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Do Social, Environmental and Governance Concerns Reward Value to Firms? An Investigation of BSE-500 listed Firms

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Abstract: *With the changing landscape of corporate in India, accountability of corporate towards social parities and environment is gaining momentum. The voluntary disclosures and reporting on social concerns and issues of the environment have received significant attention in recent times. In terms of reporting standards, corporate governance disclosures are aligned with the laws and regulations. However, environmental and social disclosures are still voluntary in nature.*
Considering the current scenario in India, the present study aims to assess whether due concerns to environmental, social and governance disclosures by the corporate reward the organization through any financial value or not. This study assesses the contextual liaison between environmental social and governance (ESG) disclosure scores and performance of BSE-500 listed firms. The objective of the study is to assess the impact of ESG disclosure on firm performance measured in accounting terms using ROA and market terms using Tobin's Q ratio.
Keywords: *Environmental Social and Governance disclosure, Firm Performance, Multivariate Regression*

I. Introduction:

Disclosure norms have always been given priority by regulators for financial reporting purposes of organizations. Over a period, these norms have evolved to include disclosures relating to not just those factors that have a financial impact, but also those that reflect the organization's policy on governance, environmental and social issues, sustainability, etc. In the Indian context, corporate governance disclosures are mandatory while the disclosure on environmental and social issues remains voluntary in nature. A recent change in regulation also stipulates the minimum spend that a corporate must make in order to comply with the corporate social responsibility norms. All these changes indicate that these issues are gaining importance not just for the purpose of reporting, but also for how these organizations are perceived by the various stakeholders.

This paper seeks to assess whether companies that have given due consideration to environmental social and governance (ESG) disclosures are adequately rewarded for the same in terms of financial value or not. The study looks at ESG scores of the BSE[2]-500 listed companies and their performance measured in accounting terms using Return on Asset (ROA) and market terms using Tobin's Q ratio.

This paper is organized as follows. Section 2 presents a synthetic review of the literature and critically assess the previous studies on link between reporting disclosures and firm's performance. Section 3 develops the theoretical model and methodology of the study. This section describes data & variable along with the regression model of the study. The empirical analysis, results and discussion are developed in section 4. Section 6 concludes the article and exhibits recommendations and future research areas.

II. Literature Review

Post the 2007-08 financial crisis, investors, specifically institutional investors have shown an inclination towards those companies that behave in a "socially responsible" fashion. According to the World Bank's International Finance Corporation (IFC)[3], "Corporate social responsibility (CSR) is the commitment of

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[3]*(http://www.ifc.org/ifcext/economics.nsf/content/csr-intropage)*

businesses to contribute to sustainable economic development by working with employees, their families, the local community and society at large to improve their lives in ways that are good for business and for development." (http://www.ifc.org/ifcext/economics.nsf/content/csr-intropage) Pasquini-Descomps and Sahut (2013) in their paper discuss that socially responsible Investing (SRI) can be done in two ways. The traditional way is to exclude sectors like weapons, alcohol, tobacco, etc and was followed extensively in the past. With data relating to ESG scores now becoming more accessible, the new approach is to look at companies that have higher ESG scores within the same sector. They also discuss the various reasons why higher ESG scores can affect firm performance. These include possible lower cost of capital, improved firm image, lower residual risk as well as lower reputation risk. Gillan, *et al.* (2010) in their paper discuss why firms typically adopt stronger ESG policies and the extent to which the market values or trades on these decisions. They found that operating performance, efficiency, and firm value tend to increase with stronger ESG performance.

Literature also discusses the reasons why organizations may choose to behave in a "socially responsible" manner. Some of the reasons cited by Benabou and Tirole (2010) are that these norms allow the organizations to plan and think for the long run rather than making decisions that will only benefit in the short term. Also, since there is a delegation of social responsibility by the shareholders to the firm, inferring that they must behave in the appropriate manner. These imply that firm performance and value should increase if the firm adopts ESG disclosure (*Gillian et al, 2010*). However if the firm is adopting these practices only to further the philanthropic abilities of the board and executives then the firm value and performance will decline with ESG disclosure initiatives (*Benabou and Tirole, 2010)*, (*Gillian et al., 2010*).

Ioannou and Serafeim (2010) argue that while several studies have focused on understanding the impact of socially responsible behavior on corporate financial performance, there still remains a lack of understanding on why organisations may choose to be socially responsible. Their study looks to answer the question of which country and institutional factors will affect corporate social performance. Using their model to rank organisations across 42 countries along the 'pillars' of social, environment and corporate governance performance, they found that while social and environment factors explained 41% and 46% of the overall variation, 63% of the variation was explained by corporate governance. At the firm level they found that the scale, visibility, product and capital markets explained significant portion of the variations in environment and social performance.

