

ARTICLE

Echoes of Sentiment: Unraveling the Impact of Market Psychology on the ESG Index in India

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Abstract

Environmental, Social, and Governance (ESG) investing has gained prominence as investors increasingly consider sustainability factors alongside financial returns. This study explores the relationship between market sentiments and the performance of the NIFTY100 ESG Index in India. Employing monthly data from August 2012 to February 2024, market sentiments are proxied by the Business Confidence Index, Consumer Confidence Index, and India VIX, with exchange rates and interest rates as control variables. Using the Autoregressive Distributed Lag (ARDL) model in EViews 9, the findings reveal the presence of overconfidence bias among investors. ESG stocks are often perceived as safe-haven assets due to strong government backing, leading to reduced risk perception. However, during periods of heightened optimism, investors shift toward riskier assets, whereas declining confidence increases the preference for ESG investments. Notably, rising market uncertainty prompts investors to liquidate ESG holdings in favor of ultra-safe assets like bonds. Additionally, currency appreciation and high interest rates exert a significant negative impact on the ESG index. It conveys that Indian investors prioritize portfolio returns over sustainability. These insights contribute to understanding the behavioral dynamics influencing ESG investing in emerging markets, offering valuable implications for policymakers and investors.

Keywords: Sustainability, ESG, Market Sentiments, Investor Sentiments, BCI, CCI, VIX

1 Introduction

The last decade has marked its importance in transforming the global focus on sustainability. The global commitment to net-zero emissions is a tremendous impetus for achieving environmental, social, and governance standards through corporate actions. Further, COVID-19 has increased the focus on sustainability activities (Diaz et al., 2021). Financial institutions also step ahead and prioritize sustainability and compel companies to incorporate ESG practices into their actions and strategies (de la Fuente et al., 2022). Heavy investment flow into ESG stocks has also been witnessed, making ESG investment a huge chunk of global equity portfolios (Gao et al., 2022; Daugaard, 2020).

Against this backdrop, it is vital to understand the relationship between market sentiments proxied by different relevant groups and the ESG metric. Investor perception/sentiment significantly influences asset pricing and the efficiency of the stock market (Economou, 2016). Moreover, the main driver is the market sentiments in times of financial crisis and capital market crashes which proves that Indian bourses are not insulated from investors' sentiment (Paramanik and Singhal, 2020; Haritha and Rishad, 2020).

Prior studies have largely conducted their research on ESG scores and ESG ratings at the firm level (Fatemi et al., 2018; Yoo and Managi, 2022; Chen and Xie, 2022). However, the current study focuses on establishing the association between market sentiments and India's ESG index. ESG index is computed by assessing and consolidating the ESG scores and ESG ratings of the top players in the financial market (Dhasmana et al., 2023). The impact of strong ESG practices on a company's financial stability is well-recognized (Citterio and King, 2023).

Thus, the current study aims to focus on market sentiments broadly measured using three broad areas. Business outlook is measured using the business confidence index (BCI); consumers' confidence in investment and saving prospects is measured using the consumer confidence index (CCI); and fear gauge in the market is proxied by the volatility index (VIX). These three indices collectively reflect the market sentiment and, thus, will be used to assess their impact on the ESG metric. The impact of these sentiments is gauged on the ESG metric using ARDL. The results indicate during periods of lower business confidence, investors might prioritize such assets, resulting in a relative increase in ESG index performance. On the other hand, the India VIX measures market volatility. A higher VIX indicates market uncertainty or fear, often causing investors to shy away from equities, including ESG-focused ones. It can thus be concluded that Indian investors are well-informed and capable of assessing the nuances and implications of various factors on their portfolio returns. They generally perceive ESG investments as a safer option due to government backing and lower risk when viewed through the lens of confidence. However, they quickly reclassify ESG investments as riskier when uncertainty prevails.

The sections to be followed are the review of the literature, research methodology, analysis and interpretation, conclusion, policy implications, and limitations of the study.

