SUSTAINABLE INVESTMENT PERFORMANCE: COMPARATIVE STUDY OF NIFTY

Dr. Sachin Kumar

Assistant Professor ,P.G Department of Commerce, S.D.College, Hoshiarpur, Punjab

Dr. Nishi Bala

Principal and Professor, Ludhiana Group of Colleges, Chaukiman, Ludhiana, Punjab

ABSTRACT

Investments that have passed a favorable screening procedure for the environmental, social, and governance (ESG) elements that serve as a barometer of a company's degree of corporate sustainability are known as socially responsible investments, or SRIs. Investors can increase their wealth and satisfy their own unique ethical and value systems by integrating social and financial screening into their investment process. This study investigates whether ESG companies' return and volatility differ from the benchmark. Do investors make money or lose money when they invest in ESG companies?To fulfill the objective the data of ESG 100 index, ESG leader index and Nifty100 was collected from the website of the National Stock Exchange for post covid period of March 2020 to January 2023. Descriptive statistics results indicate ESG100 have litter higher return than the other two indexes. The results of the T-test reflect that there is no significant difference in the return of all three indexes. Correlation analyses between the Nifty100 and ESG 100 indexes indicate that return is highly correlated. The results of the correlation between Nifty100 and ESG leaders also depict the same. The Volatility dynamics indicate volatility clustering and volatility persistence. All three indexes have negative EGARCH terms which reflect that negative news impact is more forceful than positive news impact. This research suggests that in a growing market economy like India, it makes sense to invest in socially conscious businesses. By purchasing the shares of socially conscious businesses, investors are not incurring loss; instead, they are enjoying strong returns while still upholding their moral principles.

Keywords: SRI, ESG, NIFTY.

INTRODUCTION

An emerging group of investors also buy from companies that share their values or ethical standards. Businesses that negatively impact society, either directly or indirectly, are not always funded by investors. Examples of such businesses include those that damage the environment or propagate bad customs. SRI is the practice of investing in businesses that exhibit "ethical" corporate behavior toward all stakeholders, including shareholders, society, employees, customers, the government, and the environment. Investments classified as socially responsible (SR) have passed a favorable screening procedure for the environmental, social, and governance (ESG) elements that serve as a barometer of a business's degree of corporate sustainability.. By incorporating financial and social screening into their investment process, SRI enables investors to improve their wealth while also gratifying their own particular value systems and ethical views. Due to a variety of factors, including enhanced earnings through innovation, increased efficiency, and a lower likelihood of environment-related costs like penalties and lawsuits, sustainable businesses are predicted to do financially better than their rivals. ESG refers to important benchmarks for the contemporary world society to measure the level of sustainable development, and is an extension and enrichment of the concepts of the green economy, CSR, and ethical investing Qui and Yin 2019. . Henriksson et al. 2019 inferred that companies having good ESG rating can procure funds at lower cost which lead to increase in profitability. Srinivasan and Singh (2010) analysed ESG on aspects of goodwill of various companies and concluded that the Indian stock market is not able to reflect the impact of environment rating. Huber et al. 2019 ESG reports and indices are being used more frequently by institutional investors, asset management companies, pension funds, financial institutions, and other stakeholders to evaluate and compare a company's performance over time to its competitors. Gupta and Goldar 2005 ranked various companies in categories of green rating and concluded that low-rating companies have negative abnormal returns. It is important to examine whether companies having good ESG ratings perform in better ways in terms of returns provided to stakeholders when it is compared with other companies.