When Pasquini-Descomps and Sahut (2013) tested the impact of ESG scores on the firm's market performance in Switzerland, UK and US, they found that the results were not consistent across the board. While UK had neutral to negative relationship, it was not the case for the other two countries. Also, results of the sub-categories indicate that the results are sensitive to the year and sector as well. What this tells us is that investors or markets do not necessarily consider ESG as a positive factor in all cases. It especially becomes important when markets are in turmoil or sensitive to certain market conditions.

Cavacoy and Crifoz (2010) looked at the relationship between corporate social responsibility (CSR) and firm performance by investigating the relative complimentarily between environmental, social and business behaviors issues. There is a positive impact on CSR efforts when at least two pairs of CSR tasks are complementary. When only one pair of CSR tasks is complementary (and possibly another one is substitutable), then CSR ratings have an ambiguous impact on CSR efforts and firm performance. They also found that human resources and business behaviors appear as relatively complementary while business behaviors and environmental efforts appear as relatively substitutable.

Review of the previous literature and arguments given by the scholars in their studies exhibit vital role of disclosure in the governance practices of firms on their shareholder values and performance. However, most of the studies discussed the settings of firms operating in developed nations and very less has been written and discussed on the emerging and developing economies. Considering the present global scenario and role of emerging economies in the world economy, it is also necessary to understand the viewpoint of firms operating in emerging and developing nations. Therefore, present study aims to assess the role of ESG disclosure practices on firms' performance in the Indian context. India an emerging and developing economy can be the most suitable case to discuss this thrust area in the corporate governance and CSR discipline.

III. Methodology

Considering the gap in the literature on this topic with respect to emerging economies, this study assesses the role of ESG disclosure of the BSE-500 listed firms on their market value and accounting returns.

This study follows BSE-500 listed firms, as BSE is the oldest and largest stock exchange of India. BSE-500 listed firms are the top 500 firms in terms of their market capitalization, and are traded on the BSE. Pool of 500 firms creates a huge sample to study the impact of ESG scores on their market and accounting performance. Therefore, scope of this study is limited to the firms listed on BSE-500 S&P index and their ESG disclosures in the corporate reports.

Data and Variable

ESG disclosure scores have been extracted from the Bloomberg[4] database based on the firm's reporting and disclosures. To assess the impact of ESG disclosure on firm's performance, the present study develops a multivariate regression model. ROA and Tobin's Q ratio have been considered as dependent variables in two different models.

To measure firm performance, this study follows both the accounting aspects and market aspects of firm performance. We follow two-way analysis on firm's performance and develop different regression model on both types of performance measure as both the measures follow different perspective of firm value (Cavaco and Crifo, 2010). Accounting based measure follows historical data and therefore exhibits the result of activities of firm done in the past and known as backward looking measures (Mcguire et al., 1986). These measures also affected by the adoption of different accounting and depreciation policies by the organizations and countries. Accounting based measures may also suffer from managerial biases and agency theory (Branch and Cole, 1983). Therefore, it is necessary to follow market based measures along with the accounting based measures to validate the empirical analysis and discussion of results. To measure firm's accounting performance this study considers ROA whereas Tobin's Q to measure firm's market performance. ROA exhibits the firm's efficient utilization of their assets to generate profits whereas Tobin's Q is a stock market based return indicator. Tobin's Q is measured in terms of ratio of firm's total market value and total assets. Tobin's Q exhibits firm's efficient utilization of its assets to generate market value to the shareholders, therefore represent the shareholders' sentiments on firm's ability to generate future earnings and considered as forward-looking approach (Cavaco and Crifo, 2010).

To capture firm's voluntary disclosure practices on various domains of environment, social and governance aspects, we follow Bloomberg's ESG scores[5]. We follow firms listed on Indian stock exchange, BSE-500 S&P index. This index includes 500 scrips and represents nearly 93% of the total market capitalization of BSE.

Composite ESG disclosure scores and individual disclosures have been considered as a set of independent variables. To control the firm specific and industry specific effects, present study includes firm size measured in term of total assets and leverage in the control group of regression models. Based on the availability of data on all variables, a cross-sectional dataset from 410 firms listed on BSE-500 has been extracted for the year 2014-15.

