard deviation of 4.62%, highlighting their relative stability. Post-COVID, volatility decreased across all portfolios, yet conventional funds consistently demonstrated lower risk levels in each period.

Regarding risk-adjusted returns, conventional funds outperformed in the post-COVID phase, achieving a Sharpe ratio of 0.27 compared to -0.03 for ESG funds. Treynor and Jensen's Alpha ratios also supported the superior performance of conventional funds relative to their risk levels in the recovery period. ESG funds, which had excelled during the pandemic, struggled to deliver competitive returns once the market stabilized.

In conclusion, while ESG funds and indices showed resilience and lower risk during the COVID-19 crisis, they underperformed in the post-pandemic recovery. Conversely, conventional funds delivered stronger returns and better risk-adjusted performance post-COVID, making them a more attractive choice for growth-focused investors in a recovering market.

4.2. Decomposition results before, *during* and post COVID-19 *pandemic*

Table 2 presents Fama's decomposition results for three types of portfolios—NSE 100 ESG, ESG Funds, and Conventional Funds—across different periods: the overall period (January 2019 to April 2024) and three sub-periods (2019-2020, 2020-2022, 2023-2024). Key metrics include the risk premium due to systematic risk, selectivity, unsystematic risk, and net selectivity.

Overall Period (Jan 2019 - April 2024): Conventional Funds lead with the highest net selectivity (0.448), indicating superior performance. They show a balanced risk profile, with high systematic risk (0.939) and moderate selectivity (0.425). NSE 100 ESG ranks second, with moderate systematic risk (0.638) but lower net selectivity (0.049). ESG Funds rank third, balancing systematic risk (0.631) with higher unsystematic risk (0.094) and a net selectivity of 0.083.

Interdisciplinary Journal of Information, Knowledge, and Management

An Official Publication of the Informing Science Institute

SCOPUS INDEXED

Vol. : 20,Issue 2 2025

ISSN: (E) 1555-1237

Sub-period 1 (Jan 2019 - Dec 2020): Conventional Funds maintain the top position, with the highest net selectivity (1.069) and increased systematic risk (1.082), showing resilience during the COVID-19 market volatility. ESG Funds also perform well, with a high net selectivity (0.763) despite increased systematic risk (0.955), securing the second rank. NSE 100 ESG lags behind, with the lowest net selectivity (-0.002) and low selectivity (0.258), reflecting underperformance in this volatile period.

Sub-period 2 (Jan 2020 - Dec 2022): NSE 100 ESG excels, achieving the highest net selectivity (0.215) and a strong systematic risk premium (1.185), positioning it at the top. This period highlights the portfolio's strength during the mid-pandemic phase, possibly due to increased interest in sustainable investing amid rising risk awareness. ESG Funds hold the second position with lower net selectivity (0.125) but maintain relatively high systematic risk (0.901). Conventional Funds fall to third place, with lower net selectivity (0.121) and a significant drop in systematic risk (0.582), suggesting weaker performance during this recovery phase.

Sub-period 3 (Jan 2023 - April 2024): Conventional Funds reclaim the top spot, showing robust post-pandemic recovery with the highest net selectivity (0.591) and systematic risk (0.991). NSE 100 ESG ranks second, although its net selectivity turns negative (-0.102), indicating weaker performance as recovery continues. ESG Funds experience notable underperformance, with negative net selectivity (-0.688) and a reduction in systematic risk (-0.302).

Table 2. *Fama's Decomposition Results for the Total Period and Different Sub-Periods*

Portfolios	**Risk Premium due to (%)**				**Ranking based on Net Selectivity**
	Systematic Risk	**Selectivity**	**Unsystematic Risk**	**Net Selectivity**	
Total Period (5years 3 months)(Jan 2019-April 2024)					
NSE 100 ESG	0.571	0.638	0.018	0.049	2
ESG Funds	0.454	0.631	0.094	0.083	3
Conventional Funds	0.425	0.939	0.067	0.448	1
Sub-period 1 (Jan 2019-Dec 2020)					
NSE 100 ESG	0.237	0.258	0.023	-0.002	3
ESG Funds	0.155	0.955	0.037	0.763	2
Conventional Funds	0.135	1.082	-0.121	1.069	1
Sub-period 2 (Jan 2020 - Dec 2022)					
NSE 100 ESG	0.924	1.185	0.046	0.215	1