REVIEW OF THE LITERATURE

Hamilton et al. 1993 inferred in their research that mutual funds with a social conscience do not generate statistically significant excess returns, and their performance is not statistically

different from that of traditional mutual funds. Bauner et al. 2005 referred in their research that there isn't much proof that ethical and conventional funds perform significantly differently in risk-adjusted returns throughout the 1990–2001 period. Matatko and Corner 1992 concluded in their research that there is some flimsy proof that ethical funds outperform traditional market indices. Additionally, a bias in favour of smaller businesses for ethical money was observed. Scholtens, B. 2005 examined data of period 2001–2003 and witnessed there was no statistically significant performance difference between Dutch socially responsible mutual funds and traditional investing. Becchetti, L., & Ciciretti, R. 2009 inferred that when industry impacts are taken into account, socially responsible equities often exhibit much lower returns and greater variance than control sample stocks. Ortas et al. 2010 discussed in their research that socially responsible stock demonstrates lower risk levels than the standard investment strategy and a significant difference in risk-adjusted return was noticed in long term. Le Maux, J., and Le Saout, E 2004 concluded that socially responsible investment performance was better than alternative investment in the rising market. Becchetti et al. concluded in their research that during the recession the return of Social responsible funds are more than conventional funds with same degree of risk. Lee et al. 2019 inferred in their research that when any stock is included in Korean sustainability index abnormal return is witnessed due to buying by pension funds and they further raised a doubt that this abnormal return is maintained. Deng and Cheng 2019 empirically tested the returns of ESG indexed with other stock market performance index and concluded that correlation exists between ESG index and stock market indicators. Diverse opinion was expressed few researchers favour ESG stock's return as better than other stocks and carry less risk other contradict this in international studies. In the Indian context, Vasal (2009) compared the return of the ESG index with the traditional; index and concluded that shareholders earned excess return which was not statistically significant. Ghosh 2013 inferred that environment-sensitive industries perform better in different parameters like ROE and ROA. Jasuja et al. 2021 concluded in research that the return performance of sustainability indices and market benchmark indexes do not differ significantly over a single time period, with sustainability indices slightly outperforming market benchmark indexes in both observed regimes. Sudha, S. 2015 compared the returns of Nifty and ESG and concluded that In terms of annualised return, the ESG India Index has greater performance The volatility in the ESG India Index, Nifty Index, and CNX 500 index persists across the short- and long-term. Differences of opinion

can be witnessed in terms of ESG and traditional funds return and in index returns in both international and Indian contexts. The COVID-19 period was a testing period so the return post-Covid needs to be tested.

THE OBJECTIVE OF THE STUDY

1. To compare the return of the ESG index with the Nifty index
2. To examine the volatility dynamics of the ESG index and Nifty index

DATA AND METHODOLOGY

The Environmental, Social, and Governance (ESG) risk score is used to create the Nifty100 ESG Index, which is intended to reflect the performance of the companies included in the Nifty 100 index. The ESG Sector Leaders Index seeks to monitor the performance of a chosen group of Nifty 100 companies within each sector that have demonstrated effective ESG risk management and are not currently embroiled in any significant scandals. The ESG score is a linear combination that is determined by evaluating businesses on sustainability criteria like environmental degradation, resource extraction use, labour relations, equality, civil dignity, safety regulations, quality of the product, stockholders equity and rights, financial documents, board information, information system and compensation, corrupt practices, and ethical standards. Data was collected for the period starting from March 2020 to January 2023 for two years and 10 months for the ESG100 index, ESG index leaders and Nifty100 from the website of the National stock exchange of India. Return series was generated. Unit root was tested to check stationarity of the series. A descriptive analysis of the return series was done. T test was applied to check returns of the series where H0 is that returns of ESG100 and Nifty 100 do not differ. Second hypothesis is that returns of ESG 100 and Nifty 100 do not differ. Correlation was tested among return series of ESG100, ESG leaders and Nifty 100.ARCH test was applied to check ARCH effect where h0 is that return series ESG100, ESG leaders and Nifty 100 do not have ARCH effect. EGARCH was applied to find out the volatility dynamics of the ESG index, ESG leader and Nifty.

DATA ANALYSIS AND INTERPRETATION

Figure 1 reflects the index values at constant for nifty100, ESG 100 and ESG leader. Figures 2, 3 and 4 display the return series of ESG100, ESG leader and Nifty100 respectively.

