

## EMPIRICAL EVIDENCE ON THE RELATION BETWEEN ESGD PERFORMANCE & FINANCIAL AND MARKET PERFORMANCE: EVIDENCE FROM THE INDIAN FMCG SECTOR

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### ABSTRACT

*The business environment, these days, has gained much popularity to be included with sustainable issues. In this context disclosure of non-financial information has become an essential and integral part of corporate financial reporting practices. These non-financial issues are broadly classified as environmental, social, and governance (ESG) factors. These factors are being given weightage in any informed investment decision by all types of investors. Because of the significant effect of these non-financial factors on future cash flows of a business, they are considered to be equally important on par with financial information. Regulatory framework across the globe has begun to promote and regulate the disclosure of ESG information either in annual reports or as separate report. These ESG issues will have a significant bearing on the financial and market performance of companies. The present study has analysed the ESG disclosure performance of the Indian FMCG Sector from 2017 to 2021. The study has concluded that there exists insignificant relation between ESGD score and financial and market performance. Net income has a significant effect on ESGD score and other metrics have shown insignificant relation. Similarly, the mean ESGD score of the sample companies is not equal whereas it was found that variance in ESGD score is equal among the companies.*

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**Keywords:** ESGD Score, CFP, Regression Analysis, ANOVA, Bartlett's Test, Leven Test.

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### Introduction

Understanding the relationship between Environmental, Social, and Governance (ESG) performance & Corporate Financial Performance (CFP) is a new blistering area of research in finance. Numerous studies have shown the nexus between ESG performance (ESGP) and CFP, yet there is no strong evidence as to whether ESGP affects CFP or vice versa. As material ESG issues vary from one sector to another, their impact will also have varying results. Similarly, within the same sector, material ESG issues may invariably impact CFP. However, to establish the relation between ESGP and CFP there is a dire need for the harmonization of material ESG disclosures. There are very few research entities like S&P Global, Sustainability ESG, PwC, Risk ratings, Bloomberg ESG Disclosure Score, MSCI ESG Ratings, ISS Ratings and Rankings, CDP Climate FTSE Russell's ESG Ratings, Water and Forest Scores, and Moody's ESG Solutions Group. However, each of them follows its methodology to determine the ESG disclosure score and ESG risk score. Integration of ESG (non-financial information) has become most relevant in terms of investment, ratings, and risk management.

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In this context, SEBI, in the year 2021 has issued Business Responsibility and Sustainability reporting (BRSR), which is a transition from Business Responsibility Reporting (BRR), and a step to streamline ESG disclosure practices. BRSR is mandatory from the financial year 2022-23 for the top 1000 listed companies in terms of market capitalization in India. The sequence of events in the introduction of BRSR is

- National Voluntary Guidelines (NVGs) for sustainability reporting-2011.
- Disclosure of Business Responsibility Reporting (BRR) by top 100 listed companies in line with National Voluntary Guidelines (NVG).-2012.
- United Nations Sustainable Development Goals 2030 were released.-2015
- The applicability of Business Responsibility Reporting (BRR) extended to the top 500 listed companies of India-2015.
- MCA revised the National Voluntary Guidelines (NVGs) to National Guidelines on Responsible Business Conduct (NGRBC)-2019.
- The applicability of Business Responsibility Reporting (BRR) extended to the top 1,000 listed companies in India.-2019
- MCA report on Business Responsibility Reporting (BRR) with the proposed BRSR-2020.
- Sustainability Reporting Standards Board of ICAI developed the scoring mechanism of the BRSR i.e., Assigned score to BRSR-2021.

Earlier to the introduction and implementation of BRSR in India, most of the research on ESG disclosure and ESG risk score has been done by international institutions. Institutions like S&P Global, Sustainalytics, PwC Global, MSCI, FTSE Russell's ESG ratings, and Moody's ESG Solution Group provide information on ESG disclosure and ESG risk score for companies along with their peer group and overall global rankings. In a longer period increased ESGP leads to improved CFP, ESG integration can also make firms outperform competitors, effective ESG management protects in crisis times, and it may also lead to innovation and improved risk management. On the other hand, it is also to be noted that mere better ESGP would not lead to improved CFP.

