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Does ESG Compliance Boost Indian Companies' and Investors' Immunity Against Economic Uncertainties: An Empirical Study?

Ashutosh Yadav*

Ph.D. Research Scholar

Department of Humanities and Social Sciences

National Institute of Technology Patna

Email: ashutoshy.ph21.hs@nitp.ac.in

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ABSTRACT

Purpose: The purpose of the study is to empirically examine the relationship between ESG ratings and stock performance of Indian companies during economic uncertainty induced by government policies (GST and Demonetization) and the pandemic.

Design/methodology/approach: The study employs the OLS regression and Panel Data Analysis to work out how a company's ESG scores and stock returns are associated with each other.

Findings: The present paper finds that companies having better ESG scores outperform companies having lower ESG scores in terms of stock performance during economic uncertainty. Also, when the ESG framework is broken down into its individual parts, the social component turns out to be the most important factor.

Originality/Value: This study is unique in the sense that it is one of the primary studies to know whether the Indian businesses with better ESG scores or ratings are resilient to economic uncertainties. Or in simple words, do ESG leaders' companies perform better than ESG laggards' companies in the time of uncertainties?

Practical Implications: The study's main takeaway, from an investors' standpoint, is that ESG should also be considered along with technical and fundamental data while making investment decisions; and from a company's standpoint, a company should try to be an ESG leader, which will make the company resilient to economic shocks. Besides, being an ESG-compliant company would also help in fighting climate change.

KEYWORD: Sustainability, ESG, ESG Scores, Investors' Immunity, Panel Data Analysis

JEL CODES: G11, C1, Q56, G41

Paper Type: Research Paper

1. INTRODUCTION

Environment-Social-Governance (ESG) is a framework that helps stakeholders understand how a corporation manages possible risks and opportunities associated with sustainability problems, such as changes in environmental, economic, and social systems. It has evolved into a comprehensive framework that incorporates crucial factors pertaining to environmental and social concerns, as well as how governance processes can be adjusted to maximize the well-being of interested parties. ESG has become a prevalent topic of conversation among asset managers and retail investors (Broadstock et al., 2021).

To develop investment strategies, portfolio managers have historically and primarily focused on two types of information: fundamental and technical information. These two sources of information have long aided investors in making more informed investment decisions. Due to the increased availability of this data and the technology to organize it, it has become exceedingly difficult to generate competitive performance that exceeds market returns. In recent years, however, environmental, social, and governance (ESG) data have provided an additional set of information that can also provide insight into a stock's future performance, in addition to fundamental and technical information, which primarily present a company's past performance. They are principally concerned with ESG investing for two reasons: first, focusing on ESG investing actively promotes socially responsible investment practices; and second, ESG investing is increasingly believed to yield higher returns on managed portfolios while reducing portfolio risk.

In recent years, the number of companies that track and provide environmental data (such as carbon emissions, water usage, and waste management), social data (such as employee demographics, product-related information, and customer data), and governance data (such as anti-corruption initiatives and board diversity) has grown exponentially. Investor excitement for ESG data has developed at a rapid rate over the past decade (Amir & Serafeim, 2018). In 2019, the total market capitalization of ESG-focused investments surpassed \$30 trillion. The fact that third-party ESG rating providers¹ are covering more and more businesses shows that credit lenders value these ratings.

Even so, until recently "mainstream investors" didn't believe that companies with low ESG risk scores could give their shareholders good returns (Benabou & Tirole, 2010; Krüger, 2015). In the last 30 years of the 20th century, research showed that what was once called "Socially Responsible Investing" (SRI), which mostly involved weeding out companies with low ESG scores or whole industries like tobacco and alcohol, gave shareholders returns that were usually lower than the market average. Also, because of the above finding, most people think that when companies try to solve social and environmental problems, shareholder value goes down (Kotsantonis et al., 2016).