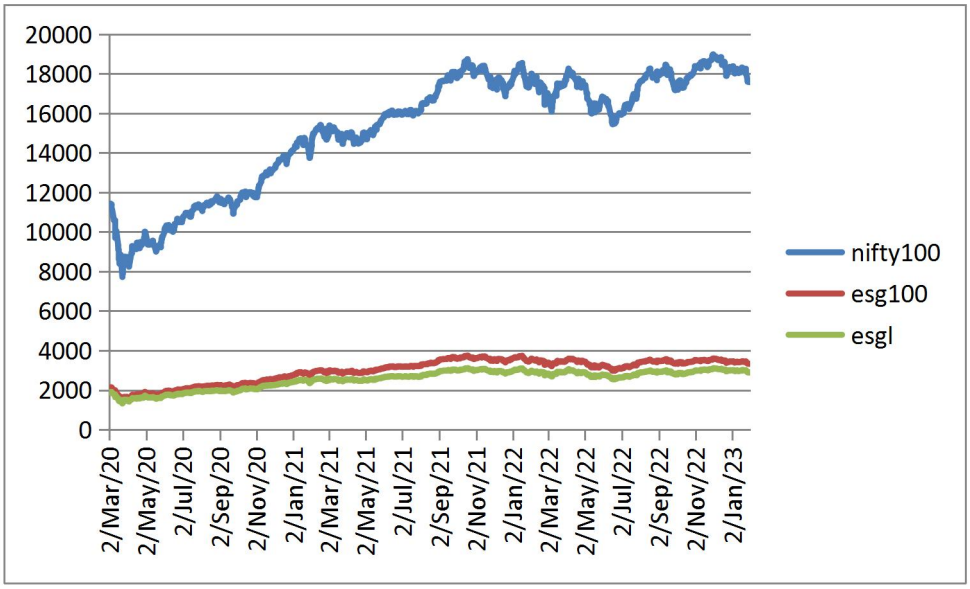

Figure1: Trend of the ESG 100, Nifty100 and ESG Leaders Indexes (in level form)