Studies on ESG suggest unified disclosure practices for sustainable business practices and long-term value for all the stakeholders. To achieve the said objective, the convergence of ESG disclosure practices and measurement of material ESG risk, at the global level is the need of the hour, as market regulators of countries have started issuing guidelines on reporting and disclosure of ESG issues. This divergence may lack clarity in certain areas of disclosure. There is a dire need for convergence of ESG disclosure and risk measurement similar to that of IFRS for accounting standards.

The level of ESG Disclosure score and ESG risk score depends on the size & profitability of the business, board composition, socio-economic development of the origin country, the level of the regulatory framework, participation of institutional investors, stakeholders, rival firms, ownership structure, industry profile, firm age, innovation, and firm popularity, etc. Therefore, it turns out to be important for firms to analyse the material factors affecting ESG disclosure and risk level and their impact on CFP. For fundraising in financial markets also, ESG rating can be made mandatory in a near-future parallel credit rating or the level of credit rating may also take into account of ESGP of firms.

Largely, increasing awareness about ESGP and legalizing & regulating ESG disclosure at national and international levels, it has become vital for companies to look for the effective management of non-financial or ESG issues. There is growing academic or research evidence that proves positive relation between ESGP and CFP and risk mitigation. Incorporating ESG management into core corporate strategic planning can result in outperforming competitors and improved CFP.

### **Review of Literature**

Better ESG disclosures help the companies to improve their CFP and create a good image, credibility, and promote corporate ethical practices (Kumar, 2022). Lending institutions value both ESG performance and disclosure and integrate ESG information in their credit decisions – in that firms with stronger ESG performance have a lower cost of debt, and ESG disclosure has an equal impact on the cost of debt as ESG performance. (Yasser Eliwaab, 2021). A firm's ESG performance is strongly related to the firm's market, leadership, and owner characteristics as well as its risk, performance, and value (Gillana, Koch, & Starks, 2021). A high ESG portfolio has outperformed a low ESG portfolio

during the Covid-19 crisis and mitigated financial risk (David C. Broadstock, 2021). Firms will gain by investing in non-financial activities, which are in line with stakeholder theory (Heggen, 2020). ESG integration strategy may provide a natural hedge against the risks that arise from the evolving fiduciary responsibilities of professional investment managers relating to ESG risks (Darren D. Lee, 2020). Companies' ESG information was transmitted to their valuation and performance; both through their systematic risk profile i.e. lower costs of capital and higher valuations & their idiosyncratic risk profile higher profitability, and lower exposures to tail risk (Guido Giese, 2019). High transparency regarding ESG information could improve financial performance. It is advisable for investors, company management, decision-makers, and industry regulators to consider the importance of the ESG disclosure (Almeyda, 2019). Higher ESG disclosure increases the firm strength and mitigates negative effects (AliFatemia, 2018). There was a significant positive impact of ESG on the CFP, when measured individually, environmental disclosure found positively affect the ROA and Tobin Q, whereas corporate social responsibility disclosure is negatively affected ROA and ROE and positively affected Tobin Q (Buallay, 2018). ESG controversies are associated with a greater firm value (Marsat, 2018). Companies in sensitive industries present superior environmental performance, even when controlling for the firm's size and country (Alexandre Sanches Garciaa, 2017). ESG investing a new fundamental investing process (Emiel van Duuren, 2016). The incorporation of ESG information contributes to better decision-making in every investment approach (Tim Verheyden, 2016). Good corporate ESG performance enhances financial performance (Chelawat, 2016). ESG performance is valued more strongly and in a positive direction when firms publish an ESG report, irrespective of its type whether stand-alone or integrated (Streit, 2017). The positive impact of ESG on CFP is stable over time (Bassen, Gunnar, & Busch, 2015).