Aside from individual investors and asset managers, it has also caught the attention of corporate bodies, which are especially interested in how ESG can help their businesses perform financially

¹ The eight notable ESG rating providers according to Huber et al. (2017) are: Bloomberg ESG Data Services, Corporate Knights Global 100, Dow Jones Sustainability Index (DJSI), ISS, MSCI ESG Research, RepRisk, Sustainalytics Company ESG Reports, Thomson Reuters ESG Research Data.

better. They want to know how adding a third-party external ESG rating affects the valuation of the companies (Wong et al., 2021). In recent studies, there has been a debate about whether or not ESG is helpful when the economy is uncertain (Flammer, 2015; Folger-Laronde et al., 2020; Gillan et al., 2021; Tiwari et al., 2021). Some studies, on the other hand, have shown that ESG adds value because well-run businesses can get both better returns in times of crisis and more customers (Engelhardt et al., 2021; Ferrell et al., 2016; Fuadah & Kalsum, 2021; McWilliams et al., 2006) while some say otherwise (Folger-Laronde et al., 2020). There is a lot of evidence in the literature that shows a link between an organization's ESG efforts and its stock returns, especially when the economy is uncertain.

Albuquerque et al., (2020) and Lins et al., (2017) find that companies with high ESG ratings have competitive stock returns and less share price volatility during uncertain economic events. However, Torre et al., (2020) underlined that after the pandemic, a company's ESG performance is not correlated with its stock prices. Therefore, when market uncertainty is high, CSR does not assist businesses in becoming more robust. In this light, this paper attempts to answer a pertinent research question:

Are Indian firms with higher ESG scores or ratings more robust to economic uncertainty? Or, to put it another way, do ESG leaders perform better than ESG laggards during uncertain times?

The study focuses on India and tries to figure out how the ESG scores affect the performance of Indian companies' stocks during times of economic uncertainty caused by government policies (like GST and Demonetization) and pandemics. It also includes some checks to make sure that the results are accurate. The study period runs from FY 2015–2016 to FY 2021–2022.

The structure of this paper is organized as follows. Section 2 discusses the reviewed literature; Section 3 presents data and methodology; Section 4 presents the study's empirical findings; Section 5 includes discussion and contribution; and Section 6 concludes.

2. LITERATURE REVIEWED

A number of significant unfavorable factors, including size (Banz, 1981); P/E (Basu, 1983); D/E (BHANDARI, 1988); BE/ME (Consolandi et al., 2020) and others, have been identified in earlier studies by various academics as being crucial in understanding stock returns. Most of the studies mentioned above focused on traditional investment factors and didn't look at ethical investment factors like ESG.

ESG investing has started to gain momentum and investors are becoming more conscious of the ESG parameters of companies before taking any investment decision. Friede et al., (2015) reveal that since 1970, more than 2200 research have been conducted by academics and investors on the link between ESG and a company's stock performance. This evolution shows how mainstream financial markets are beginning to accept ESG integration into sustainable investments. However, it is a fact that the transition of traditional investors to ESG-based sustainable investment is slower. This is a dynamic and developing issue. Numerous research has been done on the concerned issue. A growing corpus of research is studying the link between ESG ratings and company value (or

stock return) as well as the effect of ESG performance on a company's financial performance (e.g. Flammer, 2015; Kotsantonis et al., 2016 and Velte, 2017).

The relationship between ESG and organizations' financial performance and stock performance is the subject of conflicting study findings. Many of the studies (Clark et al., 2014; Friede et al., 2015; Wong et al., 2021) reveal a favorable association between the ESG and organizations' stock performance even at the time of crisis periods. Additionally, studies that show higher levels of CSR activities are linked to lower levels of idiosyncratic risk (Lee & Faff, 2009; Van De Velde et al., 2005), higher market-to-book ratios (Galema et al., 2008), favorable loan contracts (Goss & Roberts, 2011; Nandy & Lodh, 2012), and lower cost of equity are among the existing literature that highlights support (Bae et al., 2021; Lee & Faff, 2009). According to Maiti, (2021), three-factor models that considered market, size, and ESG variables performed better than the Fama-French three-factor model. Increased Sharpe ratios for ESG imply that investments based on these metrics outperform conventional size and value-based investments in all cases. Therefore, if ESG is also added along with the conventional factors, that would make any portfolio invincible. In other words, because ESG, in addition to traditional technical and fundamental factors, plays a significant role in predicting returns and, as a result, making businesses resilient during periods of economic uncertainty or crisis, they should not be overlooked when making investment decisions (Engelhardt et al., 2021).

