# Environment, Social, and Governance Performance and Firm Risk : A Study of the Indian Consumer Goods Sector

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## Abstract

**The objective of the present study was to find the impact of environment, social, and governance (ESG) performance on market measures of risk of Indian consumer goods companies. Mann – Whitney *U* test was used to compare the risk of companies with high ESG scores and low ESG scores. Ordinary least squares regression was used to find the impact of ESG on systematic, unsystematic, and total risk. Mann – Whitney *U* test showed that the firms with high ESG scores had lower total and unsystematic risk. The difference in systematic risk of high ESG and low ESG firms was insignificant. The regression results showed that systematic, unsystematic, and total risk was negatively related to the composite ESG score. Individual environment and the social and governance scores showed a negative association with total and unsystematic risk, but only social performance showed a negative association with systematic risk. In a nutshell, superior ESG performance reduced the risk of Indian consumer goods companies and helped increase shareholders' wealth. Thus, ESG should be considered important by the companies, and they should proactively undertake activities that are responsible to all stakeholders.**

***Keywords :*** **ESG, systematic risk, unsystematic risk, total risk, consumer goods sector**

**JEL Classification Codes : G30, G32, G34**

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The goal of financial managers is to act in the best interests of shareholders by making decisions that increase the market value of equity. While the primary goal of every firm is to maximize the wealth of shareholders, there has been an increased focus on the responsibility of corporations towards society, especially after the financial crises that have hit the world since the year 2000. In India, the Satyam Scam of 2009 gave a push towards promoting corporate citizenship. The Companies Act of 2013 came into existence with an increased focus on corporate governance and responsibility. At the same time, other regulators like the Securities

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and Exchange Board of India (SEBI) and the Institute of Chartered Accountants of India (ICAI) also issued guidelines and rules to support this endeavor.

Gradually, the focus of not just the regulators but of investors and corporations has shifted to socially responsible behavior of firms, including environmental, social, and governance (ESG) concerns. This shift has led to developing financial instruments for investment in companies that perform better on the ESG criteria. Besides, many analysts have started rating the companies based on their ESG performance. The concept of sustainable investing or ESG based investing or socially responsible investing is gaining momentum, where investors look for responsible companies to invest. As per Morningstar, net inflows in US ESG funds were around $21 billion in the first half of 2020, which was the total amount in 2019 (Reynolds, 2020). The concept is relatively new in India. Many ESG funds were launched in the second half of the year 2020. Many new regulations are also made regarding the disclosures about the responsibility parameters (Sultana, 2021). Research in this area is also picking pace (Ahamed, 2014; Viet Ha et al., 2019). The focus of the present paper is to study the performance of Indian companies on ESG parameters and to see the financial impact of their efforts toward ESG concerns. The study seeks to find evidence to support the alignment of social and ethical responsibility fulfillment with shareholders' wealth maximization objective.

While most prior research sees the impact of ESG performance on profitability and market returns (Arora & Bodhanwala, 2018; Shukla & Geetika, 2017; Viet Ha et al., 2019), only a few have been done on risk (Chollet & Sandwidi, 2018; Shakil, 2021). The present study particularly finds the impact of firms' ESG performance on their market risk. Now, risk can be seen and measured in different ways depending on the user's requirement. While deciding on investing in a project, the project-specific risk has to be assessed. Similarly, accountants might measure risk using firm-level data like financial ratios such as leverage or liquidity. Likewise, present and prospective shareholders study movement in market prices to measure risk. The capital asset pricing model (CAPM) is a widely followed theory explaining asset prices and risk-return relationships in financial markets. This model categorizes the risk into systematic (non-diversifiable) and unsystematic (non-diversifiable). Systematic risk is the risk from common factors that affect all firms beyond the control of any specific firm because these factors are external to any organization. It can arise from fiscal and monetary policies, exchange rate changes, political instability, etc.

On the other hand, unsystematic risk is the risk caused by factors specific to each organization, such as operating factors, financial factors, and managerial capability. CAPM says that unsystematic risk can be diversified by creating a portfolio, and investors should focus on only systematic risk, which is measured by beta. Most financial websites give a beta value for each security. CAPM is based on certain assumptions like perfect capital markets, which are not true in real life. Further, investors are not always fully diversified. So, besides the systematic risk, the present study also includes unsystematic and total risk.

In the present environment, not just the investors but the consumers are becoming more aware of the types of products that they purchase and the sustainability practices followed by the companies that make those products. As a result, the consumer goods companies are putting in extra efforts towards sustainable practices and to lure consumers. The present study is based specifically on consumer goods companies. Thus, the present study aims to find the impact of ESG performance on market measures of risk of consumer goods companies. Also, a comparison has been drawn concerning risk between companies with high ESG and low ESG scores.

## Background and Review of Literature

Corporate social responsibility (CSR) has been discussed since the 1950s, but it has gained popularity with Carroll's model proposed in 1991. The model showed a pyramid to explain the four levels of responsibility of corporations, that is, economic, legal, ethical, and philanthropic. Companies are expected to earn profits, run their

businesses lawfully, be fair with all the stakeholders, and give back to the community (Thacker, 2019). Gradually, society, as well as the customers, realized that corporations have to work responsibly, and the companies also realized the benefits of acting responsibly. Past research has shown how CSR helps organizations. Pollach (2015) conducted interviews of personnel involved in CSR management of organizations and inferred that the organizations could achieve differentiation through their CSR activities, which can give them a competitive advantage. Shen and Chang (2009) discussed CSR's positive and negative impacts on firms. They tested the social impact hypothesis, which says that CSR improves firms' financial performance too, as well as the shift of focus hypothesis, which states that focus on CSR leads to ignorance of shareholders' wealth maximization. They also showed that CSR improves firms' profits. Shukla and Geetika (2017) and Maqbool and Zameer (2018) both examined the relationship between CSR and the financial performance of Indian banks. However, they used different measures over different periods. Both the studies showed a positive influence of CSR on banks' performance. Charumathi and Ramesh (2017) showed that improved environmental and social disclosures increased the market valuation of Indian companies. CSR activities create competitiveness for firms by improving workers' conditions and morale, cooperating with different stakeholders, building customer relationships, reducing risk, and working on new business opportunities. All of this improves a firm's reputation and hence its financial performance as well (Bird et al., 2007). Further, there are notable improvements in brand image, purchase intention, and loyalty of customers toward firms that fulfill their social responsibility (Dokania & Pathak, 2015; Manimalar & Sudha, 2016; Singh & Verma, 2017).