### Research Methodology

#### Objectives of the Study

- To analyse the ESG Disclosure Score of the select companies.
- To analyse the relation between ESG Disclosure and corporate financial performance.
- To analyse the relation between ESG Disclosure and firm value.

#### Hypotheses

**Ho 1:** There is no significant difference in the ESG disclosure score of sample companies.

**Ho 2:** There is no significant relation between ESG disclosure score and CFP.

**Ho 3:** There is no significant relation between ESG disclosure score and firm value.

#### Sample

The convenience sampling technique has been applied in the study as the data of only 11 companies out of 15 listed FMCG companies on the NSE FMCG Index was available from relevant sources.

#### Sources of Data

Company-wise ESG Disclosure score has been collected from [www.s&pglobal.com](http://www.s&pglobal.com), from 2017 to 2021 and the financial information has been collected from [www.moneycontrol.com](http://www.moneycontrol.com).

#### Methodology

The study begins with the analysis of ESGD scores of the sector during the study period and tests whether there is any significant difference in the mean and variances of ESGD scores of the companies. Test of equality of means and variances have been calculated. The relevant equations for tests are

- **Mean Equality Test**

- F-Test (ANOVA):

$$F = \frac{SS_B / (G - 1)}{SS_W / (N - G)}$$

- Welch's F-test: One-way ANOVA assumes that the groups share a common standard deviation or variance but different means. However, the assumption may not hold in practice. If groups have different or unequal variances then the test results may not give

appropriate inference. On the other hand, Welch's ANOVA is sensitive to unequal variances and is considered to be more appropriate.

- **Variance Equality Test**

Results of the test of variance equality in E-Views provides

- Bartlett Test which compares the logarithm of the weighted average variance with the weighted sum of the logarithms of the variances. Under the joint null hypothesis that the subgroup variances are equal and that the sample is normally distributed, the test statistic is approximately distributed as a  $\chi^2$  with  $G-1$  degrees of freedom. The test statistic is,

$$\chi^2 = \frac{(N - k) \ln(S_p^2) - \sum_{i=1}^k (n_i - 1) \ln(S_i^2)}{1 + \frac{1}{3(k-1)} \left( \sum_{i=1}^k \left( \frac{1}{n_i - 1} \right) - \frac{1}{N - k} \right)}$$

- Levene Test which is based on an analysis of variance (ANOVA) of the absolute difference from the mean. The  $F$ -statistic for the Levene test has an approximate  $F$ -distribution with  $G-1$  numerator degrees of freedom and  $N-G$  denominator degrees of freedom under the null hypothesis of equal variances in each subgroup. The test statistic is,

$$W = \frac{(N - k) \sum_{i=1}^k N_i (Z_i - Z_{..})^2}{(k - 1) \sum_{i=1}^k \sum_{j=1}^{N_i} (Z_{ij} - Z_i)^2}$$

- The study has also applied regression analysis between ESGP and CFP where in ESG Disclosure Score and Net Income (NI), Earnings per Share (EPS), Returns on Capital Employed (ROCE), Return on Assets (ROA), Return on Equity (ROE), Price to Book Ratio (P/B Ratio) and Enterprise Values have been considered.

Where financial and market metrics are dependent variables and ESG Disclosure score has been taken as an independent variable, then the equations are;