Classical Sustainability shareholder theory, on the other hand, contends that CSR is merely a gift from a company's investors to stakeholders (Hu et al., 2018). In this regard, because socially insensitive businesses enjoy lower costs, they may enjoy better returns than socially active businesses (Carnahan et al., 2010). Thus, socially active businesses face competitive downsides when compared to socially inactive businesses, and their valuations should be lower (Aupperle et al., 1985). Furthermore, studies (Clark et al., 2014; Revelli & Viviani, 2015; Van De Velde et al., 2005) frequently underscore that previous findings are uncertain, unconvincing, or conflicting. Borgers et al., (2013), Orlitzky, (2013), and Folger-Laronde et al., (2020) disagree about the ESG's quantification and reliability during normal business cycles and economic uncertainties, and the results differ slightly due to a dearth of ESG data and a contradictory definition and quantification of the ESG variable. These theories are also supported by the fact that adopting these practices may cause an exaggerated investment in social causes at the cost of shareholders. Value destruction studies comprise those that show companies with better CSR disclosure have not done well in corporate governance (Barnea & Rubin, 2010) and have paid a higher equity cost (Richardson & Welker, 2001).

Since the introduction of COVID-19, several studies have been conducted on the impact of ESG on the success of a company's stock and profitability. Some studies find that ESG compliance enables companies to withstand economic shocks and demonstrate resilience (Albuquerque et al., 2020; Engelhardt et al., 2021; Shanaev & Ghimire, 2022), while others conclude that ESG is unrelated to the performance of companies (Bae et al., 2021; Demers et al., 2020). During the period of COVID-19, the Nifty 100 ESG Sectors index outperformed the Nifty 100 index in India. When COVID-19 struck Indian Territory, the ESG leaders' businesses demonstrated greater resilience (see Annexure A1). This has prompted the current study to determine the empirical relationship between ESG and company stock performance during economic uncertainty by extending the period of study (from FY 2015-2016 to FY 2021-22) and

incorporating two additional events that increased the fear of economic uncertainty, namely Demonetization and GST, in addition to the pandemic.

3. DATA AND METHODOLOGY

3.1 Data

The study considers a sample of 200 Indian companies listed on the National Stock Exchange of India. The Sustainalytics database has been used to estimate the performance of companies on ESG parameters. Sustainalytics releases ESG scores for companies based on their performance on environmental, social, and governance issues. The study further considers companies' last seven years' ESG scores starting from FY2015. The Moneycontrol and the Screener databases have been used to retrieve the financial and stock price data (see Table A2 in the Annexure).

3.2 Methodology

The main independent variable under consideration for the study is the ESG Score, which takes into account a company's performance on ESG metrics. Furthermore, a dummy variable is used. An ESG compliant company, i.e., a company with a low ESG risk score, is assigned one, and zero if the company is not ESG compliant, if its ESG risk score is high.

The study also tries to assess the influence of ESG scores on Indian companies during their economic uncertainty during the study period. i.e., Demonetization, GST, and COVID-19. The main dependent variables under the study are a company's accumulated raw stock return along with accumulated abnormal stock return generated during 1 June 2017 to 1 August 2017 (GST), 8 November 2016 to 31 December 2016 (Demonetization), and 1 March 2020 to 31 May 2020 (Covid-19). The said timeframes are also termed "periods of economic uncertainty" induced by the aforementioned events. These periods hit the financial market and the stock market in particular. The study calculates abnormal returns, which is the gap between the stock performance (logarithmic) and projected share performance.

The projected return is calculated by multiplying the company's market return by the beta of CAPM, and it is centered on the returns of the company's stock and the corresponding return of the Indian stock market during the periods of economic uncertainty. Several control variables have also been engaged. Table A2 in the Appendix provides the definitions of these variables.

To work out how a company's ESG scores and stock returns are associated with each other, the study determines the OLS regression as given below:

$$K_i = \beta_0 + \beta_1 X + \sum \beta_K + \sum \beta_l + \varepsilon_i \quad (1)$$

where, i denotes the company and ε_i refers to the error term. K_i is the dependent variable that refers to the company's stock performance, either accumulated return or the accumulated abnormal return from April 1, 2015, to June 30, 2022. The period also includes the collapse periods. The

variable this study is interested in is the ESG scores ($\beta_1 X$) which estimate a company's performance on ESG parameters. Further, some company control ($\sum \beta_K$) variables (Flammer, 2015) and industry-fixed effects ($\sum \beta_I$) have been included in the regression model. They are size as they explain the substantial variation in the price movement of a stock and return on capital employed, profitability, debt to equity, and others because a company's having fundamentally and financially strong generates higher stock returns in a normal economic environment and is affected less in a collapse period. Besides, variables (Fahlenbrach et al., 2021) like the company's price to book ratio, momentum, and historical volatility also impact the company's stock performance; therefore, they are included in the study.