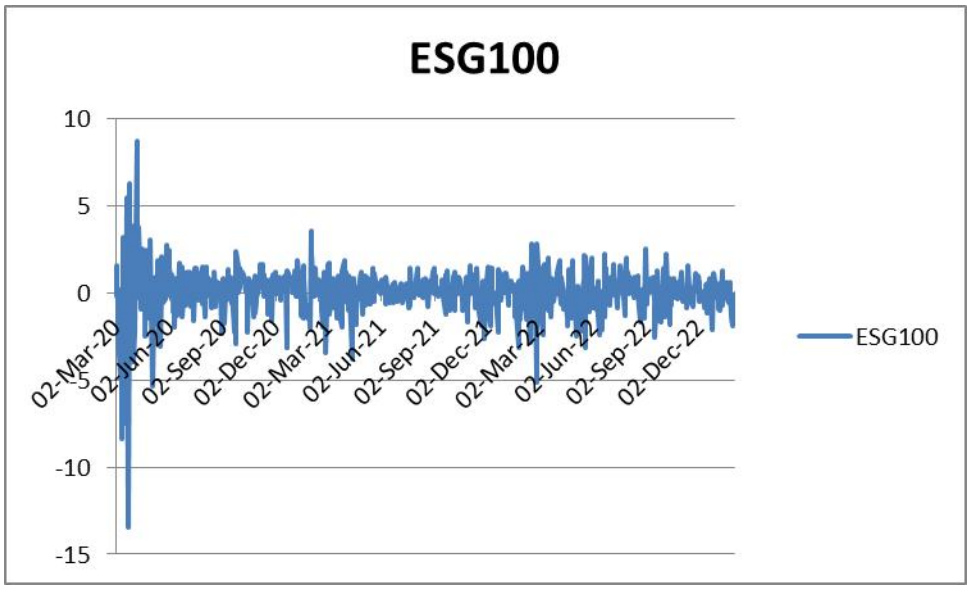

Figure 2: Return of the ESG100

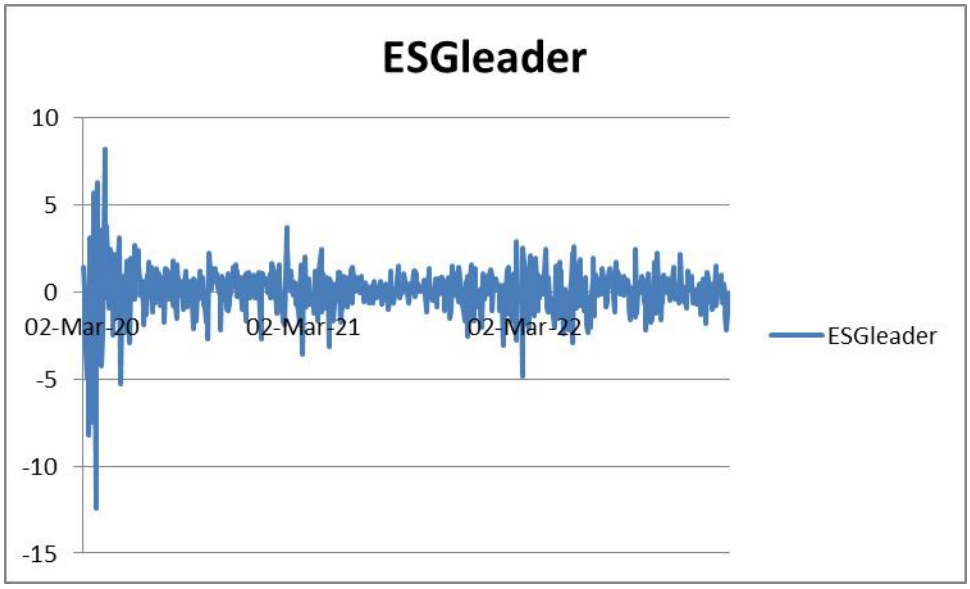

Figure 3: Return of the ESGLEADER

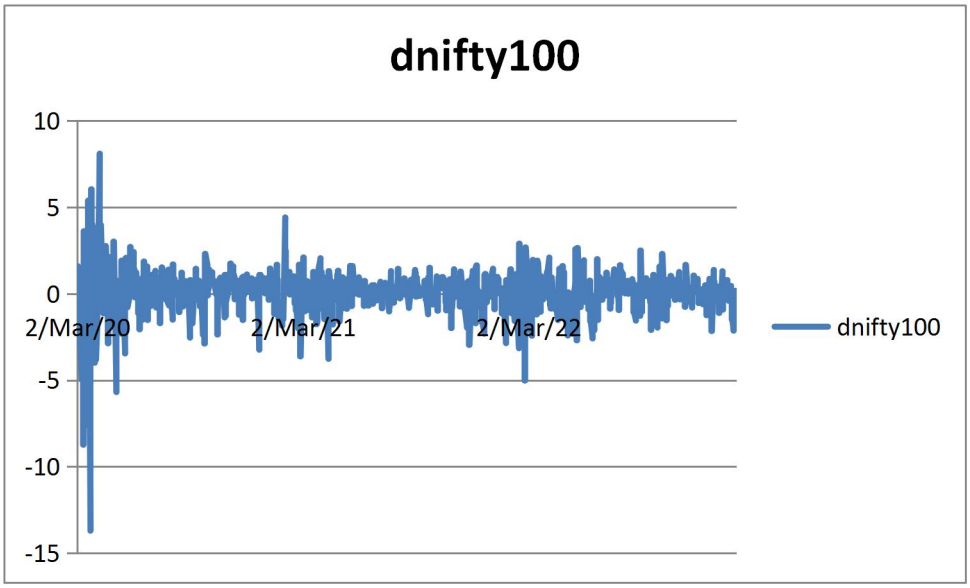

Figure 4: Return of the Nifty

Table 1 reflect the descriptive statistic of ESG 100, EGS leader and Nifty100. Nifty 100 has mean return of 0.061717 while ESG leader has the mean return of 0.059626 and ESG100 has the highest mean return of 0.063249. Although there is not much difference between

Nifty100 and ESG leader but the return of ESG100 is a little bit higher than benchmark index returns.