2 Review of Literature

2.1 ESG Indices and Market Sentiment

The comparison of the performance of the ESG indices with their conventional benchmark indices advocates that various factors play a role in ESG investing, and the strand of the literature suggests that market outlook plays a vital role in ESG investing (Bhattacharjee et al., 2023). The predictability of ESG return via various market sentiment proxies is at the initial stage of research, wherein researchers have used varied sets of market sentiments such as the Consumer Confidence Index (Aboluwodi et al., 2024; El Oubani, 2024), Business Confidence Index (Long et al., 2024), Volatility Index (Bossman et al., 2023; Dhasmana et al., 2023; Yang et al., 2024), and news sentiment (Yousaf et al., 2024), volume of trades (Canbas & Kandir, 2009). Some of the literatures are listed below:

Aboluwodi et al. (2024) explored the performance of BRICS ESG indices from January 2011 to January 2023 in the bull and bear phase. They evaluated the influence of investor sentiment on ESG performance in distinct market conditions with macroeconomic factors as control variables. The study developed the composite investor sentiment index (CISI) using sentiment proxies such as the BCI, CCI, VIX, Bloomberg Commodity Index (BCOM), etc by employing principal component analysis. The findings reveal investor sentiment is a crucial driver of ESG return and volatility under distinct market conditions. Some markets respond to positive sentiment like Brazil and India during the bullish phase, conversely, China's ESG performance is influenced by negative sentiment at times of the bearish phase.

El Oubani (2024) studied the association between investor sentiment and ESG indices return and volatility in North Africa (Morocco and Egypt) using the DY and BK framework for the period 2018 to 2023. Investor sentiment is measured as an aggregate index of X sentiment, the Google Search Volume Index (GSVI), and the Consumer Confidence Index (CCI). The results altogether show that sentiment has less influence over ESG return than the influence of ESG return over sentiment, particularly during turmoil periods. Further, the short-term spillover effect is noticed between sentiment and ESG indices return, while the long-term spillover effect is noticed between sentiment and volatility of ESG indices, specifically during the COVID-19 outbreak and the Russia-Ukraine war.

Dhasmana et al. (2023) investigated the interconnectedness between ESG indices and investor sentiment in India from April 2011 to July 2021 by employing NARDL and QNARDL cointegration models. The adoption of NARDL and QNARDL cointegration models is particularly to examine patterns of the asymmetric relationship between ESG indices (NSE and MSCI ESG indices) and sentiment index. The sentiment index is framed by deploying ten sentiment proxies that reflect investor sentiment in the Indian market with economic policy uncertainty and volatility index as control variables. The findings depict that in the short run when the ESG index increases, investor sentiment reduces, while in the long run ESG index tends to induce investor sentiment. However, investor sentiment does not influence the ESG index. In summary, it can be said that ESG efforts are at the initial stage and investors don't feel optimistic immediately with the ESG rating and over time ESG index performance creates a positive impact on investor sentiment. Investor sentiment whether optimistic or pessimistic does not influence the ESG index directly. This demonstrates that investors are still emphasizing the traditional monetary benefits at the time of investment rather than towards the ESG initiatives taken by the companies.

Bhattacharjee et al. (2023) investigated the impact of market sentiment and global uncertainties on the connection between ESG equity indices and oil stocks for 21 countries using wavelet coherence analysis from the period 2016 to 2023. The researchers employed the Volatility Index (VIX) and Oil ETF Volatility Index (OVX) representing the market sentiment and, the global economic policy uncertainty (EPU) and OFR Financial Stress (OFR FSI) representing global uncertainties. The findings illustrate strong positive movement between ESG returns and oil prices, and oil prices shapes the ESG returns in the medium- and long-term period. The study also highlights that the aggregate influence of macroeconomic factors and oil price strengthens the relationship of ESG-oil price co-movements, leading to more stronger correlation of ESG

return and oil prices due to heightened uncertainty or market volatility, especially in developed countries which are more sensitive to global risk than the emerging market.

Chakraborty and Subramaniam (2019) examined the cross-sectional and asymmetric relationship of investor sentiment with the stock market and volatility. They used the Market Mood Index (MMI) and Consumer Sentiment Index (CSI) as a measure of sentiment to see the impact on stock return and volatility for the period 2012 to 2018. They deduced that extreme investor sentiment significantly influences stock return and volatility, wherein lower sentiment leads to lower return due to fear-induced selling while the higher sentiment at extreme quantiles results in lower return due to the greed phase and thereby returning to the fundamental value. Further, the Market Mood Index's high sentiment lowers the future volatility and CSI causes the volatility of Sensex and large-cap stocks only at lower quantiles.