Interdisciplinary Journal of Information, Knowledge, and Management

An Official Publication of the Informing Science Institute

SCOPUS INDEXED

Vol. : 20,Issue 2 2025
ISSN: (E) 1555-1237

ESG Funds	0.586	0.901	0.19	0.125	2
Conventional Funds	0.4	0.582	0.061	0.121	3
Sub-period 3 (Jan 2023 -April 2024)					
NSE 100 ESG	0.345	0.269	0.026	-0.102	2
ESG Funds	0.327	-0.302	0.058	-0.688	3
Conventional Funds	0.344	0.991	0.056	0.591	1

Source: Authors' data analysis

In summary, we find that Conventional Funds consistently perform well, particularly during periods of market recovery and stability (Sub-periods 1 and 3). They display resilience through both systematic and unsystematic risk factors. ESG Funds perform strongly during the early pandemic phase (Sub-period 1), benefiting from a heightened investor focus on sustainability amid uncertainty, but underperform during the post-pandemic recovery. This may suggest that ESG factors provided a cushion against volatility but offered less appeal as markets stabilized. NSE 100 ESG exhibits the best performance during the mid-pandemic phase (Sub-period 2), possibly due to a temporary surge in investor interest in sustainability during this period of heightened risk awareness. However, this advantage diminishes in the post-pandemic recovery.

The decomposition results illustrate shifting performance drivers across different market phases, with conventional funds benefiting from higher selectivity and systematic risk exposure over the long term. Conventional Funds deliver robust overall performance, excelling during stable and recovery periods, as seen in Sub-periods 1 and 3. ESG Funds show resilience during market instability, as in Sub-period 1, reflecting investor preference for sustainable investments. However, they underperform in stable or recovering markets (Sub-period 3), where ESG factors may hold less priority compared to conventional performance metrics. NSE 100 ESG performs best during the recovery phase (Sub-period 2), highlighting that ESG indices can outperform in a broader market recovery, likely due to heightened interest in sustainability as part of economic recovery.

5. DISCUSSION AND CONCLUSION

The growing popularity of ESG investing reflects a broader recognition that sustainability initiatives offer both social and financial benefits. Prior research indicates that companies with strong ESG practices enhance their public image and foster brand loyalty among customers who prioritize ethical and sustainable business practices (Flammer, 2015; Albuquerque et.al., 2020). This loyalty often translates into greater resilience during crises, as customers continue to support responsible companies even under turbulent market conditions (Nofsinger and Verma, 2014; Chiappini and Vento, 2018; Omura, Roca and Nakai,2020). In addition, ESG-compliant firms attract long-term, sustainability-oriented investors who prioritise responsible business practices over short-term gains. These investors are more likely to remain invested during market downturns, thereby helping to stabilize share prices and reduce volatility. This "stickiness" of ESG-driven investors contributed to the financial stability of

Interdisciplinary Journal of Information, Knowledge, and Management
An Official Publication of the Informing Science Institute
SCOPUS INDEXED
Vol. : 20,Issue 2 2025
ISSN: (E) 1555-1237

many ESG-focused firms during the COVID-19 pandemic. This study analyzed the financial performance of ESG funds, conventional funds, and ESG indices across three periods: pre-COVID, during COVID, and post-COVID recovery. The application of Fama's Decomposition Analysis provides valuable insights into how changing market conditions influence portfolio performance by decomposing returns into components attributable to systematic risk, unsystematic risk, and managerial selectivity. This approach helps explain the varying performance patterns observed across periods and highlights the role of portfolio management effectiveness in shaping fund outcomes under different market conditions.

Our findings confirmed the outperformance of ESG investments during the pandemic period in India, consistent with previous studies (Nofsinger & Varma 2014; Nakai et al. 2016; Tripathi and Bhandari 2012, 2016; Bhanumurthy et al. 2014; Arefeen & Shimada 2020). The results highlight shifting preferences between ESG and conventional funds across different market conditions (Gianfrate, Kievid and Dijk, 2021). Conventional funds consistently outperformed in stable (pre-COVID) and recovery (post-COVID) periods, reflecting investor preference for conventional equity investments when growth and returns are prioritized over sustainability. Higher selectivity and substantial exposure to systematic risk contributed to resilience and adaptability during these phases, resulting in superior risk-adjusted returns.