Milton Friedman, however, argued that businesses' sole purpose should be profit-making while working within the boundaries of law and ethics (Friedman, 1970). Some studies supported this argument. Like, Brammer et al. (2006) showed a negative relationship between CSR and firm performance. Similarly, Chon and Kim (2011) showed a negative relation between CSR and the market valuation of firms. The idea behind this is that the cost of CSR activities is a wasteful expenditure, and the money should be put to better use for shareholders' benefits. This expenditure causes financial distress to firms (Kang & Kim, 2010). CSR could also be used to cover up irresponsible actions of management (Hemingway & Maclagan, 2004). At the same time, some researchers failed to find any significant impact of CSR on firm performance (McWilliams & Siegel, 2000; Nelling & Webb, 2009).

At the same time, when Carroll's model started gaining popularity in the 1990s, corporate governance rules were getting framed in India. Multiple reforms were being taken to improve in working of stock markets and corporations. With the Confederation of Indian Industry (CII) and SEBI taking the lead, in 2005, Clause 49 of the listing agreement came into effect to improve corporate governance. Then, a major reform happened through the Companies Act 2013, which replaced the existing Companies Act of 1956. With many stock market scams and frauds uncovered, the new act focused on improving corporate governance principles (Deloitte, n.d.). Many studies have analyzed the impact of corporate governance practices on the performance of firms. Good governance has proved to benefit firms as it improves performance, reduces risk, attracts more investors, and increases the market valuation of firms (Arora & Bodhanwala, 2018; Cheung et al., 2010; Monda & Giorgino, 2013; Venkatraman & Selvam, 2014). Improved disclosures of corporate governance also reduced the cost of equity (Botosan, 2006; Li & Yang, 2012).

Most prior studies have focused on individual aspects of the environment, and social and governance-related responsibilities of companies. Studying the three variables together is a relatively new area in this field. Kim and Kim (2014) used MSCI ESG ratings and analyzed their relationship with the value of the firm and systematic risk. They found that better ESG performance improves firm performance and reduces risk. Shakil (2021) also showed that good ESG performance reduced the total risk for investors. Park et al. (2017), however, couldn't find any significant relationship between ESG and risk. Kuo et al. (2021) showed that the initial implementation of ESG practices in airline companies reduced their return on assets, but gradually, the returns improved.

An exhaustive review of the literature shows that most studies have focused on profitability and market returns

for investors as measures of firm performance (Arora & Bodhanwala, 2018; Balasubramanian et al., 2010). The few studies that focus on risk are in international markets (Chollet & Sandwidi, 2018; Shakil, 2021). Further, ESG is a relatively new concept. Most Indian researchers have individually studied either CSR or corporate governance aspects (Kaur & Vij, 2018; Shukla & Geetika, 2017). The present study focuses on risk and analyzes the relationship between ESG performance and the risk of Indian consumer goods companies. As per the best of our knowledge, this is the first study in the Indian consumer goods sector, which seeks to find the association between ESG performance and risk.

## Research Methodology

The present section sets forth the research model, variables, empirical models, and data source used for the research.

### *Hypotheses Formulation*

The objective of the present study is to find the impact of ESG performance on market measures of risk of consumer goods companies. To achieve this objective, the following hypotheses are formulated :

- **$H_{01}$ :** Environment performance does not have any significant impact on risk.
- **$H_{a1}$ :** Environment performance significantly impacts risk.
- **$H_{02}$ :** Social performance does not have any significant impact on risk.
- **$H_{a2}$ :** Social performance significantly impacts risk.
- **$H_{03}$ :** Governance performance does not have any significant impact on risk.
- **$H_{a3}$ :** Governance performance significantly impacts risk.
- **$H_{04}$ :** Composite ESG performance does not have any significant impact on risk.
- **$H_{a4}$ :** Composite ESG performance significantly impacts risk.

Also, a comparison will be drawn about risk between companies with high ESG and low ESG scores. For this purpose, the following hypothesis is to be tested :