Regression Model

To study the relationship between disclosure practices and firm performance, this study develops multivariate regression specified as follows:

$$Tobinq_i = \beta_0 + \beta_1\ ESG_i + \beta_2\ Environment_t + \beta_3 Social_i + \beta_4\ Governance_i + \beta_5 Women_i + \beta_6 Size_i + \beta_7\ ESGxSize_i + \beta_8 Leverage_i + e_i \quad (1)$$

$$ROA_i = \beta_0 + \beta_1\ ESG_i + \beta_2\ Environment_t + \beta_3 Social_i + \beta_4 Governance_i + \beta_5 Women_i + \beta_6 Size_i + \beta_7\ ESGxSize_i + \beta_8 Leverage_i + e_i \quad (2)$$

Here, i represent firms listed on BSE-500 S&P index.

In (1) and (2), dependent variables Tobin's Q and ROA exhibit firms performance in term of market and accounting returns respectively. ESG exhibits composite score of firms on their disclosure practices.

[4] Bloomberg terminal is a database, which provides real-time and historical financial market data and economic data, covering all sectors worldwide. We have followed ESG scores of firms calculated and compiled by the Bloomberg terminal worldwide.

[5] The data is collected by Bloomberg analysts based on firm's publically available information on ESG disclosure practices.

Environment, Social and Governance exhibit individual scores on respective dimensions of reporting. Women exhibit the participation of women in board of management of firm and measured in term of % of Women on board. Variable Size and leverage are control variable in the regression model to control the effect of firm size and the capital structure of firms measured in term of total assets and leverage respectively. ESGxSize exhibits the interaction effect of ESG scores and firm size on firm performance.
The definition and descriptive statistics of the variables describing firm specific factors and performance are reported in Tables 1a and 1b respectively.

Table 1 a : Variable Descriptions : Firm Specific Factors and Performance

Variable	Definition
Tobin's Q	(Market value of common equity + preferred stock + total debt)/Total assets
ROA	Return on Assets (Net profit/ Total Assets)
Size	Ln of total assets
Leverage	Debt/ Total Assets
ESG	Composite scores on Environnemental, Social and Governance Disclosure
Environment	scores on Environmental Disclosure
Social	scores on Social Disclosure
Governance	Scores on Governance Disclosure
Women	% of Women on Board

Table 1 b : Descriptive Statistics

Variable	Mean	Std. Deviation	N (Number of Observation)
Women	5.244	7.180	410
Social	7.533	15.189	410
Gov	41.250	12.215	410
Env	4.954	11.323	410
ESG	15.432	10.553	410
Size	11.011	1.772	410
Tobinq	2.805	3.889	410
ROA	.063	.092	410
Lev	.2229	.2180	410

Descriptive statistics of regression variables exhibit average score on governance related disclosures are significantly higher than the scores on environmental and social dimensions. This clearly indicates that the BSE-5oo firms are disclosing most of their governance practices but same can not be validated in terms of their social and environmental concerns. This scenario is prevailing due to mandatory norms on corporate governance practices whereas environmental and social disclosures are purely voluntary in nature in India. Interestingly firms found to be least concerned towards the environmental dimensions in India in their reporting and on an average only 5% women are on the board of BSE-500 firms.

Therefore, it is interesting to analyse whether the voluntary disclosures and concerns towards environmental and social dimensions of society reward value to the firms or not in Indian emerging economy.

IV. Analysis and Discussion

Table 2 displays empirical results of regression analysis of model (1) and (2). We follow Ordinary Least Square (OLS) regression on the cross-sectional data set of 410 firms over the year 2014-15. The set of instruments composed of dependent variable Tobin's Q and ROA in regression model (1) and (2) along with the composite ESG scores, individual scores on Environmental, social, governance, presence of women on board, and the control variables (size and leverage).

Table 2: Regression Analysis – ESG scores and Firm Performance

Model 1: Dependent Variable: Tobin' s Q				
Predictors				
Constant	14.570 (6.575)***	16.012(6.696)***	14.844(6.560)***	14.991(6.540)***
ESG	-0.642 (-1.651)**	-0.676(-1.709)**	-0.637(-1.596)*	-0.664(-1.651)*
Environment			-0.012(-0.147)	
Social				0.021(0.276)
Governance		-0.067(-1.394)*		
Size	-0.492 (-5.697)***	-0.499(-5.654)***	-0.484(-5.516)***	-0.487(-5.512)***
ESGxSize	0.797(1.912)**	0.861(2.026)**	0.808(1.904)**	0.809(1.907)**