4. EMPIRICAL RESULTS

The average accumulated returns generated are highly negative, that is -39.47 percent, and the corresponding standard deviation stands at 23.42 percent (see Table 1: Descriptive Statistics) showing the company's stock has been very excessively fluctuating during the uncertain time frames (induced by Demonetization, GST, and the COVID-19 pandemic).

Table 1: Descriptive Statistics

	Count	Minimum	Maximum	Mean	Median	S. D
Volatility	200	0.0015	0.1992	0.0392	0.0389	0.2012
Idiosyncratic Volatility	200	0.0018	0.1813	0.0291	0.0282	0.1591
Profitability	200	-0.2922	0.4184	0.1332	0.1625	0.1024
ROCE	200	-0.4741	0.4441	0.0513	0.0823	0.1486
Leverage	200	0	0.5723	0.1942	0.2136	0.1424
Price-Book Ratio	200	-3.162	42.3833	4.160	2.2431	4.5214
Historical Volatility	200	0.1363	0.9247	0.2941	0.2432	0.0124
Momentum	200	-0.9871	1.1924	0.1912	0.2342	0.3768
ESG Score	200	0.0187	0.8147	0.4302	0.4755	0.1974
Debt-Equity	200	0	0.4512	0.1942	0.1736	0.1142
Accumulated Raw Returns	200	-1.6127	0.4892	-0.3947	-0.3842	0.2342
Accumulated Abnormal Returns	200	-1.4351	1.8421	-0.1732	-0.1602	0.3242

Univariate tests have been done to match company features of high ESG and low ESG (See Table 2). It shows that, in relation to the size of a company, high ESG companies are comparatively larger than low ESG companies. Further, companies with high ESG scores show significantly more heightened debt. At the same time, the study finds that companies with high ESG seem to have a much lower valuation (Price-Earnings Ratio), a lower price-to-book ratio (PB ratio), and their stock prices have changed less in the past.

Table 2: Uni-variate Tests

	Count	Mean	Observation	Mean	Difference
P/E Ratio	99	2.1326	91	3.3201	-1.1875***
Profitability	101	1.1403	91	0.9528	0.1875
ROCE	99	0.0847	88	0.0689	0.0158
Size	76	9.4289	72	6.9253	2.5036***
Debt-to-Equity	94	0.1927	91	0.1723	0.0204*
Leverage	94	0.3134	88	0.2931	0.0193**
Price-to-Book	99	3.2510	91	4.6328	-1.3818***
Historical Fluctuation	103	0.2352	97	0.4129	-0.1777***
Momentum	103	0.1431	97	0.1224	0.0207

Note: Statistical significance at the 1%, 5%, and 10% level is represented by ***, **, * respectively.

Our threshold results are shown in Table 3. The dependent variables (in Panel A) are a company's accumulated stock return (I) and (III) and a company's accumulated abnormal stock return (II) and (IV). The primary targeted independent variable is the ESG. Whereas the coefficients on the ESG Score are insignificant as the relying factor is a company's accumulated raw stock performance (I) and (III), the co-efficient of ESG is positive and also critically significant when the dependent variable is the accumulated abnormal stock return (II) and (IV). Even after taking companies' different characteristics into control (IV) as well as industry influence, the coefficients on ESG in (II) and (IV) are matchable in size. It is worth noting that in columns (III) and (IV), we only take into account 162 companies because few company controls are absent for specific findings. Regarding control variables, the findings are consistent with previous research (Albuquerque et al., 2020; Engelhardt et al., 2021). Further, debt-to-equity and company size are found to have negative and significant coefficients, while return-on-capital (ROCE), price-to-book ratio, historical volatility, and momentum all have positive and statistically significant coefficients.

However, the study finds no empirical proof that companies with better ESG performance have better accumulated raw returns. It can be asserted that during the period of economic uncertainty, an increase in ESG scores by one standard deviation is associated with an average rise in abnormal returns of 21.22 percent. The results align with the current discussion around whether ESG does well significantly during times of uncertainty (economic or otherwise). Whereas Torre et al., (2020) were unable to demonstrate that ESG influences stock returns or market adapted stock returns, they did discover that companies having better ESG ratings have higher unexplained stock returns during the period of economic uncertainty.