$$NI = \alpha_i + \beta_0 \text{ ESGD Score}_{it} + \varepsilon_{it}$$

$$EPS = \alpha_i + \beta_0 \text{ ESGD Score}_{it} + \varepsilon_{it}$$

$$ROCE = \alpha_i + \beta_0 \text{ ESGD Score}_{it} + \varepsilon_{it}$$

$$ROA = \alpha_i + \beta_0 \text{ ESGD Score}_{it} + \varepsilon_{it}$$

$$ROE = \alpha_i + \beta_0 \text{ ESGD Score}_{it} + \varepsilon_{it}$$

$$P/B = \alpha_i + \beta_0 \text{ ESGD Score}_{it} + \varepsilon_{it}$$

$$EV = \alpha_i + \beta_0 \text{ ESGP Score}_{it} + \varepsilon_{it}$$

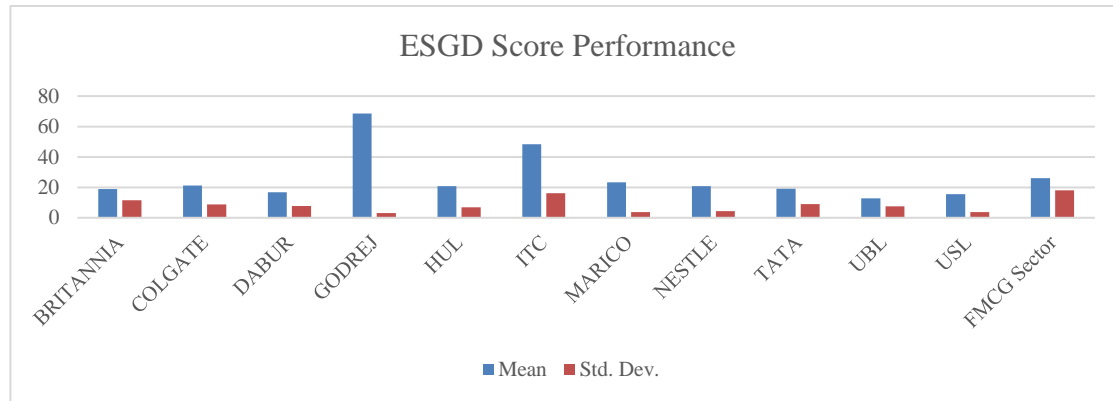
When ESG Disclosure Score is the dependent variable and the metrics are independent variables, then,

$$\text{ESGD Score} = \alpha_i + \beta_0 \text{ NI} + \beta_1 \text{ EPS} + \beta_2 \text{ ROCE} + \beta_3 \text{ ROA} + \beta_4 \text{ P/B} + \beta_5 \text{ EV} + \varepsilon_{it}$$

Regression analysis can be generally interpreted with four metrics.  $P$ -value helps in understanding the relationship between the independent variable (IV) and dependent variable (DV) in the long run and determining how intensely IV predicts the DV. The  $P$ -value for IV tests the null hypothesis of no correlation between the IV and DV, and if there is no correlation, there exists no association between the changes in the IV and the effect on changes in DV. If the  $p$ -value is less than the significance value of 0.05, then there is an adequate indication to reject the null hypothesis and can be concluded that changes in the DV are associated with the changes in IV, and a  $p$ -value greater than 0.05 indicates a non-zero correlation between IV and DV.  $R^2$  value indicates a ratio of change in the DV accounted for by the set of IVs and occasionally  $R^2$  gives inflated values because of more number of IVs therefore adjusted  $R^2$  is realistic for more accurate interpretation. Finally, the Durbin-Watson statistic value of 2 indicates autocorrelation in the residuals and will always assume a value between 0 and 4. A value of 2 indicates no auto-correlation, a value of the statistic less than 2 indicates positive auto-correlation and a value greater than 2 indicates negative autocorrelation.

## Results & Discussions

- Picture 1 ESG Disclosure performances of the FMCG sector companies.



Source: www.spglobal.com

The above picture reveals the ESGD score of the companies during the study period, where it was found that Godrej Consumers Ltd has the highest mean score of 68.6, followed by ITC with 48.4. These two companies have outperformed the sector's ESGD score of 26.03. ITC, though outperformed, has a higher standard deviation of 16.24, as the performance was improved in the last two years of the study period. Godrej Consumer Ltd has the least standard deviation as it has maintained consistency in the ESGD score. The remaining 9 companies have a lower average ESGD score than the sector's mean score. United Breweries Ltd (UBL) and Unites Spirits Ltd (USL) have the lowest ESGD scores.