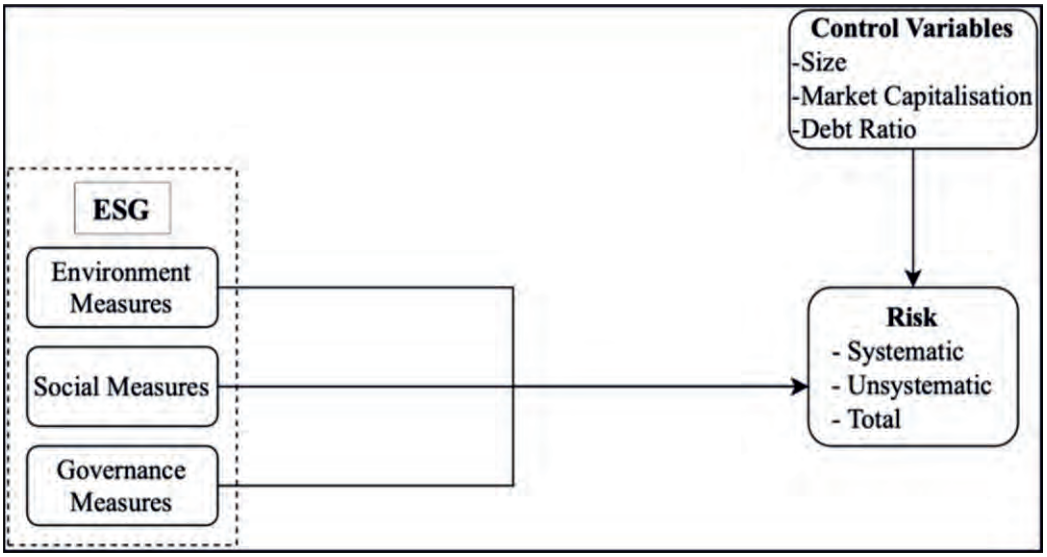
- **$H_{05}$ :** There is no statistically significant difference between the median risk of low and high ESG firms.
- **$H_{a5}$ :** There is a statistically significant difference between the median risk of low and high ESG firms.

In all the hypotheses, risk includes systematic, unsystematic, and total risk.

### *Research Model*

The research model for the present study is exhibited in Figure 1. As can be seen, the effect of environment, social, and governance measures (individual and composite) on risk measures with three control variables has been proposed.

**Figure 1.** ***Research Model***




### *Research Approach*

The present study objectively defines the hypotheses and uses empirical research methods based on numerical data collected from secondary sources. Hence, it can be categorized as quantitative research. Further, the study uses a cross-sectional design of research. This design is suitable when the data were collected and analyzed for more than one case at a single point in time. In the present research, data for the sample companies were collected for only 1 year.

### *Description of Variables*

This section discusses the variables and their calculation. The variables that are used in the present study are categorized into dependent, independent, and control variables.

### *Dependent Variables*

Systematic risk, unsystematic risk, and total risk are the three dependent variables in this study, which are specified by the capital asset pricing model (CAPM). This is a model that explains the relationship between risk and expected returns and categorizes the risk into systematic and unsystematic risk. Systematic risk is calculated using Sharpe's (1963) single index model, which is as follows :

$$R_s = \alpha_s + \beta_s R_M + e_s \qquad (1)$$

where, $R_s$ is the daily percentage returns for each security, $\beta_s$ is the measure of systematic risk, calculated as the slope by regressing the security returns on market returns, $R_M$ is the daily percentage return on the market portfolio, $\alpha_s$ is the intercept term, and $e_s$ is the error term. Nifty 500 is used as the proxy for the market portfolio. By taking the variance of equation (1), the total risk and its components can be segregated (Levy & Sarnat, 1984).

$$\sigma_s^2 = \beta_s^2 \sigma_M^2 + \sigma_e^2 \qquad (2)$$

Here, $\sigma_s^2$ represents the variance of daily stock returns over 1 year period, from April 1, 2019 to March 31, 2020. $\beta_s^2\sigma_i^2$ is the total systematic risk, where $\beta_s$ is calculated from equation (1), and $\sigma_M^2$ is the variance of daily returns of the Nifty 500 index. $\sigma_e^2$ is the unsystematic risk portion.To sum up, $\beta_s$ is the measure of systematic risk, calculated using equation (1),$\sigma_s^2$ is the total risk calculated by finding the variance of daily returns of stocks over 1 year period, and $\sigma_e^2$ is the unsystematic risk calculated using equation (3).

$$\sigma_e^2 = \sigma_s^2 - \beta_s \sigma_M^2 \qquad (3)$$

where, $\sigma_e^2$ is the unsystematic risk, $\sigma_s^2$ is the total risk, and $\beta_s^2\sigma_M^2$ is the total systematic risk

### *Independent Variables*

ESG performance of firms is the main independent variable in the present study. The environment measure focuses on the efforts of the companies to reduce their carbon footprint and to take measures for environmental sustainability. The social measure focuses on the firms' efforts towards philanthropic and other activities that support human rights and diversity and benefit society at large. The governance measure deals with how the firms are managed and whether shareholders' rights and best interests are given due consideration. To incorporate these three criteria for corporate citizenship, an ESG index is developed based on the methodology followed by Goel (2018). Most recent studies use ESG scores or ratings provided by financial databases like Reuters, MSCI, and Bloomberg. In the Indian scenario, such data is very limited to the top companies only. The sample in the present study includes listed consumer goods companies of all sizes. So, the present study uses an adapted methodology of the ESG index from Goel (2018). The measures used by Goel (2018) are re-classified into the present study's environment, social, and governance measures. Two measures were excluded as their data were unavailable, especially for smaller firms. Table 1 depicts the measures used for each of the three criteria. The mandatory requirements or the norms followed in the industry are given for each measure. Accordingly, the scoring criteria are formed. The total of scores for each measure under each head gives the respective score for environment *(Env)*, social *(Soc)*, and governance *(Gov)* performance. The sum of the scores of each of the three criteria makes the composite ESG score.

