An Analysis of the Impact of ESG Screening on Financial Performance of Selected Indian Companies

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Abstract
In recent years, increasing Environmental, Social and Governance (ESG) consciousness has necessitated the need to hold companies accountable for social consequences resulting from their activities. This paper focuses on analyzing the impact of ESG screening on financial performance of the companies. The analysis of stock returns and beta of selected NIFTY 50 companies conducted using Shapiro-Wilk test, Wilcoxon test and Paired Sample t test indicate that there is no impact of ESG screening on financial performance and risk profile of the companies.

INTRODUCTION

Recent trends towards environmental consciousness have necessitated the need to hold companies accountable for social consequences resulting from their activities. This has brought to fore the recent increase in the debate concerning environmental, social and governance (ESG) issues among businesses and institutions around the world. ESG, a generic term is used in capital markets and by investors to evaluate corporate behavior and to determine the future financial performance of companies. It has become part of companies' performance that determines sustainability, ethical & moral values and corporate governance issues. ESG analysis can give opportunity to the investors to identify and select more sustained and reliable companies that might bring a real long term profitable portfolio to them. ESG factors help the investors to judge the quality of the management and near future prospects of the company; it also analyses the competitive advantage to the companies as they can

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attract the investors with better performance on ESG parameters and can also be sure regarding long term sustainability.

In India, first ESG Screening Index called S&P ESG India Index was launched in Mumbai on January 30, 2008 by joint efforts of Standard & Poor's, CRISIL and KLD Research & Analytics. This index carried on for 6 years and deactivated on 1st October 2013. The purpose of this index was to provide the sustainability measures to the investors so that they can justify and modify their portfolio considering performance of the concerns on ESG parameters. This index highlighted those companies that are highly committed to their environmental and social responsibilities as well as to the corporate governance practices.

The S&P ESG India Index maintained by India Index Services Ltd., a joint venture of CRISIL and the National Stock Exchange of India Ltd. (NSE), which also manages the flagship S&P CNX NIFTY index of India's largest and most liquid companies. Constituents of the index were drawn from the top 500 companies (by market capitalization), listed on the NSE, which were subjected to a screening process and yield a score based on a companies' ESG disclosure related practices in the public domain. ESG index raised the profile of those companies which were performing better than their market peers on ESG parameters. S&P ESG India Index was unique as it linked a company's ESG score to its index weightings so that companies with higher scores carry higher weightage.

S&P ESG India Index was first of its kind and totally based on quantitative factors instead of subjective ones. Environmental, social, and corporate factors were quantified and translated into a series of scores measuring securities in the universe of publicly traded Indian companies. This index not only ensured a selection of environmentally, socially and corporate Governance responsible companies, but also securities which are representative of the Indian equity markets based on size and liquidity. The performance on ESG parameters assured investors that their portfolio is consciously balancing the interests of all stakeholders and thereby creating a platform for strong long-term performance.

Now-a-days, it has become a point of discussion among the economists that whether these qualitative aspects affect the financial performance of the companies and whether the ESG screened companies generate more profit than the unscreened companies? This paper is an attempt to find the answer to this question. As ESG India Index has been closed since 1st October 2013, present paper focuses on analysis of the impact of ESG screening on financial performance of the companies through the comparison of performance in pre and post ESG screening periods.

REVIEW OF LITERATURE

Researchers in the past studied some aspects of ESG in India and abroad. Halal (2000) presented theory of firms and the supporting evidences that reconcile the conflict between profitability and responsibility. He stated that rather than passive recipients of responsible treatment, modern stakeholders work with managers to improve their own benefits and also enhancing corporate profitability. Webley Simon and Elise (2003) also claimed that companies with ethics perform above average than those of without codes. In a sample of FTSE 350 firms, they found that 'ethical' companies outperformed those which made no such claims on three out of four financial measures, viz., market value added (MVA), economic value added (EVA) and price/ earnings ratio (PE).