- Test of Equality of means: The test has been applied to check whether all the groups in the data have identical means or is there any significant difference in the means of the sample companies. The null hypothesis under the test is that all the means are equal; whereas the alternate hypothesis is that the means are not equal.

**Table 1: Test for Equality of Means between Series**

Anova F-test	(10, 44)	20.32011	
Welch F-test*	(10, 17.4662)	66.95788	
*Test allows for unequal cell variances			
Analysis of Variance			
Source of Variation	Df	Sum of Sq.	Mean Sq.
Between	10	14327.53	1432.753
Within	44	3102.400	70.50909
Total	54	17429.93	322.7764

Source: Author's calculations

From the above analysis, it can be found that calculate F-test and Welch F-test values are higher than the critical value of  $\approx 4.70$  at  $\alpha=0.05$  for (10, 44) degree of freedom. Since the calculated F values are greater than the critical value, we fail to accept the null hypothesis and it is concluded that there is a significant difference in the mean ESGD score of the companies.

- Bartlett's Test & Levene Test for Homogeneity of Variance:

Null Hypothesis: Variance ( $\sigma^2$ ) is equal across all groups.

**H<sub>0</sub>:**  $\sigma^2_i = \sigma^2_j$  for all groups

Alternative Hypothesis: Variance is not equal across all groups.

**H<sub>1</sub>:**  $\sigma^2_i \neq \sigma^2_j$  for at least one pair of groups

**Table 2: Tests for Equality of Variances between Series**

Method	df	Value	Probability
Bartlett	10	18.70196	0.0442
Levene	(10, 44)	2.927922	0.0067

Source: Author's calculations

Test results of equality of variance show that the  $p$  value for both the statistics is less than the significance level of 0.05. Therefore, the null hypothesis has been rejected and it is concluded that the variance is not equal across all groups.

- Analysis of the impact of ESG disclosure on financial metrics at the FMCG sector Level.

**Table 3: Regression analysis between ESGD & Net Income**

Dependent Variable: Net Income Included observations: 55				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	545.4350	794.0020	0.686944	0.4951
ESG Disclosure Score	78.12561	25.17409	3.103414	0.0031
R-squared	0.153776	Mean dependent var.		2579.542
Adjusted R-squared	0.137810	S.D. dependent var.		3579.315
S.E. of regression	3323.544	Akaike info criterion		19.09114
Sum squared residuals	5.85E+08	Schwarz criterion		19.16413
Log-likelihood	-523.0063	Hannan-Quinn criterion.		19.11936
F-statistic	9.631179	Durbin-Watson stat		0.309809
Prob. (F-statistic)	0.003066			

Source: Author's calculations

Interpretation: The analysis of the relation between ESGD score and net income at the sector level has resulted in a  $P$ -value of 0.0031 which is less than the significance value of 0.05 indicating the effect of ESGD score on net income is significant and explains the variations in net income. Low R-Squared ( $R^2$ ) and adjusted R-Squared ( $AR^2$ ) values indicate cumulatively ESGD score explains net income marginally. Finally, the value of the Durbin-Watson test (0.30) indicates (less than 2) a positive correlation, however it also indicated the test is inconclusive.