Leverage	-1.35(-2.950)***	-0.142(-3.051)***	-0.143(-3.067)***	-0.142(-3.412)***
Women	0.171(3.787)***			
R sq (%)	18.3	15.8	15.4	15.4
Adj Rsq (%)	17.3	14.7	14.4	14.3
F-statistics	18.075***	15.144***	14.689***	14.702***
DW Statistics	1.973	1.939	1.943	1.941
Model 2: Dependent Variable: ROA				
Predictors				
Constant	0.279(5.372)***	0.287(5.460)***	0.314(5.721)***	0.273(5.287)***
ESG	-0.400(-1.038)	-0.447(-1.154)	-0.413 (-1.083)	-0.368(-0.967)
Environment	0.048(0.628)			
Social		0.085(1.136)		
Governance			-0.092 (-2.001)**	
Size	-0.335(-3.953)***	-0.346(-4.063)***	-0.356 (-4.184)***	-0.339(4.011)***
ESGxSize	0.538(1.314)*	.0561 (1.371)*	.0624(1.523)*	0.543(1.331)*
Leverage	-0.346(-7.697)***	-0.343 (-7.625)***	-0.345(-7.710)***	-0.343(7.647)***
Women				0.079(1.784)**
R sq (%)	21.1	21.3	21.8	21.6
Adj Rsq (%)	20.1	20.3	20.8	20.7
F-statistics	21.613***	21.840***	22.527***	22.319***
D-W Statistics	1.959	1.955	1.990	1.977

Note: [t-statistics within brackets.***, ** and * denote statistical significance at 1, 5 and 10%, respectively. D-W Statistics exhibit Durbin-Watson statistics.]
Source: Authors' Own calculation Using IBM SPSS23.0

Table 2 shows two regression models with Tobin's Q and ROA as dependent variable in the respective regression model 1 and 2. Regression models control for the effect of firm size and capital structure by adding size and leverage as control group in all the regression models.
Results of all regression models exhibit moderate regression model fit with fair R sq and Adj R sq values, negligible difference between R sq and Adj R sq along with significant F-statistics and D-W statistics nearly equals to two.

Regression results exhibit the degree and direction of relationship between the set of independent and dependent variable. Regarding the control variables determining the firm performance in terms of Tobin's q and ROA, we found negative and significant association. Therefore, size and leverage of firm were found to be negative and significantly associated with the firm performance in both the cases of accounting and market based returns.

We then analysed the sign of relationship between ESG disclosure dimensions and firm performance. We found different relations with the different set of measures and predictors. Composite ESG scores found to be negative and significantly associated with the firm's market based performance whereas insignificant relationship found in the case of accounting based reruns. These results exhibit that the accounting based returns are not affected by the voluntary disclosures of firms whereas higher disclosures leads to negative market based returns.

A negative sign implies that socially and environmentally responsible firms and their voluntary concerns towards society may have a competitive disadvantage because they incur costs that reduce profits, while these costs could be avoided or borne by individuals or the government (Cavaco and Crifo, 2010). Individual disclosure scores on environmental, social and governance found to be insignificant in most of the regression models. However, interaction effect of ESG scores and firm size exhibit positive and significant association with the firm's performance specifically market based returns. Therefore, voluntary concerns of firms towards society with the due consideration to their asset size leads to prolific results in terms of value to the shareholders. Interestingly presence of women on board found to be positive and significant with both Tobin's Q and ROA. These results can be interpret in two manners, one is that the shareholders prefers firms providing equal opportunities to all section of society and not gender bias in their operations. However, other cautious explanations of these results can be understood under the purview of mandate by the government to have women participation in the board of firms.
Based on the empirical analysis, we have following results:

- ✓ Composite ESG scores are negative and significant,
- ✓ However, voluntary ESG disclosure with due consideration to the size of firm found to be positive and significant,
- ✓ Presence of women on board are positive and significant.

V. Conclusion

This study proposes a theoretical and empirical analysis of the interaction between firm disclosures practices and performance. We analyze the effect of voluntary concern towards environmental, social and governance practices on firms market and accounting based returns.

We test our proposed hypothetical relationship in the context of emerging Indian economy to understand the behavior and practices of firms in an emerging and developing economy. To represent population effectively, we follow cross-sectional dataset of BSE 500 firms for year 2014-15 in our analysis.

Our regression results confirm the present of woman on board leads to better economic returns to the shareholders. However, India being a developing nation, high voluntary disclosures found to have an adverse effect on the firm performance due to high cost associated with the environmental and social causes and concerns. Value to shareholders can be enriched if firms consider their size along with the concern towards environmental, social and governance causes of society.

Present study was limited to the scope of Indian economy and therefore the results cannot be extrapolated to other economies and future research may validate these empirical results with the cross-country analysis. Empirical analysis was controlled only for firm specific factors, however inclusion of macroeconomic factors and legal framework of country can be added in the future research to validate and generalize the linkage between disclosure practices and firm performance.

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