Caulkin (2003) was of the view that profit seeking job of management and welfare are two opposite extremes and even in case of trade off between them, there would be excess of one on the expense of another. Lipper and GMI (2004) jointly did a study in which they paired the stock holdings of 725 large-cap domestic equity mutual funds included in Lipper's database with the GMI's calculated governance ratings for more than 1,000 publicly traded firms. They found that managers of large-cap mutual funds

were interested to companies that have above-average corporate governance profiles. Brown and Marcus (2004) using ISS's CGQ examined whether firms with 'weaker' corporate governance perform 'more poorly' than firms with 'stronger' corporate governance. CGQ" is the Corporate Governance Quotient utilized in ISS's proprietary rating system to help institutions evaluate the quality of corporate boards and the impact of their governance practices.

Ethisphere (2007) tracked the performance of the public companie that have made their list against the performance of the S&P 500. He found that companies that take ethics seriously enough to make their list, outperform the S&P 500 with better returns. According to Parks (2008) an ethical culture reduces the high-pressure, non-communicative, highly politicized work environments that can exist. But utmost, ethical culture leads to employee satisfaction, which fuels profitability. Satisfied employees always perform better than those employees who are less satisfied in their work environments. Mittal, Sinha and Singh (2008) in their study found a little evidence of companies with a code of ethics generating significantly more economic value added (EVA) and market added value (MVA) than those without codes. Standard & Poor (2009) in a study found a link between corporate governance and market value of companies in India. It suggested that investors should take this link into account while investing. The study further stated that the corporate governance score obtained annually from S&P ESG India Index has a significant and positive link with company level performance.

Peavler (2010) stated that ethics are essential for a long term profitability of the firms. The dishonest companies can earn profit in short term but in long term they will fail to do so because their employees, shareholders, bondholders and other stakeholders along with the public realize what they are doing. The only way to remain strong and feasible in long run is to live with principles and ethics. Rashid, Ramli and Zakaria (2010) examined the relationship between board composition and firm performance using a board-level aggregation variable. To analyze the relationship between these variables they used a linear regression on a panel data consisting 277 non-financial listed Malaysian firms over the period 2002-2007. The findings of the study indicated that firm-boards with a high representation of outside and foreign directors are associated with better performance compared to those firm-boards that have a

majority of insider executive and affiliated non-executive directors.

Azim Mohammad (2012) in a study conducted using structural equation modeling (SEM) investigated the extent to which different monitoring mechanisms – the board and its committees, shareholders and independent auditors – are complements (i.e. a positive covariance) or substitutes (a negative covariance) for each other. He found that complementary and substitution relationships among monitoring mechanisms were present. Using data from the pre and post global financial crisis period, the study examined whether corporate governance practices have any impact on corporate performance.

Kumar and Singh (2012) examined the efficacy of outside directors on the corporate boards of 157 non-financial Indian companies for the year 2008. The focus of research was to know if monitoring by grey directors (non-executive non-independent) and independent directors influence firm performance. The findings of the research revealed that while the proportion of grey directors on board has marginally deteriorated effects, the independent director's proportion has an insignificant positive effect on firm value. Karpagam and Selvam (2013) were of the views that without good corporate governance, increase in the shareholders' value and protection of their interests are not possible. The focus of their study was to examine whether corporate governance mechanism influences the firm performance. The paper analyzed board independence and financial performance of companies listed on Bombay Stock Exchange (BSE 100). The findings of the study indicated that corporate governance mechanism which incorporated Promoters' Ownership and Profitability creates more opportunity and resources for better performance.

RESEARCH QUESTIONS AND METHODOLOGY

The investment universe is evolving rapidly with increasing awareness of investment managers and investors towards impacts of environmental, social, and governance (ESG) factors on investment returns and risks. There is a growing body of evidence in academic literature to prove that ESG considerations may have impact on financial performance. Though, a number of financial analysts and investors are considering ESG factors along with financial information for making investment decisions, many are unconvinced with the fact that ESG performance has impact on financial performance. Further, the available literature does not give sufficient knowledge about the impact of ESG screening on financial performance of the companies. Accordingly, present paper seeks to examine impact of ESG screening on the performance and risk profile of the.