This crisis also underscored the importance of corporate governance and sustainability, with ESG portfolios providing better downside protection and relatively lower volatility. Although ESG funds underperformed in stable periods, they showed notable resilience during the COVID-19 pandemic (Afreen and Shimada, 2020). ESG mutual funds displayed varied risk exposures across market phases owing to differences in sector composition, investor behaviour, and macroeconomic influences. Prior evidence shows that ESG funds often exhibit resilience in market downturns (Cosma et al., 2023). Investor commitment to ESG funds further stabilised their performance during market downturns, as demonstrated during COVID-19 when high-ESG-rated mutual funds experienced steady inflows, hence reducing volatility (Koskinen et al., 2021).

In contrast, ESG funds underperform in favourable markets due to investment constraints and increased screening costs. Sectoral allocations often play a significant role. ESG portfolios overweight in technology and healthcare; they perform well during downturns but may lag when cyclical sectors like energy and industrials prevail (Bilbao Terol et al. 2023). Their underperformance during the post-COVID recovery indicated a renewed investor focus on high-growth, conventional strategies as the market stabilized, a trend consistent with findings by Bauer et al. (2005), Jones et al. (2008), Ait El Mekki (2020), and Dutta and Baitali (2023).

However, ESG indices, such as the NSE NIFTY 100 ESG, generally tracked the broader market but performed better during the pandemic. While they delivered relatively strong returns during crisis periods, they struggled to maintain the same level of performance in the recovery phase. This research contributes to sustainable finance literature and offers insights for practitioners and policymakers. Our findings underscore the potential of ESG funds to act as a buffer during periods of economic uncertainty, providing more stable returns and reduced volatility. However, their underperformance in recovery phases suggests that a balanced portfolio approach may be necessary to leverage both the stability of

Interdisciplinary Journal of Information, Knowledge, and Management
An Official Publication of the Informing Science Institute
SCOPUS INDEXED
Vol. : 20,Issue 2 2025
ISSN: (E) 1555-1237

ESG-driven investments and the growth potential of conventional funds. Investors may view ESG factors as critical during crises, when long-term sustainability and governance concerns become more significant. In contrast, during recovery periods, short-term growth and return maximization often take precedence, favouring conventional funds (Tripathi and Bhandari,2016).

Although ESG funds struggled to maintain returns during the post-COVID recovery, their growing prominence and resilience during the pandemic indicate that ESG investing is gaining traction and may continue to evolve as a core component of long-term investment strategies. As environmental and social concerns gain importance in corporate governance and regulation, ESG funds could potentially regain a competitive edge. This study contributes to the limited body of literature on ESG performance in emerging markets, specifically India. It extends empirical understanding by showing how ESG funds and indices perform differently from conventional funds across market cycles in a developing economy. This insight broadens ESG theory beyond developed markets, where most studies are conducted (Lozano and Ferrero,2022), to highlight the role of market context in ESG performance.

The findings contribute to the empirical discourse on the cyclicality of ESG performance, suggesting that ESG investments may serve as a "safe haven" during market downturns due to investor preference for stability and sustainability in crises. This finding is consistent with the view that ESG funds may provide relative downside protection during periods of market stress(Lin and Swain,2024). The study provides insights into investor behavior in ESG and conventional funds, suggesting that ESG fund investors may prioritize stability and long-term sustainability during crises, while shifting focus to growth-oriented funds in recovery periods. This aligns with theories in behavioral finance, particularly regarding investor psychology in ESG investing, where ESG investments reflect a blend of ethical and financial motivations that vary with market sentiment (Shefrin,2024). The results support the emerging theory of "ESG resilience," where portfolios with high ESG ratings exhibit lower volatility and perform relatively well under adverse conditions. This offers empirical support for ESG as a risk management tool, positing that ESG attributes contribute to portfolio resilience by enhancing corporate governance and stakeholder trust during crises (Gianfrate, Kievid and Dijk, 2021). The findings highlight the trade-offs in portfolio diversification between ESG and conventional investments, offering empirical insights into how ESG funds might fit within diversified portfolios depending on market phases. This supports portfolio theory by suggesting that optimal asset allocation may require balancing ESG resilience with conventional growth potential based on market cycles (Landi et. al. 2024).