**Table 4: Regression analysis between ESGD & EPS**

Dependent Variable: EPS Included observations: 55				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	45.06455	12.60279	3.575761	0.0008
ESG DISCLOSURE SCORE	-0.367535	0.399575	-0.919814	0.3618
R-squared	0.015713	Mean dependent var.		35.49527
Adjusted R-squared	-0.002859	S.D. dependent var.		52.67767
S.E. of regression	52.75291	Akaike info criterion		10.80480
Sum squared residuals	147492.1	Schwarz criterion		10.87780
Log-likelihood	-295.1320	Hannan-Quinn criterion		10.83303
F-statistic	0.846058	Durbin-Watson stat.		0.493041
Prob. (F-statistic)	0.361837			

Source: Author's calculations

#### Interpretation

The above table provides results of regression analysis between ESGD and EPS at the sector level. The calculated  $p$ -value (0.3618) is greater than the significant value and is indicative of the insignificant effect of the ESGD score on EPS. Low R-squared and negative adjusted R-squared values indicate an insignificant correlation between EPS and ESGD scores. Increasing the sample size can result in improved results concerning correlation statistics. A value of 0.4930 of the Durbin-Watson test represents the positive correlation between EPS and ESGD score and the model is not a good fit.

**Table 5: Regression analysis between ESGD & ROCE**

Dependent Variable: ROCE Included observations: 55				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	42.64728	5.474850	7.789670	0.0000
ESG Disclosure Score	-0.222423	0.173582	-1.281374	0.2056
R-squared	0.030049	Mean dependent var0		36.85618
Adjusted R-squared	0.011748	S.D. dependent var.		23.05251
S.E. of regression	22.91670	Akaike info criterion		9.137295
Sum squared residuals	27834.29	Schwarz criterion		9.210289
Log-likelihood	-249.2756	Hannan-Quinn criterion.		9.165522
F-statistic	1.641920	Durbin-Watson stat		0.800823
Prob. (F-statistic)	0.205640			

Source: Author's calculations

**Interpretation**

Regression analysis between ESGD and ROCE score also resulted in insignificant relation or effect of ESGD on ROCE as the  $p$ -value is 0.2056 greater than the significant value.  $R^2$  & adjusted  $R^2$  values have shown a low correlation between ESGD score and ROCE. Durbin-Watson test value of 0.800 explains a positive auto-correlation between the variables.

**Table 5: Regression analysis between ESGD & ROA**

Dependent Variable: ROA Included observations: 55				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.09217	2.195195	7.786174	0.0000
ESG Disclosure Score	-0.010272	0.069599	-0.147587	0.8832
R-squared	0.000411	Mean dependent var.		16.82473
Adjusted R-squared	-0.018449	S.D. dependent var.		9.105071
S.E. of regression	9.188679	Akaike info criterion		7.309507
Sum squared residuals	4474.886	Schwarz criterion		7.382501
Log-likelihood	-199.0115	Hannan-Quinn criterion.		7.337735
F-statistic	0.021782	Durbin-Watson stat		0.457232
Prob. (F-statistic)	0.883229			

Source: Author's calculations

**Interpretation**

From the above table it can be interpreted that the effect of ESGD score on ROA is insignificant as the  $p$ -value is more than 0.05 and  $R^2$  &  $AR^2$  values are showing a poor correlation between ESGD score and ROA. Finally, the value of 0.4572 for the Durbin-Watson test specifies positive auto-correlation.

**Table 6: Regression analysis between ESGD & ROE**

Dependent Variable: ROE Included observations: 55				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	37.14991	6.201719	5.990259	0.0000
ESG Disclosure Score	-0.132860	0.196627	-0.675691	0.5022
R-squared	0.008541	Mean dependent var.		33.69073
Adjusted R-squared	-0.010166	S.D. dependent var.		25.82829
S.E. of regression	25.95924	Akaike info criterion		9.386618
Sum squared residuals	35715.76	Schwarz criterion		9.459612
Log-likelihood	-256.1320	Hannan-Quinn criterion.		9.414846
F-statistic	0.456559	Durbin-Watson stat		0.727745
Prob. (F-statistic)	0.502174			

Source: Author's calculations

Interpretation: Higher  $p$ -value of 0.5022 than the significance value of 0.05, suggests accepting the null hypothesis that there exists no relation between ESGD and ROE, and  $R^2$  &  $AR^2$  values have also shown ESGD doesn't explain the variations in ROE as there is a poor correlation between the variables. Durbin-Watson statistic value (0.72) points out positive auto-correlation.