To ensure that our results are reliable when using another approach for a company's ESG performance, this study uses a dummy variable, High ESG, and performs the same specifications as in Panel A. The qualitative results stay consistent. In columns (I) and (IV), where the study employs accumulated abnormal returns as the dependent variable, results show positively high, statistically significant coefficients on high ESG.

If the explained variable is a company's accumulated raw stock performance, high ESG continues to remain insignificant. In these contexts, if the variables are kept under check, the results are

consistent with Panel A. It can, therefore, be concluded that companies with better ESG have a minimum of 2.12 percent more unexplained stock performance than companies with low ESG scores. Therefore, companies with poor ESG endeavors were disproportionately impacted by the GST and demonetization implementation. Because of the within-transformation estimator used, the adjusted R-squared values are fairly small. When the same model is used with a standard estimator, the results are almost the same for the loads on the regression coefficients and the R-squared values.

Table 3: ESG Ratings and Stock Returns

Panel A	(I)	(II)	(III)	(IV)
Dependent Variable	Accumulated Raw Returns	Accumulated Abnormal Returns	Accumulated Raw Returns	Accumulated Abnormal Returns
ESG Score	-0.0390 (0.0239)	0.2122*** (0.0632)	0.0318 (0.0601)	0.1492** (0.6309)
Profitability			0.4132 (0.0935)	0.0362 (0.0816)
ROCE			0.1932** (0.0932)	0.0939*** (0.0294)
Price-Book Ratio			0.0078*** (0.0019)	0.0061*** (0.0017)
Historical Fluctuation			-0.1572* (0.0892)	0.1958 (0.0639) ***
Momentum			0.0201 (0.0268)	0.1132*** (0.4142)
Debt-Equity			0.2464 (0.4329)	0.2414 (0.0436)
Observation	200	200	162	162
Industry	Yes	Yes	Yes	Yes
Adjusted R ²	0.02	0.05	0.11	0.17
Panel B	(I)	(II)	(III)	(IV)
Dependent Variables:	Accumulated Raw Returns	Accumulated Abnormal Returns	Accumulated Raw Returns	Accumulated Abnormal Returns
High ESG	-0.01634 (0.0124)	0.0735*** (0.0274)	-0.0117 (0.0162)	0.0291** (0.0137)
Observation	200	200	162	162
Industry	Yes	Yes	Yes	Yes
Adjusted R-Squared	R- 0.02	0.05	0.11	0.17

Note: Statistical significance at the 1%, 5%, and 10% level is represented by ***, **, * respectively.

The study also breaks down ESG into its constituent parts to determine which metrics of ESG are most important. In Table 4, the study duplicates the analysis while including the E, S, and G scores individually in the regression model. Our results are similar to those found by Fahlenbrach et al., (2021). It finds that the social factor of ESG is extremely statistically significant and has the greatest impact, implying that the social rating is the key cause of the findings. The environmental rating is statistically significant but has less impact and thus is of less significance, whereas the governance rating has no predictive value in the study.

Table 4: ESG Ratings and Stock Volatility.

Dependent Variable:	(I) Volatility	(II) Idiosyncratic Movement	(III) Volatility	(IV) Idiosyncratic Movement
ESG Score	-0.0047 (0.0032)	-0.0153*** (0.0039)	-0.0015 (0.0037)	-0.0061* (0.0039)
Profitability			-0.0285*** (0.0071)	-0.0224*** (0.0618)
ROCE			-0.0047 (0.0061)	-0.0057 (0.0063)
Price-Book Ratio			-0.0007 (0.0007)	-0.0007 (0.0007)
Historical Fluctuation			0.0299*** (0.0041)	0.00276*** (0.0041)
Momentum			0.0046* (0.0021)	0.0004 (0.0023)
Debt-Equity			0.0237*** (0.0045)	0.0219*** (0.0041)
Observation	200	200	162	162
Industry	Yes	Yes	Yes	Yes
Adjusted R-Squared	0.02	0.07	0.19	0.27

Note: Statistical significance at the 1%, 5%, and 10% level is represented by ***, **, * respectively.