Table 1: Descriptive statistics of the ESG 100, ESG Leader and Nifty

	ESG 100	**ESG leaders**	**Nifty100**
Mean	0.063249	0.059626	0.061717
Median	0.122112	0.147307	0.140914
Standard Deviation	1.397078	1.366236	1.409262
Skewness	-1.641824	-1.442510	-1.786238
Kurtosis	20.76520	18.53912	20.91907
Jarque-Bera	9859.533	7545.667	10085.23
P-value	0.000000	0.000000	0.000000
Sum	45.85582	43.22892	44.74498
Sum of Sq.	1413.122	1351.418	1437.878
Observation	725	725	725

T-test results,in Table 2, reflect that there is no significant difference between the return of ESG100 and nifty100 as the p value is 0.9834. Another null hypothesis that there is no significant difference between the return of ESG leader and Nifty100 is also accepted at p-value 0.9771.

Table 2: Comparison of Mean

	ESG Leader and nifty100	ESG 100 and nifty100
T test	-0.028686 (0.9771)	0.020790 (0.9834)
Anova F test	0.000823 (0.9771)	0.000432 (0.9834)
Welch F-test	0.000823 (0.9771)	0.000432 (0.9834)

Table 3 show the results of the correlation between the ESG 100, ESG leader and nifty the returns are very correlated more than .98. The ARCH term of ESG100, ESG leader and nifty are 0.113733 (0.0004), 0.110719 (0.0005), 0.111099 (0.0003) respectively. ARCH term reflects volatility clustering, in all three indexes volatility clustering was witnessed. GARCH tern reflects the persistence of volatility ESG100 has 0.969070 (0.000) lowest GARCH term While ESG leader has the highest GARCH term 0.972452 (0.000). Nifty 100 has a GARCH term of 0.969705 (0.000).

Table 3: Correlation Analysis

	ESG100	**ESGLEADER**	**NIFTY**
ESG100	1.000000	0.988296	0.989330
ESGLEADER	0.988296	1.000000	0.990344
NIFTY100	0.989330	0.990344	1.000000

Table 4 : ARCH Test

	LM Test	**ARCH TEST**
ESG100	2.121942 (0.1205)	21.76438 (0.0000)
ESGLEADER	2.044885 (0.1301)	29.51667 (0.0000)
NIFTY100	2.184475 (0.1133)	20.18763 (0.0000)

Table 5: EGARCH Test

	ARCH	**GARCH**	**EGARCH**
ESG100	0.113733 (0.0004)	0.969070 (0.000)	-0.100624 (0.000)
ESGLEADER	0.110719 (0.0005)	0.972452 (0.000)	-0.107105 (0.000)
NIFTY100	0.111099 (0.0003)	0.969705 (0.000)	-0.102564 (0.000)

All three indexes have negative EGARCH terms (Table 5) which reflect that negative news impact is more forceful than positive news impact. The sum total of ARCH term and GARCH term in all three indexes are near to one which reflects short-term and long-term volatility persistence.

CONCLUSION

The present study reflects the relationship between ESG 100, ESG leader and nifty 100 with respect to returns and volatility in return in post-covid period from March 2020 to January 2023. There is a marginal difference in the returns of the three indexes. ESG100 return is a little higher than Benchmark indexes. The T-test results indicate that there is no significant difference in the return of all three indexes. Correlation tests also indicate the correlation between all the indexes as higher than .98.ESG leader index has the lowest ARCH term and highest GARCH term. There is not much difference in ARCH, GARCH and EGARCH terms in all the indexes. All three indexes have negative EGARCH terms which reflect that negative news has drastic impact than positive news. The sum total of the ARCH term and GARCH term in all three indexes are near to one which reflects short-term and long-term volatility persistence. This research suggests that in a growing market economy like India, it makes sense to invest in socially conscious businesses. By purchasing the shares of socially conscious businesses, investors are not incurring loss; instead, they are enjoying strong returns while still upholding their moral principles. Compared to their competitors who are not socially responsible, socially responsible businesses may attract domestic and overseas capital flows at a lower cost of capital. Investors can punish socially "irresponsible" corporate organisations to adopt the right strategies and put pressure on them to do so for them to perform well in terms of environmental, social, and governance factors as well, so promoting the sustainable growth of the economy. The study has the limitation that data was examined only for two years post covid period. Future studies could compare the performance of the ESG India Index to other global sustainability indices.