Long et al. (2024) examined the comprehensive cross-sectional analysis of economic conditions on the performance of ESG. The study investigated the impact of economic conditions on ESG strategies of 45 markets from January 2005 to December 2020. Utilizing the nine indicators (such as a few of them are: CAPE, Unemployment ratio, BCI, CCI, and Misery Index) representing the economic state of the countries by employing regression-based tests, the study examines the performance of ESG strategies in distinct economic conditions. The findings reveal that companies with high ESG scores do not necessarily perform better than companies with low ESG scores in good and bad times. In conclusion, some countries' strategies generate high returns during good times, while others incur losses stating no conclusive dominance. So, from a global market perspective, investing in ESG stocks does not necessarily lead to abnormal returns following long-short strategies instead instances of negative returns have been administered in the data.

Li et al. (2021) conducted their research to examine the role played by the ESG performance on stock prices during COVID-19 in China. In other words, the academicians wanted to find out whether ESG considerations can change an overall negative outlook by the investors. The results suggest that ESG performance is directly associated with abnormal returns during the pandemic. Thus, this reflects the strong fundamental resilience of the ESG-backed stocks during the crisis.

Giannarakis et al. (2016) investigated the impact of financial and economic indicators on the Dow Jones Sustainability Index (DJSI) return from the period 1999 to 2016 using a GARCH method. The US 10-year bond value, gold, US Dollar Index, and Consumer Sentiment Index are employed as the explanatory variable to see the impact on the DJSI return. A significant relationship was found between the DJSI return and interest rate, the consumer sentiment index, and the dollar index. The Consumer sentiment and bond value have a positive influence on DJSI return indicating that when consumer confidence is high regarding the economy, they are likely to invest in stocks including socially responsible investments, thereby driving the prices of DJSI. On the contrary, the gold and dollar indexes affect DJSI negatively indicating economic uncertainty and reduced foreign demand respectively.

Yang et al. (2024) studied how ESG stock return can be predicted via traditional assets and respond to market sentiment, crypto-based uncertainty, and geopolitical risk shocks for the period 2014–2022. The ESG indices comprised eleven ESG indices, commodity of gold and oil, volatility index and oil volatility index represent market sentiment, crypto-based uncertainties constitute UCRY policy, UCRY price indices and ICEA, GPRD index shows geopolitical risk. The result indicates that commodity, market sentiment, and geopolitical risk are crucial determinants of ESG return. The VIX and ESG stocks show a negative relation with each other. Hence, during bad market conditions, investing in VIX can serve as a hedge for losses that could occur in the ESG stocks.

Yousaf et al. (2024) examined the association between the news sentiment index (a proxy for economic sentiment) and ESG indices among developed countries by employing wavelet coherence analysis for the period August 2010 to February 2023. The results show weak co-movement among the NSI and ESG indices at time and frequency scales. Also, ESG shows safe-haven and hedging potential during financial turmoil periods like the black swan event and the Russia-Ukraine war. Simply put, ESG stocks are independent of news sentiment-driven market fluctuations and act as a safe haven in which to invest during turmoil.

Henke (2016) examined the returns of the ESG-backed funds with the conventional funds in the United States of America and the Eurozone during the period 2001 to 2014. The researcher took a sample of 103 socially responsible investments, particularly bonds, and juxtaposed them with the matched sample of traditional funds. The findings reveal that ESG-backed funds outperform traditional funds in the crisis period. Hence, it is proved that socially responsible funds are resilient during the bearish phase or recessions.

3 Research Methodology

3.1 Objective

The study examines the impact of various proxies measuring market sentiments on the ESG index. Therefore, the present work focuses on market sentiments broadly measured using three broad areas. Business outlook is measured using the business confidence index (BCI); consumers' confidence in investment and saving prospects is measured using the consumer confidence index (CCI); and fear gauge in the market is proxied by the volatility index (VIX). These three indices collectively reflect the market sentiment and thus, will be used to assess their impact on the ESG metric. The data was extracted from the Open Database of the Organization for Economic Co-operation and Development and the official website of the National Stock Exchange. Nifty100 ESG has been employed as the dependent variable. Furthermore, the present study has taken control factors i.e., exchange rate and interest rate into consideration to avoid research biases. The data for all the underlined variables is obtained on a monthly basis from August 2012 to February 2024. EVIEWS 9 software is used

for result and analysis purpose. Table 1 summarises the underlined variables employed to design the model.