The companies doing better on the ESG front have substantially higher unexplained performance during the uncertainty time frames (GST, Demonetization, and COVID-19). The study investigates whether companies with better corporate ESG scores show fewer stock price fluctuations. To verify this association, the regressions were run with a company's stock fluctuation and idiosyncratic movement as dependent variables during the uncertain economic time frames that are from 1 June 2017 to 1 August 2017 (GST), 8 November 2016 to 31 December 2016 (Demonetization), and 1 March 2020 to 31 May 2020 (Covid-19). The ESG score of a company is our primary independent variable of interest. The study includes a variety of company characteristics along with industry effects, as shown in Table 4. The results are shown in Table 4.

Throughout columns (I) and (III), in which the explained variable is a company's stock movement when faced with uncertainty, the study observed inverse but critically insignificant coefficients on ESG parameters. Furthermore, if we use a company's idiosyncratic movement as the explained factor in II, inverse and critical coefficients of the ESG parameter have been noticed (II). Once the

company controls are added to the regression model, the impact fades a little (column (IV)). In columns (III) and (IV), only 162 companies are considered because some company controls are lost in certain findings. A 0.15 percent decrease in idiosyncratic volatility increases the ESG score by one standard deviation. The findings are consistent with those reported by Albuquerque et al., (2020), that companies that have better social ratings have considerably lower stock volatility. In terms of control variables, it is discovered that companies that have greater debt-to-asset ratios and increased historical volatility have more idiosyncratic volatility. Furthermore, it is observed that bigger and profit-making companies have substantially lower stock volatility even during uncertainty.

5. DISCUSSION AND CONTRIBUTION

The outcome of the study contributes to the current debate on whether participating in corporate or social-related activities is worthwhile, particularly at a time of uncertainty (Bae et al., 2021; Demers et al., 2020; Torre et al., 2020). The findings indicate that Indian companies having a better ESG score performed better during the collapse period, and are backed by increased abnormal stock performance and less stock volatility. Thereby, such companies have been resilient to the economic uncertainty. Given the two dissenting viewpoints discussed previously, the findings indicate that shareholders prefer companies that are socially reactive and that such actions are not counterproductive to investors' wealth. It appears that companies that have high CSR ratings do better in terms of returns and social governance as well. Besides, companies that are reactive on social parameters seem not to encounter cut-throat competition.

This study adds to the growing body of varied literature in empirical work. Social receptive endeavors generate investors' wealth and the findings of Flammer, (2015) and Ferrell et al., (2016) are on a similar path. Furthermore, Dai et al., (2021) claim that such endeavors boost a company's functional efficacy and worth. Besides, companies that have higher CSR performance have a lower cost of capital (El Ghouli et al., 2011).

Eventually, the research contributes to the evolving literature on stock markets during the economic uncertainty period. Companies that had more financial means had generated superior stock returns, whereas companies with poor credit ratings experienced greater falls in stock prices during the stock market crashes. Concurrent research finds that stock prices are necessarily connected to media coverage and news sentiment as well as companies that are more resistant to tough policies, perform better financially during economic uncertainty (Acharya & Steffen, 2020; Engelhardt et al., 2021).

Economic uncertainty caused by the GST, Demonetization, and Pandemic events created significant uncertainty in stock markets, resulting in a significant drop in stock performance and increased volatility. The present study further investigates if companies doing better on the ESG front did comparatively better during the crisis period. It analyses 200 companies across sectors and contends that companies having improved ESG performance have considerably higher accumulated abnormal returns and drastically reduced idiosyncratic volatility. The results are the same when many different multi-variable standards are used and when different robustness checks are done.

The outcomes have ramifications for the stock market and market players. From the company's standpoint, outlay on CSR is reimbursed substantially in the form of enhanced returns. Consequently, high-quality CSR makes companies extra resilient while market volatility is high, and executives should increase their willingness to create a suitable strategic plan regarding CSR. Again, from the viewpoint of a shareholder or investor, high quality CSR is a crucial component in a company's stock performance, particularly during a crisis. While making investment decisions, social factors are especially crucial in developing countries like India.

6. CONCLUSION

The shocks caused by the three events, that is, GST, Demonetization, and COVID-19, caused a significant drop in stock prices, increased volatility in the Indian stock market, and a great deal of uncertainty in the Indian stock markets. The present study looks at if companies with higher ESG ratings fare any better than average during those uncertain time frames and save investors from such sharp volatility in the Indian stock market when faced with the uncertainty. It endeavors to answer the question if ESG brings resilience to companies during the economic crisis. The study analyzes a sample of 200 companies across the sectors and contends that companies with stronger ESG performance had much larger accumulated abnormal returns and displayed significantly lower idiosyncratic volatility. These findings remain true when a number of robustness checks are applied.