- Analysis of ESGD and Market Performance

**Table 7: Regression analysis between ESGD & P/B Ratio**

Dependent Variable: P/B Ratio Included observations: 55				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	24.70536	4.598131	5.372912	0.0000
ESG Disclosure Score	-0.221498	0.145785	-5.19342	0.1346
R-squared	0.041737	Mean dependent var.		18.93836
Adjusted R-squared	0.023656	S.D. dependent var.		19.47870
S.E. of regression	19.24692	Akaike info criterion		8.788265
Sum squared residuals	19633.53	Schwarz criterion		8.861259
Log-likelihood	-239.6773	Hannan-Quinn criterion.		8.816493
F-statistic	2.308400	Durbin-Watson stat		0.712844
Prob. (F-statistic)	0.134620			

Source: Author's calculations

### Interpretation

*P*-value of 0.1346 which is greater than the significance value of 0.05 shows the effect of ESGD on the P/B ratio is insignificant and the null hypothesis can be accepted. Besides the *p*-value,  $R^2$  &  $AR^2$  values have also shown a poor correlation between DV and IV, whereas, the Durbin-Watson test displays positive auto-correlation.

**Table 8: Regression analysis between ESGD & Enterprise Value**

Dependent Variable: Enterprise Value				
Included observations: 55				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	82926.98	29683.60	2.793697	0.0072
ESG Disclosure Score	959.2663	941.1279	1.019273	0.3127
R-squared	0.019225	Mean dependent var.		107902.8
Adjusted R-squared	0.000720	S.D. dependent var.		124294.8
S.E. of regression	124250.0	Akaike info criterion		26.33367
Sum squared residuals	8.18E+11	Schwarz criterion		26.40666
Log-likelihood	-722.1758	Hannan-Quinn criterion.		26.36189
F-statistic	1.038918	Durbin-Watson stat		0.290103
Prob. (F-statistic)	0.312704			

Source: Author's calculations

### Interpretation

As the *p*-value (0.3217) is greater than the significance value, the null hypothesis has been accepted and it indicates there is insufficient evidence to conclude that a non-zero correlation exists between the variables.

#### • Impact of ESGD Score on financial and market indicators - Company wise analysis

Company	Net Income	EPS	ROCE	ROA	ROE	P/B Ratio	Enterprise Value
Britannia Industries	0.40	0.50	0.17	0.05	0.01	0.14	0.59
Colgate-Palmolive	0.13	0.13	0.53	0.13	0.40	0.47	0.13
Dabur India	0.18	0.18	0.20	0.60	0.18	0.36	0.05
Godrej Consumers	0.55	0.60	0.75	0.60	0.73	0.37	0.34
HUL	0.23	0.19	0.86	0.92	0.93	0.66	0.21
ITC	0.38	0.18	0.27	0.40	0.33	0.29	0.22
Marico	0.64	0.68	0.31	0.72	0.67	0.60	0.91
Nestle India	0.16	0.16	0.26	0.26	0.36	0.33	0.22
Tata Consumers	0.28	0.55	0.33	0.84	0.93	0.57	0.64
United Breweries Ltd	0.58	0.58	0.81	0.67	0.77	0.92	0.55
United Spirits Ltd	0.11	0.65	0.98	0.03	0.21	0.30	0.74

Source: Author's calculation.

### Interpretation

Analysis of the effect of ESGD score on financial and market indicators, when calculated company-wise, has resulted mostly as insignificant. ESGD score does not explain variations in net income, EPS, ROCE, and P/B ratio for all the sample companies. In the case of Britannia Industries and United Spirits Ltd, the *p*-value is less than the significance value of 0.05 which results in the rejection of the null hypothesis and can be concluded that changes in ROA of the two companies are well explained by the changes in ESGD score of the companies. In the case of Britannia Industries, there was found to be a significant effect of ESGD score on ROE. Finally, in the case of the relation between Enterprise value and ESGD Score, a significant effect was found only in the case of Dabur India Ltd.