This study focuses solely on Indian ESG and conventional funds, which may limit the generalizability of findings to other countries. The unique regulatory environment, market structure, and investor behavior in India may influence ESG performance differently than in other regions. Additionally, the COVID-19 period is treated as a distinct crisis phase, but the long-term impacts of the pandemic on ESG funds may not be fully captured within this timeframe. Additionally, this period may include unique, non-repeatable factors that are not representative of typical crisis periods. Longitudinal research that spans more crisis and recovery phases beyond COVID-19 could help test the consistency of ESG resilience in diverse crisis conditions. As ESG factors gain prominence amid growing regulatory focus and awareness of environmental and social issues, future studies across multiple markets and asset classes will be critical to further understand the evolving role of ESG investing in sustainable finance.

Interdisciplinary Journal of Information, Knowledge, and Management

An Official Publication of the Informing Science Institute

SCOPUS INDEXED

Vol. : 20,Issue 2 2025
ISSN: (E) 1555-1237

Authors' Contribution:

All authors accept responsibility for the entire content of this manuscript and consented to its submission to the journal, reviewed all the results and approved the final version of the manuscript. Dr Puneeta designed the methodology, and Dr Vibhash helped with data analysis. Ms Supriya prepared the manuscript with contributions from all co-authors.

Conflict of interest:

The authors state no conflict of interest

Funding acknowledgement:

The authors state that no funding is involved.

REFERENCES

Adler, T., & Kritzman, M. (2008). The cost of socially responsible investing. The Journal of Portfolio Management, 35(1), 52–56. https://doi.org/10.3905/JPM.2008.35.1.52

Ahmad, A., ur Rehman, K., & Humayoun, A. (2011). Islamic banking and prohibition of Riba/interest. African Journal of Business Management, 5(7), 1763–1767.

Ait El Mekki, O. (2020). Is socially responsible investment outperforming conventional investment or not? A meta-analysis. American Journal of Industrial and Business Management, 10(11), 1760–1784. https://doi.org/10.4236/ajibm.2020.1011110

Albuquerque, R., Koskinen, Y., Yang, S., & Zhang, C. (2020). Resiliency of environmental and social stocks: An analysis of the exogenous COVID-19 market crash. The Review of Corporate Finance Studies, 9(3), 593–621. https://doi.org/10.1093/rcfs/cfaa011

Allen, M. W., & Craig, C. A. (2016). Rethinking corporate social responsibility in the age of climate change: A communication perspective. International Journal of Corporate Social Responsibility, 1(1), 1–11.

Almazan, A., Brown, K. C., Carlson, M., & Chapman, D. A. (2004). Why constrain your mutual fund manager? Journal of Financial Economics, 73(2), 289–321. https://doi.org/10.1016/j.jfineco.2003.05.007

Arefeen, S., & Shimada, K. (2020). Performance and resilience of socially responsible investing (SRI) and conventional funds during different shocks in 2016: Evidence from Japan. Sustainability, 12(2), 540. https://doi.org/10.3390/su12020540

Atz, U., Van Holt, T., Liu, Z. Z., & Bruno, C. C. (2023). Does sustainability generate better financial performance? Review, meta-analysis, and propositions. Journal of Sustainable Finance & Investment, 13(1), 802–825. https://doi.org/10.1080/20430795.2022.2106934

Auer, B. R., & Schuhmacher, F. (2016). Do socially (ir)responsible investments pay? New evidence from international ESG data. The Quarterly Review of Economics and Finance, 59, 51–62. https://doi.org/10.1016/j.qref.2015.07.002

Bauer, R., Koedijk, K., & Otten, R. (2005). International evidence on ethical mutual fund performance and investment style. Journal of Banking & Finance, 29(7), 1751–1767.

Belghitar, Y., Clark, E., & Deshmukh, N. (2014). Does it pay to be ethical? Evidence from the FTSE4Good. Journal of Banking & Finance, 47, 54–67.

Bilbao-Terol, A., Arenas-Parra, M., & Bilbao-Terol, C. (2023). Measuring the overall efficiency of SRI and conventional mutual funds by a diversification-consistent DEA model. International Transactions in Operational Research, 30(5), 2224–2256.

Bhanumurthy, K. V., Bhandari, V., & Pandey, V. (2014). Does the Indian stock market encourage socially responsible companies? Manthan Journal of Commerce and Management, 1(1), 1–34.

Bollen, N. P. B. (2007). Mutual fund attributes and investor behavior. The Journal of Financial and Quantitative Analysis, 42(3), 683–708.