Symbol	Variable Name	Nature	Description	Source
LN_NIFTY100 ESG	NIFTY 100 ESG	Dependent	Represents the performance of companies listed in the Nifty index as per their ESG risk score.	NSE
LN_BCI	Business Confidence Index	Independent	A standardised confidence indicator indicates future developments in business	OECD
LN_CCI	Consumer Confidence Index	Independent	A standardised confidence indicator indicates future developments in households' savings and consumption	OECD
LN_VIX	Volatility Index	Independent	To capture the fear in the market	NSE
LN_EXCH	Exchange rates	Control	Real effective exchange rates	Federal Reserve Bank of St. Louis
LN_INT	Interest rates	Control	Long-term government bond yields	Federal Reserve Bank of St. Louis

Table 1: Data Collection Sources
Source: Author's Compilation

Econometric Model

The model constructed to assess the given objective is written as follows:

$$\text{NIFTY100 ESG} = f(\text{BCI}, \text{CCI}, \text{VIX}, \text{Exchange Rate}, \text{Interest Rate}) \quad (1)$$

Eq. (2) is obtained by writing the resulting equation in a time-specific manner after converting variables into logarithm (log) form

$$\ln(\text{NIFTY100 ESG})_t = \beta_0 + \beta_1 \ln(\text{BCI})_t + \beta_2 \ln(\text{CCI})_t + \beta_3 \ln(\text{VIX})_t + \beta_4 \ln(\text{EXCH})_t + \beta_5 \ln(\text{INT})_t + \varepsilon_t \quad (2)$$

where t denotes the time series. ε_t denotes the error term, while β_0 represents the intercept, and $\beta_1, \beta_2, \beta_3, \beta_4$, and β_5 are the coefficients of the independent and control variables.

4 Methods of Data Analysis

4.1 Cointegration Test

The cointegration test is used to analyze if the long-term relationship exists among the non-stationary variables. when the series are cointegrated, it depicts that their movements are not independent of one another and share a common trend over time. For our analysis, the Bound Test has been applied. The test is useful when the variables are integrated in different orders i.e., some series are stationary at I (0) while others at I Eq. (2). The bound test checks the value of joint F-statistics to identify the cointegration that exists amongst the non-stationary variables. If the F-statistic exceeds the upper critical bound value (UBV), the null hypothesis is rejected, indicating the absence of cointegration. The null hypothesis is accepted in case the F-statistic is below the lower bound value (LBU) (Shrestha & Bhatta, 2018).

Diagnostic tests of the model

The present study checks if the estimated model is robust and unbiased through conducting diagnostic tests i.e., the Ramsey RESET test to check the functional form of the regression model; CUSUM and CUSUM square for stability diagnostics; Breusch-Pagan-Godfrey test for residual diagnostics; and Breusch-Godfrey LM test to check the existence of serial correlation in the model.

Autoregressive Distributed Lag (ARDL) Model

An ARDL model is suitable for both non-stationary series and series with mixed order of integration. ARDL technique is a type of "OLS model which effectively captures the data within a general to specific modeling framework" (Shrestha & Bhatta, 2018). ARDL helps in calculating the error correction model which integrates short-run dynamics along with long-run equilibrium. The conventional ARDL is written as:

$$\Delta Y_t = \alpha + \sum_{i=1}^k \gamma_i \Delta Y_{t-i} + \sum_{j=1}^k \eta_j \Delta X_{t-j} + \sum_{m=1}^k \xi_m \Delta R_{t-m} + \lambda \text{ECT}_{t-1} + \mu_t \quad (3)$$

The symbols γ_i , η_j , ξ_m represents short-run dynamic coefficients of the model. λ_i represents the coefficient of the error correction term and speed of adjustment parameter with a negative sign (Shrestha & Bhatta, 2018).

4.2 Analysis and Interpretation

The analysis deals with identifying the influence of sentiments of various groups on the ESG index proxied by Nifty100 ESG. In addition to the three sentimental indices, the study has also incorporated exchange rate and interest rate as control variables.

Results

The Augmented Dickey-Fuller test has been applied to check the stationarity of the variables undertaken in the objective. It was found that all the variables are stationary either at level or at first difference. All the variables are stationary at difference except VIX which is stationary at level. Table 2 depicts the results of the same.