REFERENCES

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.

Becchetti, L., & Ciciretti, R. (2009). Corporate social responsibility and stock market performance. *Applied financial economics*, *19*(16), 1283-1293.

Becchetti, L., Ciciretti, R., Dalò, A., & Herzel, S. (2015). Socially responsible and conventional investment funds: performance comparison and the global financial crisis. *Applied Economics*, *47*(25), 2541-2562.

Deng, X., & Cheng, X. (2019). Can ESG indices improve the enterprises' stock market performance?—An empirical study from China. *Sustainability*, *11*(17), 4765.

Ghosh, A. (2013). Corporate sustainability and corporate financial performance: The Indian context, Indian Institute of Management, Calcutta, Working paper series, WPS No. 721, 1-37

Gupta, S., & Goldar, B. (2005). Do stock markets penalize environment-unfriendly behaviour? Evidence from India. *Ecological economics*, *52*(1), 81-95.

Henriksson, R., Livnat, J., Pfeifer, P., & Stumpp, M. (2019). Integrating ESG in portfolio construction. *The Journal of Portfolio Management*, *45*(4), 67-81.

Huber, B. M., Comstock, M., Polk, D., & Wardwell, L. L. P. (2017). ESG reports and ratings: What they are, why they matter. Harvard Law School Forum on Corporate Governance and Financial Regulation. Available online: https://corpgov.law.harvard.edu/2017/07/27/esg

Jasuja, D., Prosad, J. M., & Nautiyal, N. (2021). A Comparative performance analysis of sustainability themed indices in India: markov regime switching approach. *FIIB Business Review*, 23197145211052805.

Le Maux, J., & Le Saout, E. (2004). The performance of sustainability indexes. *Finance India*, *18*, 737.

Lee, S., Kim, I., & Hong, C. H. (2019). Who values corporate social responsibility in the Korean stock market?. *Sustainability*, *11*(21), 5924. doi:10.3390/su11215924

Luther, R. G., Matatko, J., & Corner, D. C. (1992). The Investment Performance of UK"Ethical"Unit Trusts. *Accounting, Auditing & Accountability Journal*, *5*(4), 0-0. https://doi.org/10.1108/09513579210019521

Mănescu, C. (2011). Stock returns in relation to environmental, social and governance performance: Mispricing or compensation for risk?. *Sustainable development*, *19*(2), 95-118.

Ortas, E., Moneva, J. M., & Salvador, M. (2010). Conditional volatility in sustainable and traditional stock exchange indexes: analysis of the Spanish market. *Journal of Globalization, Competitiveness & Governability/Revista de Globalización, Competitividad y Gobernabilidad/Revista de Globalização, Competitividade e Governabilidade*, *4*(2), 104-129.

Qiu, M.; Yin, H. An analysis of enterprises' financing cost with ESG performance under the background of ecological civilization construction. J. Quant. Tech. Econ. 2019, 36, 108123

Scholtens, B. (2005). Style and performance of Dutch socially responsible investment funds. *The Journal of Investing*, *14*(1), 63-72.

Srinivasan, S., & Singh, R. K. (2010). The persistence of green goodwill. *Environment, development and sustainability*, *12*(5), 825-837.

Sudha, S. (2015). Risk-return and Volatility analysis of Sustainability Index in India. *Environment, development and sustainability*, *17*, 1329-1342.

Vasal, V. K. (2009). Corporate social responsibility & shareholder returns-Evidence from the Indian Capital Market. *Indian Journal of Industrial Relations*, 376-385.