The findings have ramifications for the stock market and its participants. From the standpoint of the company, taking part in social, environmental, and governance activities considerably benefits the company by improving its stock performance. Management should improve their efforts to create a suitable CSR plan since high-quality CSR makes businesses more robust in unstable markets.

From the standpoint of investors, high-quality ESG compliance plays a significant role in a company's stock performance, particularly during times of distress. CSR is an essential consideration when making investment decisions. Therefore, the findings of the study add to the current debate if sustainability empowers companies to confront the financial crisis with resilience.

As with the majority of research, this paper also has some limitations. First, the sample size for the study period is small, which may make it difficult for the findings to apply to a longer time horizon, given that sustainability is a long-term issue. Second, there are no standard rules or procedures that a third party or independent organization must follow when rating companies on ESG parameters. Each organization has its own set of ESG rating formulations. This leaves room for future research to provide additional insights in the future.

Robustness: A number of robustness checks have been carried out to confirm the validity of our findings. First, to see if the major findings hold true if the period of observation is altered, the baseline regression has been run again (as in Albuquerque et al., 2020; Engelhardt et al., 2021) and the results were found to be similar qualitatively as well. Further, the ESG has been narrowed

down to its components to analyse the scores of each component individually, and the results corroborate the outcomes of the study, although, not shown for brevity reasons.

Declaration

Conflicts of Interest and Funding

I, as the author, declare that there are no conflicts of interest surrounding the publication of this paper with anyone. Besides, I have not gotten any type of funding, either monetary or in kind.

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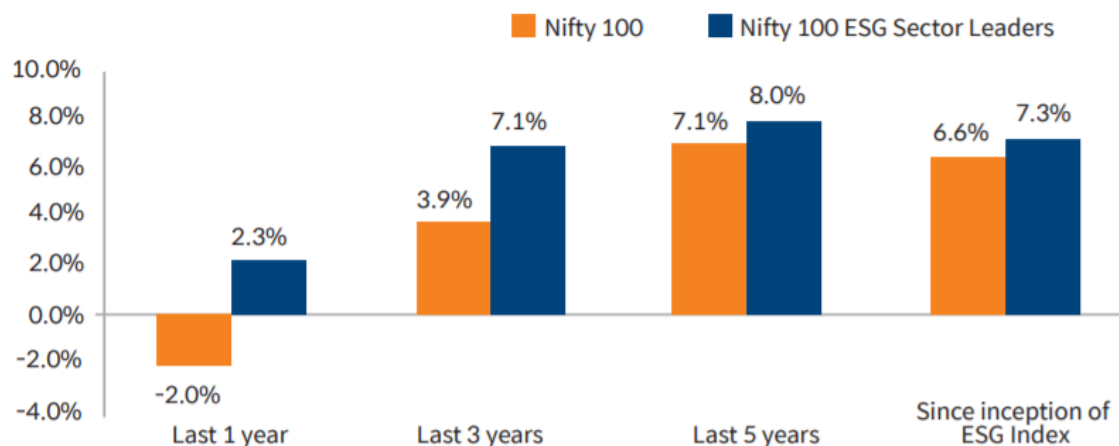
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Annexure

A1: Performance of Nifty 100 and Nifty 100 ESG sectors leaders as on 31st January 2021.



Source: National Stock Exchange of India

Table A2: Variable Descriptions

Variable	Description
Accumulated Raw Returns	The total daily logarithmic stock performance is computed using day's closing prices.
Accumulated Abnormal Returns	A market model's predicted return less the total daily unexplained return
Volatility	Stock movement computed from daily stock price changes.
Idiosyncratic Movement	Stock volatility computed from daily unexplained price movements.
ESG	ESG score of a company.
Price-to-Earnings Ratio	Stock price/EPS
Size	Sales of the companies
ROCE	EBIT/Capital Employed
Profitability	Operating profit
Price-to-Book Ratio	Stock price/Book value per share of a company
Debt-to-Equity	Total Debt/Equity
Historical Fluctuation	Stock movements imputed from daily stock price while collapse periods (GST, Demonetization and Covid-19)
Momentum	Computed from the 4-F model provided by Carhart