Variables	Stationary at	Probability
NIFTY100 ESG	I(1)	0.0000*
BCI	I(1)	.0120*
CCI	I(1)	.0199*
VIX	I(0)	0.0000*
EXCH	I(1)	0.0000*
INT	I(1)	0.0000*

Table 2: Stationarity of the Variables

Source: Author's Computation

Further, to determine the long-run relationship we have checked for the cointegration using the Bounds test. The ARDL bounds testing has several advantages over the traditional cointegration test. Firstly, this approach delivers unbiased outcomes and reliable T-statistics, even when certain regressors in the model exhibit endogeneity. Secondly, it automatically determines the optimal number of lags using a suitable lag selection criterion. Lastly, the F-statistics bounds test is conducted regardless of the variables' order of integration, provided none are integrated at the I(2) level. Table 3 shows the result of the Bounds test. It reveals that the F-statistic exceeds the UBV at a 2.5% level of significance. It is not necessary to compare the F-statistic with the upper bound value at a 1% level of significance (Bhattacharjee and Das, 2023).

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Test Statistic	Value	Significance	I(0)	I(1)
F-Statistic	3.8177	10%	2.08	3
k	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

Table 3: Results for Bounds Test

Source: Author's Computation

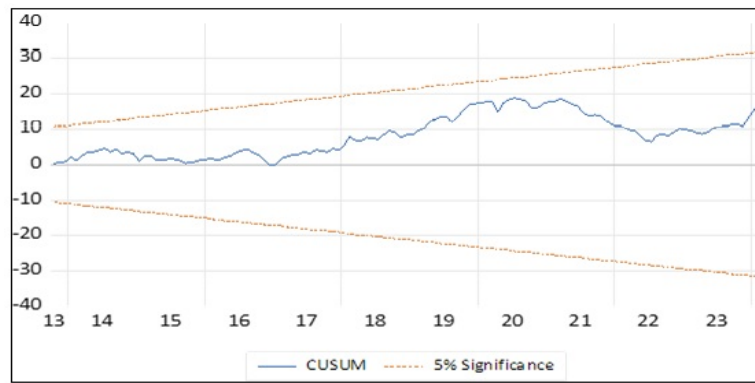
After confirming the presence of cointegration, we have checked for the error correction model to determine the speedy adjustment towards equilibrium in the long run. The findings suggest a negative ECM coefficient of 5% indicating that the model converges towards equilibrium.

Further, we have also checked for stability diagnostics and residual diagnostics. The Ramsey RESET test suggests whether the functional form of the regression is appropriate or not. The results are presented in Table 4.

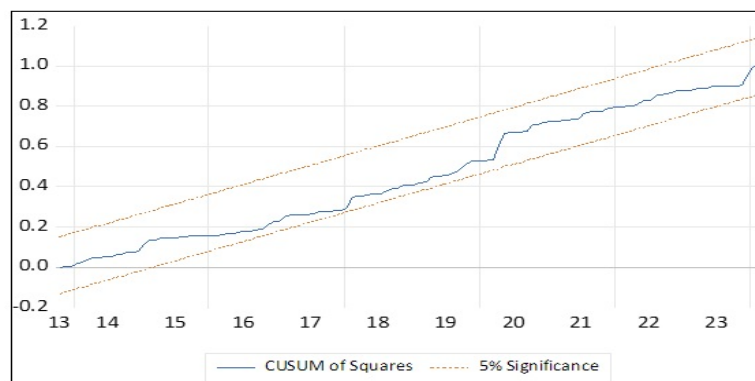
	Value	df	Probability
t-statistic	0.38	124	0.7043
F-statistic	0.144	(1,124)	0.7043
Likelihood ratio	0.159	1	0.6894

Table 4: Ramsey RESET Test

Source: Author's Computation



Graph 1(a): CUSUM Test



Graph 1(b): CUSUM Square Test

As the p-value is more than 0.05, it indicates that the model is free from any misspecification error. Further, we have also checked for CUSUM and CUSUM square. Graphs 1(a) and 1(b) represent that the blue line remains within the red lines, which represents critical boundaries at a 5% level of significance, thus indicating stability and reliability of both long-run and short-run parameters.

Also, we have checked the residual diagnostics. Heteroskedasticity has been checked using the Breusch–Pagan–Godfrey test. The null hypothesis of which states the presence of homoskedasticity. Table 5 presents the result of the same. The findings reveal that the p-value exceeds the 5% level of significance indicating failure to reject the null hypothesis.