**Table 1. *ESG Index***

| Measure | | Norm | Scoring Criteria |
|---|---|---|---|
| | | ***Environment Measures*** | |
| A | Publishing Sustainability/Business Responsibility Report *(BRR)* | BRR for top 1,000 companies as per market capitalization | 3 - sustainability report<br>2 - BRR<br>1 - Annual report |
| B | Number of environmental initiatives undertaken | Voluntary | 3 – > 5<br>2 – 3 to 5<br>1 – < 3 |
| C | Number of ISO certifications | Voluntary | 3 – > 5<br>2 – 3 to 5<br>1 – < 3 |

| | | | |
|---|---|---|---|
| D | Number of awards and recognitions | Voluntary | 3 – > 5<br>2 – 3 to 5<br>1 – < 3 |
| E | Environment Score *(Env)* | *A + B + C + D* | |
| | | ***Social Measures*** | |
| F | CSR expenditure as a percentage of average net profit of past 3 years | 2% | 3 – > 2%<br>2 – 1 – 2%<br>1 – < 2% |
| G | Number of social initiatives undertaken | Voluntary | 3 – > 5<br>2 – 3 to 5<br>1 – < 3 |
| H | *Social Score (Soc)* | *F + G* | |
| | | ***Governance Measures*** | |
| I | Number of meetings of Board of Directors (BoD) in a year | Minimum 4 | 3 – > 6<br>2 – 4 – 6<br>1 – < 4 |
| J | Percentage of independent directors on the board | 50% | 3 – > 2/3<br>2 – 2/3 to ½<br>1 – < 1/2 |
| K | Number of committees of BoD | Minimum 3 | 3 – > 5<br>2-3 – 5<br>1 – < 3 |
| L | Number of committees headed by independent directors | Minimum 2 | 3 – > 5<br>2-3 – 5<br>1 – < 3 |
| M | A separate meeting of independent directors | Minimum 1 | 2 – > 1<br>1 – 1<br>0 – 0 |
| N | Number of women directors on BoD | Minimum 1 | 2 – > 1<br>1 – 1<br>0 – 0 |
| O | Code of conduct/ ethics | Code of conduct for directors and senior management | 3 - Code of conduct formed for all employees<br>2 - Code of conduct formed for all levels of management<br>1 - Code of conduct for only directors and senior management |
| P | Whistleblower policy | Mandatory | 1 - If the policy is available<br>0 - If the policy is not available |
| Q | *Governance Score (Gov)* | *I + J + K + L + M + N + O + P* | |
| **Composite ESG Score *(ESG)*** | | ***E + H + Q*** | |

Source : Adapted from Goel (2018).

### *Control Variables*

Previous studies have shown that firm size often plays a role in determining the risk of firms (Breen & Lerner, 1973; Liu & Lin, 2015). The present study uses a natural log of total assets *(TA)* (Shakil, 2021) and a natural log of net sales *(Sales)* (Goel, 2018) to incorporate firm size in the analysis. Log of market capitalization *(MktCap)* is another variable used as a control variable to consider a firm's market position (Sharma et al., 2019). Leverage position has also been seen to affect the risk of firms. So, debt ratio *(Debt ratio)*, measured as the ratio of long-term debt to total assets, is used as another control variable (Park et al., 2017).

### *Data and Sample Selection*

All the consumer goods companies listed on the National Stock Exchange of India (NSE) form the sample for the current study. Some companies are excluded for lack of data availability. The final sample consists of 121 companies. Data for the financial year 2019 – 20 were collected and analyzed. The share prices of each company were retrieved from the NSE website. The financial data were extracted from the CMIE (Centre for Monitoring Indian Economy) Prowess database. The data relating to ESG were extracted from the annual reports, sustainability reports, business responsibility reports, and company websites.

### *Segregating High and Low ESG Firms*

To compare the risk among high and low ESG firms, a total of 121 companies are divided into two groups, high ESG firms and low ESG firms. The composite ESG score is used for this segregation. Following the methodology of Goel (2017), the median composite ESG score is found. This median score was the same for seven companies, which were all included in the high ESG group. Thus, the low ESG group comprised of 55 companies, and the high ESG group comprised of 66 companies.

### *Techniques Used*

SPSS 26.0 is the software used for data analysis in the present study. Current research has used the ordinary least square regression to explore the impact of environment, social, and governance measures on risk. Diagnostic tests have also been performed to select the appropriate model for regression analysis and to examine if the assumptions of multiple regression are met by these models. The study has attempted to present a more exhaustive picture by analyzing the individual impact of environment, social, and governance measures, and the composite impact of ESG on systematic, unsystematic, and total risk. Additionally, a comparison has been drawn wherein low and high ESG score firms are compared based on risk using the Mann – Whitney *U* test, a non-parametric test. Since the study has the objective to explore the individual and composite effects of ESG on risk ; thus, two separate regression models have been used, as shown below:

*For Individual Impact:*

### *Model 1, Model 2, and Model 3*

$$Risk = \alpha + \beta_1(Env) + \beta_2(Soc) + \beta_3(Gov) + \beta_4(TA) + \beta_5(Sales) + \beta_6(MktCap) + \beta_7(Debt\ Ratio) + \varepsilon \quad (4)$$

*For Overall Impact:*

***Model 4, Model 5, and Model 6***

$$Risk = \alpha + \beta_1(ESG) + \beta_2(TA) + \beta_3(Sales) + \beta_4(MktCap) + \beta_5(Debt\ Ratio) + \varepsilon \quad (5)$$

where, risk is proxied by systematic, unsystematic, and total risk. The independent and control variables included have been discussed in the variables section above. $\alpha$ is the constant, and $\beta_1$, $\beta_2$,…… $\beta_7$ are the regression coefficients to be estimated.

## Analysis and Results

### *Descriptive Statistics*

Descriptive statistics for the variables used in this study are illustrated in Table 2. The average of total risk (measured by variance) and unsystematic risk is 0.1%. The average systematic risk (measured by beta) is 0.8%. This shows that consumer goods companies are less volatile than the market, in other words, this sector is relatively more stable. The mean value of the total ESG score is 25.116, with 17 being the minimum score and 34 being the maximum score. The average debt ratio of 0.445 shows that consumer goods companies use 44.5% debt on average in their capital structure. While some companies have no debt, the highest range for debt is around 444.8%.