Catello Landi, G., Turriziani, L., Muto, V., & Ricciardi, I. (2024). Exploring the nexus between ESG risk variations and investment preferences: Insights from sustainable ETFs during the COVID-19 era. Socio-Economic Planning Sciences, 95, 102039.

Cepoi, C. (2020). Asymmetric dependence between stock market returns and news during COVID-19 financial turmoil. Finance Research Letters, 36, 101658.

Chiappini, H., & Vento, G. A. (2018). Socially responsible investments and their anticyclical attitude during financial turmoil: Evidence from the Brexit shock. Journal of Applied Finance & Banking, 8(1), 1–14.

Cosma, S., Cucurachi, P., Gentile, V., & Rimo, G. (2024). Sustainable finance disclosure regulation insights: Unveiling socially responsible funds' performance during COVID-19 and the Russia–Ukraine war. Business Strategy and the Environment, 33(4), 3242–3257.

Dutta, A., & Paul, B. (2023). Performance analysis of select ESG funds in India. Management Journal for Advanced Research, 3(1), 1–7.

EBA. (2021). Annual report. European Banking Authority. https://www.eba.europa.eu/...

Fama, E. F. (1972). Components of investment performance. The Journal of Finance, 27(3), 551–567.

Flammer, C. (2013). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. SSRN.

Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. Journal of Sustainable Finance & Investment, 5(4), 210–233. https://doi.org/10.1080/20430795.2015.1118917

Interdisciplinary Journal of Information, Knowledge, and Management

An Official Publication of the Informing Science Institute

SCOPUS INDEXED

Vol. : 20,Issue 2 2025

ISSN: (E) 1555-1237

Gangi, F., & Trotta, C. (2013). Determinants of corporate social disclosure through a multiperspective approach. In Accounting and Control for Sustainability (pp. 33–75). Emerald.

Gao, M., & Geng, X. (2024). ESG performance during the COVID-19 pandemic. Scientific Reports, 14, 2553.

Gianfrate, G., Kievid, T., & van Dijk, M. V. (2021). On the resilience of ESG stocks during COVID-19: Global evidence. COVID Economics, 25, 83–110.

Guerard, J. B. (1997). Is there a cost to being socially responsible in investing? Journal of Forecasting, 16(7), 475–490.

Hamilton, S., Jo, H., & Statman, M. (1993). Doing well while doing good? The investment performance of socially responsible mutual funds. Financial Analysts Journal, 49(6), 62–66.

Heyden, K., & Heyden, T. (2021). Market reactions to COVID-19 arrival and containment: An event study. Finance Research Letters, 38, 101745.

Hume, S. R., & Larkin, A. (2008). The performance of socially responsible investing. CRR Conference Paper.

Jensen, M. C. (2002). Value maximization, stakeholder theory, and the corporate objective function. Business Ethics Quarterly, 12(2), 235–256.

Jones, S., van der Laan, S., Frost, G., & Loftus, J. (2008). The investment performance of socially responsible investment funds in Australia. Journal of Business Ethics, 80, 181–203.

Katella, K. (2021). Our pandemic year—A COVID-19 timeline. Yale Medicine.

Kayani, U. N., Aysan, A. F., Khan, M., Khan, M., Mumtaz, R., & Irfan, M. (2024). Stock market performance during COVID-19. Heliyon, 10(4), e25202.

Kempf, A., & Osthoff, P. (2007). The effect of socially responsible investing on portfolio performance. European Financial Management, 13(5), 908–922.

Kiymaz, H. (2019). Factors influencing SRI fund performance. Journal of Capital Markets Studies, 3(1), 68–81.

Koskinen, Y., Santioni, R., & Albuquerque, R. (2021). Mutual funds' loyalty helped stabilize ESG stocks during the COVID-19 crash. CEPR Discussion Paper.

Kreander, N., Gray, R., Power, D., & Sinclair, C. (2005). Evaluating ethical and non-ethical fund performance: A matched pair analysis. Journal of Business Finance & Accounting, 32, 1465–1493.

Lee, D., Humphrey, J., Benson, K., & Ahn, J. (2010). Socially responsible investment fund performance: The impact of screening intensity. Accounting & Finance, 50, 351–370.