F-statistic	1.43	Prob. F(11, 125)	0.1633
Obs*R-squared	15.4	Prob. Chi-Square(11)	0.1647
Scaled explained SS	14.03	Prob. Chi-Square(11)	0.2311

Table 5: Test for Heteroskedasticity

Source: Author's Computation

Serial correlation has also been checked using the Breusch–Godfrey Serial Correlation LM test. Table 6 presents the result of the same. The findings suggest that there exists no serial correlation in the model.

F-statistic	1.06	Prob. F(2,123)	0.3486
Obs*R-squared	2.32	Prob. Chi-Square(??)	0.3123

Table 6: Result for Serial Correlation

Source: Author's Computation

ARDL Model

Table 7 presents the results of the ARDL model.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LN_NIFTY100 (-1)	0.961	0.0177	54.246	0.00000*
LN_BCI	-1.123	0.669	-1.677	0.09600**
LN_CCI	-0.058	0.1627	-0.36	0.71940
LN_VIX	-0.1238	0.022	-5.58	0.00000*
LN_EXCH	-0.5085	0.2488	-2.044	0.04300*
LN_INT	-0.1553	0.0733	-2.118	0.03610*
C	-0.93	1.363	-0.68	0.49630
R-squared	0.9921	Mean dependent var		7.58
Adjusted R-squared	0.9914	S.D. dependent var		0.41
S.E. of Regression	0.038	Akaike info criterion		-3.6
Sum squared resid	0.183	Schwarz criterion		-3.38
Log likelihood	258.9086	Hannan-Quinn criter.		-3.5
F-statistic	1428.256	Durbin-Watson stat		1.83
Prob (F-statistic)	0.0000			

Table 7: ARDL Model

Source: Author's Computation

The results suggest that the business confidence index representing the sentiments of businesses and their outlook for the future bears a significantly negative relation with the ESG index at a 10% level of significance. Further, the volatility index measures the market's expectation of volatility in the near term and holds a significant negative coefficient at a 5% level of significance. Lastly, the consumer confidence index also holds a negative coefficient though insignificant. Rising BCI indicates strong business confidence and potential growth in economic activity. Thus, when BCI goes up, the market sentiments rise which leads to a fall in the ESG index. Similarly, the rising VIX indicates increased fear among the shareholders. To put it differently, when the investors perceive heightened risk and uncertainty in the future, VIX rises causing NIFTY100 ESG to fall.

The probable reason could be that when the manufacturing sector is confident about the economy in the future or in other words when they have a high adrenaline rush, they prefer to invest in riskier ventures treating sustainable stocks as a safe haven with potential government support (Katsampoxakis et al., 2024). On the other hand, declining confidence among businesses increases the prices of the ESG index. This behavior coincides with the overconfidence bias. In times of high confidence, investors tend to invest in stocks with high risk (Meier, 2018). Akin and Akin (2024) report that high levels of consumer confidence lead to optimism among investors which results in the influx of flows in the equity market while low levels of consumer confidence can trigger a shift away from equities (Gormus and Gunes, 2010; Sruthi and Shijin, 2017; Chen, 2011). However, ESG stocks are generally considered government-backed and less risky. Further, a rising VIX generally indicates a bearish equity segment as market participants become cautious thus, the investors may shift towards safer assets like gold or government bonds thus further pushing the prices down.

To conclude, BCI measures confidence while VIX measures market uncertainty. When the BCI decreases (indicating lower business confidence), companies are more cautious in their investments and growth strategies. This scenario typically leads to a preference for safer, sustainable, and risk-averse investments, such as ESG-compliant assets. ESG investments are often considered long-term and stable. During periods of lower business confidence, investors might prioritize such assets, resulting in a relative increase in ESG index performance. On the other hand, the India VIX measures market volatility. A higher VIX indicates market uncertainty or fear, often causing investors to shy away from equities, including ESG-focused ones. This can lead to a decline in the NIFTY100 ESG Index. For instance, during geopolitical events or economic crises (high VIX), investors may liquidate ESG stocks in favor of ultra-safe havens (e.g., bonds). Conversely, in a low-VIX environment, the stable, long-term nature of ESG investments becomes more appealing.

Further, the exchange rate negatively relates to the ESG index performance. A higher exchange rate indicates an appreciation of the currency which eventually hurts exports and boosts imports. Moreover, it is also found that ESG performance improves the export intensity of a corporate (Wu et al., 2022). To break down, this will increase the outflow of money and restrict the inflow of funds. A strong currency might make ESG investments relatively expensive for foreign investors, affecting demand. Additionally, a strong domestic currency implies that foreign investments will yield lower returns when repatriated to the local currency. (Khan et al., 2012). Hence, this negatively impacts the ESG index performance (Khan et al., 2012; Khan, 2019; Aftab et al., 2015; Qing and Kusairi, 2019).