### *Mann – Whitney U Test*

To compare the difference in the systematic, unsystematic, and total risk between low and high ESG score companies, the study has used the Mann – Whitney *U* test. This test is named after Mann and Whitney in 1947. The test is a non-parametric test for comparing the differences between two independent groups and can be used instead of an unpaired *t*-test. Also, it compares the number of times a score from one sample is ranked higher than a

**Table 2. *Descriptive Statistics***

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| *SysRisk* | 121 | 0.801 | 0.301 | 0.028 | 1.486 |
| *UnsysRisk* | 121 | 0.001 | 0.001 | 0 | 0.003 |
| *TotalRisk* | 121 | 0.001 | 0.001 | 0 | 0.003 |
| *Env* | 121 | 7.521 | 2.416 | 3 | 12 |
| *Soc* | 121 | 4.347 | 1.407 | 2 | 6 |
| *Gov* | 121 | 13.248 | 1.529 | 10 | 17 |
| *ESG* | 121 | 25.116 | 4.334 | 17 | 34 |
| *Total assets* | 121 | 9.34 | 1.728 | 4.608 | 13.561 |
| *Sales* | 121 | 9.213 | 1.886 | 3.632 | 14.486 |
| *MktCap* | 121 | 8.652 | 2.746 | 3.084 | 15.42 |
| *Debt ratio* | 121 | 0.445 | 0.52 | 0 | 4.448 |

**Table 3. *Mann – Whitney U Test Results***

| Variable | ESG Score | Observation | Median Rank | Sum Rank |
|---|---|---|---|---|
| SysRisk | Low | 55 | 52.04 | 2862 |
| | High | 66 | 68.47 | 4519 |
| Mann–Whitney *U* | | | 1322 | |
| *Z*-value | | | –2.566 | |
| *UnsysRisk* | Low | 55 | 84.98 | 4674 |
| | High | 66 | 41.02 | 2707 |
| Mann–Whitney *U* | | | 496* | |
| *Z* - value | | | –6.866 | |
| Total Risk | Low | 55 | 82.71 | 4549 |
| | High | 66 | 42.91 | 2832 |
| Mann–Whitney *U* | | | 621* | |
| *Z* - value | | | –6.215 | |

***Note.*** * $p < 0.05$.

score of another sample. This test does not require the data to be normally distributed. For analysis, the study has compared the risk for companies with low and high ESG scores. Shapiro – Wilk test was applied to check the data for normality. The data were found to be not normal as the statistics were found to be significant at a 5% significance level, and hence, the Mann – Whitney *U* test is applied to compare the risk in high ESG firms and low ESG firms.

Table 3 displays the results for the dependent variable risk for two independent samples (low and high ESG firms). This technique is used to test the fifth hypothesis that there is no statistically significant difference between the median risk of low and high ESG firms. The alternative hypothesis is that there is a statistically significant difference between the median risk of low and high ESG firms. The results of the test outline that the overall *z*-value (–6.866 and –6.215) for total and unsystematic risk is significant at a 1% significance level. Therefore, the study rejects the null hypothesis and concludes that a statistically significant difference exists between the median total and unsystematic risk of low and high ESG firms. However, the findings for systematic risk fail to reject the null hypothesis, and the conclusion of no statistically significant difference between the median systematic risk of low and high ESG firms can be drawn. The median rank is high for low ESG firms, for both total and unsystematic risks. This means that firms with high ESG scores have lower total and unsystematic risk. Thus, it is beneficial for firms to improve their ESG performance.

### *Regression Results*

To examine the impact of ESG on measures of risk for consumer goods companies, the present study has implemented two different regression models. The first model explores the impact of individual measures of ESG on systematic, unsystematic, and total risk. The second model examines the impact of composite ESG scores on systematic, unsystematic, and total risk. Before performing regression, variance inflation factor (VIF) scores have been calculated for each independent variable to check for the problem of multicollinearity. The VIF score for all the independent variables is less than the threshold of 10, as advised by O'brien (2007), hence, implying the absence of multicollinearity.

**Table 4.** ***Regression Results with Individual Environment and Social and Governance Scores***

| Independent Variables | Model 1 : *SysRisk* | | Model 2 : *UnsysRisk* | | Model 3 : *TotalRisk* | |
|---|---|---|---|---|---|---|
| | Coefficient (*t* - value) | Standard Error | Coefficient (*t* - value) | Standard Error | Coefficient (*t* - value) | Standard Error |
| Constant | 0.346 (1.19) | 0.292 | 0.003 (8.45) *** | 0.000 | 0.003 (7.80) *** | 0.000 |
| *Env* | 0.004 (0.26) | 0.016 | 0.000 (–3.86) *** | 0.000 | 0.000 (–3.55) *** | 0.000 |
| *Soc* | –0.044 (–1.72) * | 0.025 | 0.000 (–3.28) *** | 0.000 | 0.000 (–2.58) ** | 0.000 |
| *Gov* | 0.005 (0.27) | 0.020 | 0.000 (–2.77) *** | 0.000 | 0.000 (–2.42) ** | 0.000 |
| *Total assets* | 0.002 (0.04) | 0.045 | 0.000 (–0.12) | 0.000 | 0.000 (–0.21) | 0.000 |
| *Sales* | 0.042 (1.03) | 0.040 | 0.000 (–0.02) | 0.000 | 0.000 (0.41) | 0.000 |
| *MktCap* | –0.022 (–1.01) | 0.022 | 0.000 (–0.79) | 0.000 | 0.000 (–1.03) | 0.000 |
| *Debt ratio* | –0.103 (–1.13) | 0.091 | 0.000 (–0.11) | 0.000 | –0.000 (–0.44) | 0.000 |
| *F*-statistics | 1.97, Prob > *F* = 0.065 | | 19.308, Prob > *F* = 0.000 | | 14.231, Prob > *F* = 0.000 | |
| $R^2$ | 0.110 | | 0.547 | | 0.471 | |