Interdisciplinary Journal of Information, Knowledge, and Management

An Official Publication of the Informing Science Institute

SCOPUS INDEXED

Vol. : 20,Issue 2 2025

ISSN: (E) 1555-1237

Lin, X., & Swain, R. B. (2024). Performance of negatively screened sustainable investments during crisis. International Review of Economics & Finance, 93(A), 1226–1247.

Lozano, M. B., & Martínez-Ferrero, J. (2022). Do emerging and developed countries differ in sustainable performance? Research in International Business and Finance, 62, 101688.

Luther, R. G., & Matatko, J. (1994). The performance of ethical unit trusts. British Accounting Review, 26, 77–89.

Maheen, M. (2021). Impact of COVID-19 on emerging market mutual funds: Evidence from India. Future Business Journal, 7, 37.

Mallin, C. A., Saadouni, B., & Briston, R. J. (1995). Financial performance of ethical investment funds. Journal of Business Finance & Accounting, 22, 483–496.

Martini, A. (2021). Socially responsible investing in the EU. Environment, Development and Sustainability, 23, 16874–16890.

Mirza Naseer, M., Guo, Y., Bagh, T., & Zhu, X. (2024). Sustainable investments and climate volatility. International Review of Financial Analysis, 95(B), 103492.

Morales, L., Domínguez, A., & Hanly, J. (2019). Ethical investment under political uncertainty. Journal of Applied Economics, 22, 554–580.

Nakai, M., Yamaguchi, K., & Takeuchi, K. (2016). Can SRI funds resist financial crises? Evidence from Japan. International Review of Financial Analysis, 48, 1–10.

Nofsinger, J., & Varma, A. (2014). Socially responsible funds and market crises. Journal of Banking & Finance, 48, 180–193.

Omura, A., Roca, E., & Nakai, M. (2021). Responsible investing during downturns: COVID-19 evidence. Finance Research Letters, 42, 101914.

Paulo Leite, A., & Cortez, M. C. (2015). Performance of European responsible funds during crises. International Review of Financial Analysis, 40, 132–141.

Rathner, S. (2012). The performance of socially responsible funds: A meta-analysis. Working Papers in Economics, 2012(3).

Revelli, C., & Viviani, J.-L. (2014). Financial performance of socially responsible investing: A meta-analysis. Business Ethics: A European Review, 24(2), 158–185.

Rehman, S. U., Baloch, Q., et al. (2016). ESG equity indices: An Asian perspective. Business Ethics: A European Review, 25, 440–459.

Sakurai, Y., & Kurosaki, T. (2020). Oil and US stock market relations after COVID-19. Finance Research Letters, 37, 101773.

Sarkar, S. (2022). Performance evaluation of ESG funds in India. The Management Accountant Journal, 57(3), 40–47.

Shefrin, H. (2024). ESG and behavioral finance: A psychological phenomenon. SSRN.

Siddiq, S., & Javed, S. (2014). Impact of CSR on organizational performance. European Journal of Business and Management, 6, 188–194.

Statman, M. (2000). Socially responsible mutual funds. Financial Analysts Journal, 56(3), 30–39.

Statman, M. (2006). Socially responsible indexes. The Journal of Portfolio Management, 32(3), 100–109.

Statman, M., & Glushkov, D. (2009). The wages of social responsibility. Financial Analysts Journal, 65(4), 33–46.

Thakrar, H., & Bhurat, C. (2023). Socially responsible investing: Evaluation of India's ESG funds. SSRN.

Tripathi, V., & Bhandari, V. (2015a). Do ethical funds underperform conventional funds? International Journal of Business Ethics in Developing Economies, 4(2), 10–19.

Tripathi, V., & Bhandari, V. (2015b). Socially responsible stocks: A boon for Indian investors. Journal of Advances in Management Research, 12(2), 209–225.

Tripathi, V., & Bhandari, V. (2016). Performance of socially responsible stock portfolios across economic conditions. Journal of Management Research, 16(2), 87–105.

Tripathi, V., & Kaur, A. (2020). Socially responsible investing: Performance evaluation of BRICS nations. Journal of Advances in Management Research.

Tripathi, V., Tripathi, V., & Bhandari, V. (2014). Socially responsible investing: An emerging concept. FIIB Business Review, 3(4), 16–30.

Ur Rehman, S., et al. (2016). Are ESG equity indices a better choice for investors? Business Ethics: A European Review, 25, 440–459.

World Bank. (2024). India's economy to remain strong despite subdued global growth. https://www.worldbank.org/...