RESEARCH QUESTIONS

This paper intends to answers the following questions.
1. Whether there is any impact of ESG screening on the performance of the companies?
2. Whether there is any impact of ESG screening on risk profile of the companies?

SAMPLE

Present study initially considered 50 companies listed at ESG India Index 2013, but later on one company, Indiabulls Financial Services Ltd. is dropped. The Sample period consists of two sets that are ESG screening period from January 1, 2013 to September 30, 2013 and Non ESG Screening period from January 1, 2014 to September 30, 2014.

DATA

The study considers daily close prices of selected companies listed at ESG India index. Close prices for the period of Jan. 2013 to Sept. 2013 and from Jan. 2014 to Sept. 2014 are taken from official website of NSE (www.nseindia.com). To overcome the seasonal effect same and equal months are taken in both sides.

ANALYTICAL TOOLS

Daily returns of selected companies listed at ESG India Index 2013, are calculated by using following formula.

$$R = \frac{P_t - P_{t-1}}{P_{t-1}} \times 100$$

Here: R = Security Return, P = Close Price of Security, t = Current Date, t-1 = Previous Date

The beta values of NIFTY50 securities under consideration are calculated by using following formula.

$$R = \frac{CovXY}{Var\ X}$$

β = beta value, X= Market Returns, Y= Stock Returns, Cov = Covariance, Var = Variance.

Based on calculated beta values, risk profile of companies in ESG period and non-ESG period is examined. For examining the significance of difference in returns and risk profile of selected companies in the Pre and Post ESG Index period the researchers applied

Paired-Sample t-test for the companies having normally distributed data that is tested by using Shapiro-wilk test of Normality. The Wilcoxon test is used for the companies having non-normally distributed data.

The research hypotheses designed to examine the significance of difference in return and risk profile of the selected companies in Pre and Post ESG Index period are as follows.

Ho1 = Companies' returns in Pre and Post ESG Index period are at par.

Ho2 = Companies' risk profile in Pre and Post ESG Index period is at par.

RESULTS AND DISCUSSION
DESCRIPTIVE STATISTICS

The descriptive statistics of the pre and post ESG returns' difference of 49 companies (instead of 50 companies) are displayed in table 2. The statistics of Indiabulls Financial Services Ltd. is dropped because its returns' series was an outlier to the data set.

ANALYTICAL STATISTICS

Though, there are a number of statistical tests to examine significance of difference between two sets of data, but each test has its own assumptions and limitations. To test the hypotheses framed in this study paired t-test could be used, as it is appropriate for testing the significance of difference in two sample means of small size. Paired sample t-test assumes normal distribution. To check normality of data Shapiro-Wilk test of normality, one of the most powerful overall tests is used. Out of 49 companies the returns data of 27 companies satisfy the assumption of normality as their p value is more than 0.05 at 5 percent level of significance. In case of rest 22 companies, p value is less than 0.05 at the 5 percent level of significance; hence they do not satisfy the assumption of normality.

To test Ho1, researchers applied paired sample t-test on data of 27 companies satisfying the assumption of normality; Wilcoxon test is used on data of remaining 22 companies. Wilcoxon test compares the two data sets of qualitative nature or the data set that does not satisfy the assumptions of the parametric test of significance of difference. The test results indicate p value more than 0.05 for all the companies at the 5 percent level of significance; hence, null hypothesis (Ho1) is accepted. It indicates that the stock returns of all the 49 companies in pre and post ESG period do not differ significantly.

(Table 3)

The test of normality (Shapiro-Wilk test) applied on data set of difference in beta values in pre and post ESG period of selected companies at 5 percent level of significance (Table 5) indicate that the distribution is not normally distributed (p < 0.05). Hence, to test Ho2, researchers used Wilcoxon test. The test results (contained in Table 5) indicate p value more than 0.05 at 5 percent level of significance, hence null hypothesis (Ho2) is accepted. It indicates that there is no significant difference in beta value differences in pre and post ESG period of selected companies. Thus, it can be concluded that there is no impact of ESG screening on the performance and risk profile of the selected companies.