***Note.****** $p < 0.01$, ** $p < 0.05$, * $p < 0$.

**Table 5.** ***Regression Results with Composite ESG Index***

| Independent Variables | Model 4 : *SysRisk* | | Model 5 : *UnsysRisk* | | Model 6 : *TotalRisk* | |
|---|---|---|---|---|---|---|
| | Coefficient (*t* - value) | Standard Error | Coefficient (*t* - value) | Standard Error | Coefficient (*t* - value) | Standard Error |
| Constant | 0.258 (1.13) | 0.228 | 0.003 (11.29) *** | 0.000 | 0.000 (10.40) *** | 0.000 |
| *ESG* | –0.015 (–2.16) ** | 0.007 | 0.000 (–9.46) *** | 0.000 | 0.000 (–8.20) *** | 0.000 |
| *Total assets* | 0.004 (0.08) | 0.044 | 0.000 (–0.11) | 0.000 | 0.000 (–0.18) | 0.000 |
| *Sales* | 0.043 (1.10) | 0.039 | 0.000 (–0.11) | 0.000 | 0.000 (0.33) | 0.000 |
| *MktCap* | –0.025 (–1.07) | 0.021 | 0.001 (–0.71) | 0.000 | 0.000 (–1.01) | 0.000 |
| *Debt ratio* | –0.116 (–1.30) | 0.090 | 0.000 (0.01) | 0.000 | 0.000 (–0.38) | 0.000 |
| *F* - statistics | 2.493, Prob > *F* = 0.035 | | 27.204, Prob > *F* = 0.000 | | 20.166, Prob > *F* = 0.000 | |
| $R^2$ | 0.099 | | 0.544 | | 0.469 | |

***Note.****** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Models 1, 2, and 3 determine the relationship between individual environment and social and governance performance scores. The results of these models are elaborated in Table 4. The results are in line with the expectations and confirm the results of the Mann – Whitney *U* test as well. Total risk and unsystematic risk show a significant negative association with Env, Soc, and Gov. However, systematic risk shows a significant negative relationship with only Soc, that too at a 10% significance level. Env and Gov are insignificant in explaining systematic risk. This means that the hypotheses $H_{01}$, $H_{02}$, and $H_{03}$ are rejected for unsystematic and total risk, while only $H_{02}$is rejected for systematic risk of consumer goods companies.

Nonetheless, it can be deduced that when the firms work responsibly, it has a positive impact on their image, thus increasing the investors' confidence and reducing the risk. This result is supported by most previous studies, such as Chollet and Sandwidi (2018) and Shakil (2021). However, socially responsible behavior is not

instrumental in reducing their systematic risk. None of the control variables show significant association with the different risk measures.

Models 4, 5, and 6 determine the relationship between composite ESG measures and systematic, unsystematic, and total risk, respectively. The results of these models are given in Table 5. Hypothesis $H_{04}$ is rejected for all the measures of risk. The results are in line with the theory. All the measures of risk show a significant negative association with ESG. When firms work responsibly, it improves their public image, attracts new customers, retains existing customers, and helps them get the government's support. All this increases the investors' confidence, reduces the risk, and increases their wealth. This result is supported by most previous studies, such as Kim and Kim (2014) and Shakil (2021). However, none of the control variables show significant association with the different measures of risk.

## Conclusion and Implications

There has been a debate for a long time about firms being socially responsible. Some support that corporations should act responsibly, which helps improve their public image and customer loyalty (Luo & Bhattacharya, 2006). Some studies suggested that spending on ESG is wasteful, and the resources should be used for shareholders' wealth maximization instead (Luo & Bhattacharya, 2009). The present study attempts to contribute to this debate by analyzing the ESG performance of the Indian consumer goods sector and finding its impact on market measures of risk. Risk measures are compared for high ESG and low ESG firms. Mann – Whitney *U* test reveals that firms with high ESG scores have lower total and unsystematic risk. The difference between systematic risk for high ESG and low ESG firms is insignificant.

The regression results show that good environmental, social, and governance performance and the composite ESG performance significantly reduce the total risk and unsystematic risk of Indian consumer goods companies. Environment and governance performance individually show no significant association with systematic risk. Individual social performance and composite ESG performance show a significant negative association with systematic risk. In a nutshell, superior ESG performance reduces the risk of Indian consumer goods companies and helps increase shareholders' wealth. Thus, ESG should be considered important by the companies, and they should proactively undertake activities that are responsible to all stakeholders. This will give them a competitive advantage over their rivals. Firms should not consider spending on ESG parameters an unnecessary or discretionary burden. Instead, it should strategically be included in the long-term plans of the business to gain maximum advantage. Besides the financial advantage, the socially responsible image of companies keeps the employees motivated and committed to the firm. The local government also tends to be more supportive of such businesses. Some consumer goods firms are criticized for their products that are harmful to consumers, like tobacco. Further, firms like junk and packaged food companies are also often criticized for promoting unhealthy food practices to consumers leading to mass problems like obesity (Grier & Kumanyika, 2008). Such firms should especially invest in ESG parameters as a risk management strategy. Activities toward ESG concerns should be well-coordinated with the firm's R&D efforts and marketing efforts. For example, with the R&D efforts of a firm, if a new sustainable packaging is developed and used for products, this should be communicated to not only the customers through marketing but also all other stakeholders through the sustainability reports and annual reports (Kim & Kim, 2014).

## Limitations of the Study and Scope for Future Research

The present study is limited to the consumer goods sector of the Indian economy. Future studies can include other sectors in their sample or can consider all the sectors together. Different types of companies can also be compared,

like manufacturing companies with service-based firms. A similar exercise can be extended to unlisted firms as well. Though data were collected thoroughly through annual reports, sustainability reports, and companies' websites, the ESG scale has an inherent subjectivity, which is a limitation. In the future, when the professional databases will extensively cover most of the companies for their ESG ratings, then they can be used.