- **Analysis of the impact of financial & market indicators on ESGD score**

**Table 9: Analysis of the Relationship between Financial & Markets Indicators and ESGD Score**

Dependent Variable: ESG Disclosure Score				
Included observations: 55				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	30.92708	4.642779	6.661329	0.0000
Net Income	0.002514	0.001060	2.372350	0.0218
EPS	-0.068872	0.076302	-0.902624	0.3713
ROCE	-0.735548	0.236480	-3.110403	0.0032
ROE	1.637494	0.462974	3.536901	0.0009
ROA	-0.691741	0.632269	-1.094061	0.2795
P B Ratio	-1.211319	0.445715	-2.717698	0.0092
Enterprise Value	-2.23E-05	3.20E-05	-0.697242	0.4891
R-squared	0.421733	Mean dependent var.		26.03636
Adjusted R-squared	0.335608	S.D. dependent var.		17.96598
S.E. of regression	14.64412	Akaike info criterion		8.339678
Sum squared residuals	10079.16	Schwarz criterion		8.631654
Log-likelihood	-221.3411	Hannan-Quinn criterion.		8.452587
F-statistic	4.896756	Durbin-Watson stat		1.149811
Prob. (F-statistic)	0.000329			

Source: Author's calculation.

**Interpretation**

Table 9 provides the results of the impact of financial and market indicators on ESGD scores. Out of five financial indicators,  $p$  values for independent variables -Net Income, ROCE, and ROE are less than the significance level of 0.05 and evidence that these variables have an impact on the ESGD score of the sector. Whereas,  $p$ -values for EPS and ROA are higher than the significance level and the impact of these IVs on ESGD score is insignificant.

Similarly, in market indicators, the P/B ratio has a significant effect on the ESGD score, whereas the effect of enterprise value on ESGD is insignificant.

Overall, the cumulative effect of all the IVs on DV (ESGD score) is explained by F-statistics. If the  $P$ -value is less than 5%, the combined effect of independent variables on the dependent variable is significant. Results (0.000329) show that there exists a cumulative impact of indicators on ESGD score and these IVs explain 33% ( $AR^2$ ) of variations in ESGD score.

**Conclusion**

Overall results of the analysis of the relation between ESGD score and financial & market metrics at the FMCG sector level can be explained simply with the help of the following table.

Financial & Market Indicators	Test Statistic			
	$P$ -Value	$R^2$	Adjusted $R^2$	Durbin-Watson stat.
Net Income	Significant	Low	Low	Positive Auto-Correlation
EPS	Not Significant	Low	Low	Positive Auto-Correlation
ROCE	Not Significant	Low	Low	Positive Auto-Correlation
ROA	Not Significant	Low	Low	Positive Auto-Correlation
P/B ratio	Not Significant	Low	Low	Positive Auto-Correlation
Enterprise Value	Not Significant	Low	Low	Positive Auto-Correlation

When the relation was analysed company-wise, only in the case of ROA (two companies) a significant relation was found. Similarly, when the effect of financial and market indicators on ESGD score was analysed it was found that Net Income, ROCE, and ROE have significant effect on ESGD score.

As the integration of ESG information with financial information is a new practice that has not been fully adopted by the corporate sector in its true sense and the level of awareness among retail investors is low, the effect of ESG performance on a company's performance is not being reflected in a significant level. Similarly, the study has been conducted for 5 years only and the results may not give a clear depiction of the relation between ESG performance and corporate financial performance.

Further research can be done in the area of ESG disclosure and shareholding patterns, the level of ESG disclosure and FII holding, the relation between executive remuneration and ESG score, ESG rating process, and ESG rating in fundraising, ESG rating and cost of capital, etc.

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