Lastly, the interest rate also negatively influences the ESG index performance. High interest rates indicate that investors can earn more by investing in ultra-safe assets like government bonds thus withdrawing their funds from the equity segment. To put it differently, high fixed investment yields lead to an increase in the weighted cost of capital. This eventually increases the rate to discount future cash flows ultimately hurting the equity valuations.

5 Conclusion

The present research work focuses on the nuances around the pressing issue of sustainability. The study deals with analyzing the long-run association between the ESG index and market sentiments proxied by the business confidence index, consumer confidence index, and volatility index. Further, two control variables have been added i.e., exchange rate and interest rate. After complying with the prerequisites for applying ARDL, the results indicate that overconfidence bias exists among the investors. Investors often place safe-haven assets and ESG stocks on a comparable footing due to substantial government support, which makes them appear less risky. Conversely, during periods of heightened optimism, investors gravitate toward riskier assets, while a dip in confidence drives a preference for the ESG index. In contrast, heightened market uncertainty compels investors to sell even ESG stocks in favor of ultra-safe assets such as bonds. It has been proved time and again that investor intention plays a vital role in influencing ESG investing. Therefore, it has been observed that investors often alter their investment strategies when looking at the market from the lens of either confidence or uncertainty.

Lastly, appreciated currency and high interest rates negatively and significantly influence the ESG index. A strong home currency often leads to lower returns when converted to the local currency. Additionally, when the government hikes the interest rates, this prompts the investors to swiftly transfer their funds to ultra-safe assets like government bonds, thus completely withdrawing from the equity segment.

It can thus be concluded that Indian investors are well-informed and capable of assessing the nuances and implications of various factors on their portfolio returns. They generally perceive ESG investments as a safer option due to government backing and lower risk when viewed through the lens of confidence. However, they quickly reclassify ESG investments as riskier when uncertainty prevails. Moreover, rising interest rates and currency appreciation further incentivize investors to prioritize portfolio returns over ESG considerations. In other words, Indian investors tend to prioritize financial returns over sustainability. Therefore, there is a need to enhance awareness and sensitization regarding sustainability among Indian investors.

6 Policy Implications

Policymakers need to recognize the importance of stabilizing macroeconomic conditions to foster a conducive environment for ESG investments. This may include ensuring stable exchange rates and interest rates, which can help reduce investor uncertainty and encourage sustained investment in ESG assets. Additionally, policies that promote the integration of ESG factors into the financial system, such as incentivizing long-term investments in sustainable sectors, could help mitigate the adverse effects of economic volatility on ESG markets.

Indian investors are not very concerned about the environmental performance of the firms. This suggests that greater emphasis may need to be placed on improving the communication and integration of environmental performance metrics within the broader ESG framework. To encourage more investor attention towards environmental issues, policymakers could develop policies that incentivize firms to enhance their environmental disclosures and integrate sustainability more comprehensively into their corporate strategies.

Given the growing importance of ESG factors in investment and corporate decision-making, it is crucial for policymakers to implement stringent regulations that ensure transparency and accountability in corporate ESG practices. One effective way to achieve this is by mandating comprehensive ESG disclosures. Such disclosures would allow investors, stakeholders, and the general public to assess how companies manage their environmental, social, and governance risks, particularly in times of crisis. By making ESG reporting mandatory, policymakers can encourage companies to adopt better risk management strategies and improve long-term sustainability.

7 Limitations and Future Scope of the Study

Despite conducting the research comprehensively, the present work suffers from limitations that future academicians can overcome.

- i. To analyze the relationship between market sentiments and the ESG index, future research could focus on incorporating additional sentiment proxies.
- ii. Various models using different proxies for the ESG index can be explored, allowing for the selection of the proxy that yields the most accurate results. Another potential proxy to consider could be the Nifty100 Enhanced Index.
- iii. The findings from this study are not universally applicable, as it is based on an Indian context. Future researchers could expand the analysis to include more countries, allowing for a broader, more comprehensive understanding.
- iv. Future academicians can assess the role of ESG parameters as a risk management tool during volatile and stable periods.

Funding Details

The research paper is a part of the research project funded by the Institute of Eminence, University of Delhi.

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