CONCLUSION

This study aims at analyzing the impact of ESG screening on financial performance of the companies. To accomplish the objective, the researchers analyzed the performance and risk profile of the selected companies in pre and post ESG screening periods by using parametric and non parametric analytical tools depending on nature of data. The results of Wilcoxon (non-parametric) test and paired sample t (parametric) test applied on stock returns and beta of selected companies indicate that there is no significant impact of ESG screening on financial performance and risk profile of the companies.

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APPENDIX

Table 1 : Constituents Of Esg India Index As On 1ˢᵗ October 2013

1	ACC
2	Apollo Tyres Ltd.
3	Ambuja Cement
4	Axis bank
5	Bajaj Auto Ltd.
6	Bharat Heavy Electricals Ltd.
7	Bharat Petroleum Corporation Ltd.
8	Bharti Airtel Ltd.
9	Crompton Greaves Ltd. Power Finance Corporation Ltd.
10	Dr. Reddy's Laboratories Ltd.
11	Divi's Laboratories Ltd.
12	GMR Infrastructure Ltd.
13	GAIL (India) Ltd.
14	HCL Technologies Ltd.
15	Hero MotoCorp Ltd.
16	Hindalco Industries Ltd.
17	Hindustan Unilever Ltd.
18	HDFC Bank Ltd.
19	Housing Development Finance Corporation Ltd
20	Indiabulls Financial Services Ltd. (Dropped)
21	ITC Ltd.
22	ICICI Bank Ltd.
23	IDBI Bank Ltd.
24	IndusInd Bank Ltd.
25	Infosys Ltd.
26	Infrastructure Development Finance Co. Ltd.
27	Jain Irrigation Systems Ltd
28	JSW steel ltd.
29	Kotak Mahindra Bank Ltd.
30	Lanco Infratech Ltd
31	L&T
32	Mahindra & Mahindra Ltd.
33	Maruti Suzuki India Ltd.
34	NTPC ltd.
35	Power Grid Corporation of India Ltd.

Table 2: Descriptive Statistics

Company	N	Minimum	Maximum	Mean	SE (Mean)	Std. Dev.	Variance
ACC	185	-6.1174	7.1386	0.2710	0.1800	2.4489	5.997
AMBUJA	185	-8.0383	1.2091	0.1261	0.2250	3.0598	9.362
APOLLOTYR	185	-1.0028	2.6105	0.5011	0.2948	4.0099	16.080
AXISBNK	185	-7.3631	1.0578	-9.5345	0.4636	6.3064	39.771
BJAJAUTO	185	-5.4315	7.7644	0.1407	0.1613	2.1945	4.816
BHARATI	185	-1.0599	1.4941	0.2920	0.2973	4.0444	16.357
BPCL	185	-9.4340	1.2541	0.4101	0.2563	3.4862	12.154
CRMPTNGRVS	185	-1.1314	1.3840	0.4102	0.2899	3.9433	15.549
DIVILAB	185	-5.9572	8.2459	0.2692	0.1730	2.3527	5.535
DR. REDDY LAB	185	-6.97	6.22	-0.0286	0.1570	2.1359	4.562
GMR	185	-14.58	12.76	-0.2275	0.3447	4.6888	21.985
GAIL	185	-6.88	8.04	0.1957	0.1965	2.6731	7.146
HCL TECH	185	-6.19	5.99	-0.1199	0.1890	2.5707	6.608
HEROMOTORCUP	185	-5.99	8.07	0.1301	0.1834	2.4942	6.221
HINDALCO	185	-8.90	9.33	0.2110	0.2695	3.6659	13.439
HUL	185	-18.32	8.47	0.0362	0.1898	2.5809	6.661
HDFC	185	-7.21	9.43	0.1691	0.1937	2.6344	6.940
HDFCBNK	185	-9.02	7.80	0.1897	0.1721	2.3406	5.478
ITC	185	-7.25	7.05	-0.0379	0.1574	2.1412	4.585
ICICI	185	-9.05	7.49	0.2455	0.2029	2.7593	7.614
IDBI	185	-11.42	17.93	0.2998	0.2610	3.5494	12.598
INDUSLND	185	-9.01	11.49	0.2371	0.2469	3.3586	11.281
INFOSYS	185	-13.58	22.02	-0.1211	0.2184	2.9703	8.823
IDFC	185	-9.32	17.25	0.4540	0.2839	3.8611	14.908
JAINIRRIGATION	185	-13.92	13.37	0.2004	0.3159	4.2964	18.459
JSW	185	-13.64	9.99	0.1153	0.2662	3.6210	13.112
KOTAKBANK	185	-9.57	8.18	0.1315	0.1997	2.7162	7.377
LANCO	174	-16.08	19.24	0.4054	0.3949	5.2085	27.129
LTLTD	144	-15.97	9.39	0.0765	0.2929	3.5146	12.352
M&M	185	-5.47	7.66	0.2478	0.1799	2.4463	5.984
MARUTI	185	-8.55	8.27	0.3432	0.2004	2.7251	7.426
NTPC	185	-11.44	8.46	0.0297	0.1964	2.6708	7.133
POWERGRID	185	-7.85	11.52	0.2355	0.1739	2.3654	5.595