## Authors' Contribution

Khushboo Gupta conceived the idea for this research paper and did the literature review. After discussing the variables and the data to be collected with the other authors, she collected all the data. Dr. T.V Raman shaped the problem statement and supervised the whole study. Dr. Kanishka Gupta performed the statistical analysis of the data collected and tabulated all the results. Dr. O.S. Deol contributed to interpreting and describing the results. Khushboo Gupta wrote the manuscript in consultation with other authors.

## Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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## References

Ahamed, N. (2014). Multiple directorship & interlock: an empirical study of its impact on firms' financial performance. *Indian Journal of Finance, 8*(10), 48 – 61.https://doi.org/10.17010/ijf/2014/v8i10/71848

Arora, A., & Bodhanwala, S. (2018). Relationship between corporate governance index and firm performance: Indian evidence. *Global Business Review*, *19*(3), 675 – 689. https://doi.org/10.1177/0972150917713812

Balasubramanian, N., Black, B. S., & Khanna, V. (2010). The relation between firm-level corporate governance and market value: A case study of India. *Emerging Markets Review*, *11*(4), 319–340. https://doi.org/10.1016/j.ememar.2010.05.001

Bird, R., Hall, A. D., Momentè, F., & Reggiani, F. (2007). What corporate social responsibility activities are valued by the market? *Journal of Business Ethics, 76*, 189 – 206.https://doi.org/10.1007/s10551-006-9268-1

Botosan, C. A. (2006). Disclosure and the cost of capital: What do we know? *Accounting and Business Research, 36*(Sup1), 31 – 40. https://doi.org/10.1080/00014788.2006.9730042

Brammer, S., Brooks, C., & Pavelin, S. (2006). Corporate social performance and stock returns: UK evidence from disaggregate measures. *Financial Management, 35*(3), 97–116. https://doi.org/10.1111/j.1755-053X.2006.tb00149.x

Breen, W. J., & Lerner, E. M. (1973). Corporate financial strategies and market measures of risk and return. *The Journal of Finance, 28*(2), 339 – 351. https://doi.org/10.2307/2978306

Charumathi, B., & Ramesh, L. (2017). Do social and environmental disclosures increase firm value? Evidence from Indian companies. *Indian Journal of Finance, 11*(4), 23 – 38. https://doi.org/10.17010/ijf/2017/v11i4/112628

Cheung, Y.-L., Stouraitis, A., & Tan, W. (2010). Does the quality of corporate governance affect firm valuation and risk? Evidence from a corporate governance scorecard in Hong Kong. *International Review of Finance, 10*(4),403 – 432. https://doi.org/10.1111/j.1468-2443.2010.01106.x

Chollet, P., & Sandwidi, B. W. (2018). CSR engagement and financial risk: A virtuous circle? International evidence. *Global Finance Journal*, *38*, 65 – 81. https://doi.org/10.1016/j.gfj.2018.03.004

Chon, M. L., & Kim, C.S. (2011). The effect of sustaining corporate social responsibility on relationship between CSR and financial performance. *Korea Account. Inf. Res. Korea Account. Inf. Assoc.*, *29*, 351–374.

Deloitte. (n.d.). *Governance 101 - All you need to know on corporate governance practices in India.* https://www2.deloitte.com/in/en/pages/risk/articles/governance-101.html

Dokania, A. K., & Pathak, G. S. (2015). Adopting the CSR route for corporate image building: A case study on the Indian steel industry. *Prabandhan: Indian Journal of Management*, *7*(7), 19–30.https://doi.org/10.17010/pijom/2014/v7i7/59338

Friedman, M. (1970, September 13). A Friedman doctrine – The social responsibility of business is to increase its profits.*The New York Times*. https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html

Goel, P. (2017). Antecedents of non-financial parameters of corporate performance on financial performance. *Available at SSRN*. http://dx.doi.org/10.2139/ssrn.2993002

Goel, P. (2018). Implications of corporate governance on financial performance: An analytical review of governance and social reporting reforms in India. *Asian Journal of Sustainability and Social Responsibility*, *3*, Article 4. https://doi.org/10.1186/s41180-018-0020-4

Grier, S. A., & Kumanyika, S.K. (2008). The context for choice: Health implications of targeted food and beverage marketing to African Americans. *American Journal of Public Health, 98*(9), 1616 – 1629.https://doi.org/10.2105/AJPH.2007.115626

Hemingway, C. A., & Maclagan, P. W. (2004). Managers' personal values as drivers of corporate social responsibility. *Journal of Business Ethics, 50*, 33–44. https://doi.org/10.1023/B:BUSI.0000020964.80208.c9

Kang, J. H., & Kim, D. H. (2010). The study on the relations between corporate social responsibility and financial performance. *Journal of Korea Academia - Industrial Cooperation Society*, *11*(2), 681–688.

Kaur, M., & Vij, M. (2018). Corporate governance index and firm performance: Empirical evidence from Indian banking. *Afro-Asian Journal of Finance and Accounting*, *8*(2), 190–207. https://doi.org/10.1504/AAJFA.2018.091065

Kim, M., & Kim, Y. (2014). Corporate social responsibility and shareholder value of restaurant firms. *International Journal of Hospitality Management*, *40*, 120 – 129. https://doi.org/10.1016/j.ijhm.2014.03.006

Kuo, T.-C., Chen, H.-M., & Meng, H.-M. (2021). Do corporate social responsibility practices improve financial performance? A case study of airline companies. *Journal of Cleaner Production*, *310,* Article127380. https://doi.org/10.1016/j.jclepro.2021.127380

Levy, H., & Sarnat, M. (1984). *Portfolio and investment selection: Theory and practice*. Prentice Hall.

Li, Y., & Yang, H. I.-H (2012). *Disclosure and cost of equity capital: An analysis at the market level.* Research Collection School of Accountancy. https://ink.library.smu.edu.sg/soa_research/1162

Liu, D.-Y., & Lin, C.-H. (2015). Does financial crisis matter? Systematic risk in the Casino industry. *The Journal of Global Business Management*, *11*(1), 147–155.

Luo, X., & Bhattacharya, C. B. (2006). Corporate social responsibility, customer satisfaction, and market value. *Journal of Marketing, 70*(4), 1–18. https://doi.org/10.1509/jmkg.70.4.001

Luo, X., & Bhattacharya, C. B. (2009). The debate over doing good: Corporate social performance, strategic marketing levers, and firm-idiosyncratic risk. *Journal of Marketing, 73*(6), 198–213. https://doi.org/10.1509/jmkg.73.6.198

Manimalar, R., & Sudha, S. (2016). Corporate ethical and legal responsibility: Effects of CSR on consumer trust and brand loyalty. *Prabandhan: Indian Journal of Management, 9*(6), 7–19. https://doi.org/10.17010/pijom/2016/v9i6/94957

Mann, H. B., & Whitney, D. R. (1947). On a test of whether one of two random variables is stochastically larger than the other. *The Annals of Mathematical Statistics*, *18*(1), 50 – 60. http://www.jstor.org/stable/2236101

Maqbool, S., & Zameer, M. N. (2018). Corporate social responsibility and financial performance: An empirical analysis of Indian banks. *Future Business Journal*, *4*(1), 84–93. https://doi.org/10.1016/j.fbj.2017.12.002

McWilliams, A., & Siegel, D. (2000). Corporate social responsibility and financial performance: Correlation or misspecification? *Strategic Management Journal*, *21*(5), 603–609. https://doi.org/10.1002/(SICI)1097-0266(200005)21:5<603::AID-SMJ101>3.0.CO;2-3

Monda, B., & Giorgino, M. (2013). Corporate governance and shareholder value in listed firms: An empirical analysis in five countries (France, Italy, Japan, UK, USA). *Corporate Ownership & Control, 10*(3), 36 – 50. https://doi.org/10.22495/cocv10i3siart3

Nelling, E., & Webb, E. (2009). Corporate social responsibility and financial performance: The "virtuous circle" revisited. *Review of Quantitative Finance and Accounting, 32,* 197–209. https://doi.org/10.1007/s11156-008-0090-y

O'brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity*, *41*, 673 – 690. https://doi.org/10.1007/s11135-006-9018-6

Park, S., Song, S., & Lee, S. (2017). Corporate social responsibility and systematic risk of restaurant firms: The moderating role of geographical diversification. *Tourism Management*, *59*, 610–620. https://doi.org/10.1016/j.tourman.2016.09.016

Pollach, I. (2015). Strategic corporate social responsibility: The struggle for legitimacy and reputation. *International Journal of Business Governance and Ethics*, *10*(1), 57– 75.https://doi.org/10.1504/IJBGE.2015.068685

Reynolds, F. (2020, September 3). *COVID-19 accelerates ESG trends, global investors confirm. Principles for responsible investment*. https://www.unpri.org/pri-blog/covid-19-accelerates-esg-trends-global-investors-confirm/6372.article

Shakil, M. H. (2021). Environmental, social and governance performance and financial risk: Moderating role of ESG controversies and board gender diversity. *Resources Policy*, *72*, Article 102144. https://doi.org/10.1016/j.resourpol.2021.102144

Sharma, D., Bhattacharya, S., & Thukral, S. (2019). Resource-based view on corporate sustainable financial reporting and firm performance: Evidences from emerging Indian economy. *International Journal of Business Governance and Ethics*, *13*(4), 323 – 344. https://doi.org/10.1504/IJBGE.2019.099565

Sharpe, W. F. (1963). A simplified model for portfolio analysis. *Management Science, 9*(2), 277–293. http://www.jstor.org/stable/2627407

Shen, C.-H., & Chang, Y. (2009). Ambition versus conscience, does corporate social responsibility pay off? The application of matching methods. *Journal of Business Ethics*, *88*, 133–153. http://dx.doi.org/10.1007/s10551-008-9826-9

Shukla, A., & Geetika. (2017). *The relationship between corporate social responsibility and financial performance of Indian banks.* Available at SSRN. https://ssrn.com/abstract=3193871

Singh, A., & Verma, P. (2017). Investigating the nexus of corporate social responsibility and brand equity: A systematic review. *Prabandhan: Indian Journal of Management, 10*(2), 7–25. http://doi.org/10.17010/pijom/2017/v10i2/110625

Sultana, N. (2021, April 23). ESG funds gain pace on focus shift to sustainability. *Mint*. https://www.livemint.com/money/personal-finance/investors-rush-to-esg-funds-as-covid-drives-focus-on-sustainability-11619098429192.html

Thacker, H. (2019). Understanding the four levels of CSR. *The CSR Journal*. https://thecsrjournal.in/understanding-the-four-levels-of-csr/

Venkatraman, K., & Selvam, M. (2014). Impact of corporate governance practices and firm performance: An empirical study. *Indian Journal of Finance, 8*(12), 34–45. http://doi.org/10.17010/ijf/2014/v8i12/71691

Viet Ha, H. T., Thuy Van, V. T., & Hung, D. N. (2019). Impact of social reponsibility information disclosure on the financial performance of enterprises in Vietnam. *Indian Journal of Finance, 13*(1), 20–36. https://doi.org/10.17010/ijf/2019/v13i1/141017

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