TABLE 3: SIGNIFICANCE OF DIFFERENCE IN RETURNS IN PRE & POST ESG PERIODS

Company	Normality Test (Sign. P Value)	T-test/ Wilcoxon Test (Sig. P Value) *	Interpretation
ACC	0.102	0.134	Ho 1 Accepted
AMBUJA	0.008	0.811	Ho 1 Accepted
APOLLOTYR	0.000	0.079	Ho 1 Accepted
AXISBNK	0.000	0.223	Ho 1 Accepted
BJAJAUTO	0.165	0.384	Ho 1 Accepted
BHARATI	0.050	0.787	Ho 1 Accepted
BPCL	0.050	0.327	Ho 1 Accepted
CRMPTNGRVS	0.748	0.111	Ho 1 Accepted
DIVILAB	0.067	0.159	Ho 1 Accepted
DR. REDDY LAB	0.259	0.121	Ho 1 Accepted
GMR	0.001	0.810	Ho 1 Accepted
GAIL	0.016	0.934	Ho 1 Accepted
HCL TECH	0.101	0.321	Ho 1 Accepted
HEROMOTORCUP	0.332	0.527	Ho 1 Accepted
HINDALCO	0.422	0.479	Ho 1 Accepted
HUL	0.027	0.769	Ho 1 Accepted
HDFC	0.000	0.592	Ho 1 Accepted
HDFCBNK	0.205	0.384	Ho 1 Accepted
ITC	0.206	0.272	Ho 1 Accepted
ICICI	0.105	0.810	Ho 1 Accepted
IDBI	0.356	0.228	Ho 1 Accepted
INDUSLND	0.000	0.207	Ho 1 Accepted
INFOSYS	0.110	0.338	Ho 1 Accepted
IDFC	0.000	0.883	Ho 1 Accepted
JAINIRRIGATION	0.002	0.396	Ho 1 Accepted
JSW	0.049	0.524	Ho 1 Accepted
KOTAKBANK	0.000	0.235	Ho 1 Accepted
LANCO	0.094	0.511	Ho 1 Accepted
LTLTD	0.007	0.543	Ho 1 Accepted
M&M	0.001	0.444	Ho 1 Accepted
MARUTI	0.193	0.170	Ho 1 Accepted
NTPC	0.003	0.030	Ho 1 Accepted
POWERGRID	0.001	0.816	Ho 1 Accepted
POWERFINANCE	0.020	0.428	Ho 1 Accepted

Table 4: Tests Of Normality Of Beta Values (DIFF IN PRE AND POST ESG)

Variable	Shapiro -Wilk		
	Statistic	DF	Sig. (P Value)
Beta values diff of pre and post	0.951	50	0.039

Table 5: Wilcoxon Signed Ranks Test On Beta Values

	Beta Values Diff (Post − Pre)
Z	- 1.520
Asymp. Sig. (2 - tailed)	0.128