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Price growth of nifty and ESG Indices: A non-financial perspective

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Abstract

This paper tries to compare the performance in terms of price growth of NIFTY and ESG Indices and examines if the reporting of non-financial information by the firms in ESG Index affects the performance of ESG Index as compared to NIFTY Index in the pre-crisis, crisis and post-crisis period. The growth rate of both the indices in different time periods is calculated and is then compared for both the indices for different time periods. The results show that NIFTY Index has performed better in pre-crisis period but ESG Index have performed better in crisis and post-crisis period.

Keywords: non-financial information, nifty index, ESG index, price growth

1. Introduction

The value-relevance of non-financial information has increased markedly over the last several years. Most top executives at large multinational firms believe that non-financial performance measures are more valuable than traditional financial measures in assessing long-term value (Pricewaterhouse Coopers, 2002) [10]. This shift in information preferences has stimulated a substantial increase in the volume of non-financial information conveyed by firms to their stakeholders and market participants.

Thus, current mandated financial reporting does not give a complete picture of a firm and is too short-term in orientation (Holder-Webb *et al*. 2008, 2009; Simnett *et al*. 2009a). In a world where the market value of the firm is decoupled from the value of its underlying assets, non-financial information offers a tool for measuring the firm value arising from intangibles and future cash flows that is missing from traditional financial reports (Lev 2001) [7].

Given the limitations of historical financial information, an important question arises about what other information is of benefit to potential stakeholders. Holder-Webb *et al*. (2008, 2009) studied the disclosure of corporate governance and corporate social responsibility but Cohen *et al*. (2011) found that retail investors were most concerned with non-financial disclosures that more directly affected future earnings such as the disclosure of leading economic indicators. In a recent review of developments on the integration of financial and non-financial information, Adams *et al*. (2011) argue that, "Integrated reporting is a means to providing a more coherent, balanced and complete picture of company performance, centered around strategic objectives and business models, and sensitive to the multiple drivers of value for today's businesses."

We can classify non-financial disclosures into two compartments namely economic and non-economic indicators. Economic indicators here mean the metrics, which are directly, relates to performance of the business like market share, quality rankings, customer satisfaction, employee satisfaction, turnover and innovation etc. With non-economic indicators we mean those metrics, which are not directly related to the business of the reporting entity like expenditure on environment, CSR undertaken, expense on employees betterment etc. Firms are keeping their stakeholders informed about both the indicators. But with the growth in demand of responsibly produced and fairly traded goods the focus has been shifted towards non-economic indicators.

Corporate social responsibility (CSR) activity is an area of intense and increasing interest both on the practice and academic fronts. Assets under professional management and invested with a social responsibility focus have also grown dramatically over the last ten years. Investors choosing social responsibility investment strategies require access to information not provided through traditional financial statements and analyses. At the same time, a group of mainstream institutional investors has encouraged a movement to incorporate environmental, social, and governance information into equity analysis, and multi-stakeholder groups have supported enhanced business reporting on these issues.

Investors are not the only interested parties; CSR activity provides an increasing focus of product development and marketing practitioners. Research demonstrates that certain types of CSR activity produce value for firms in terms of brand loyalty and marketing advantages (Brown and Dacin 1997 [3]; Sen and Bhattacharya 2001) [11]. As Handleman and Arnold (1999, p. 36) [5] note, "In any community, it is common to find retailers donating to local charities, sponsoring little league sports teams, and proudly displaying the national flag. These actions demonstrate the retailer's adherence to unwritten but powerful normative rules of acceptable social conduct, such as becoming involved with the community and promoting national pride."

According to the Social Investing Forum, "issues now occupying mainstream consciousness – corporate governance, transparency, accountability, and greater disclosure – have long been central to the practice of social investing."

NIFTY Index comprises of top 50 companies in term of market capitalization and ESG (Environmental, Social and Governance) Index comprises of companies, which are more socially responsible towards their stakeholders and society at large. Comparison of performance in terms of price growth for these two indices shall give us evidence about whether an index comprising of socially responsible companies is performing better than the index of other companies.

In the next section, we have reviewed some of the studies that throw light on non-financial reporting. In the third section, we have presented our methodology for the comparative analysis where we have identified the breaks and then in the fourth section, we have fitted regression equation for calculation of growth rate for both the indices. In the last section, we have concluded the paper with some contribution and limitation of the study.

2. Literature Review

The historical emphasis of traditional financial information does not answer the needs of stakeholders, who require information not only about future earnings but also about the firm's social and environmental responsibility and interactions with the environment and home communities (Adams 2004 [1]; Anderson *et al.* 2005) [2].

The historical focus of financial reporting provides an incomplete picture of a firm's current status to auditors, investors, and creditors and has limited relevance for evaluating future prospects (Lev and Zarowin 1999 [8]; Lev 2001 [7]; Graham *et al.* 2005). Cohen *et al.* (2011) demonstrate that the efficiency and effectiveness of audits is improved through auditor use of non-financial information. However, the backward-looking financials are subjected to assurance services, are standardized among firms by GAAP, and possesses the currency of long use by external parties; thus stakeholders may over-rely on financial information that does not fully reflect the sources of value of a business. These issues with the historical and financial approach to disclosure are well known to the regulatory and investing community. Disclosure of non-financial information is essential to reduce the information asymmetry that exists between management and important stakeholders (Narayanan *et al.* 2000). Providing non-financial information allows investors to better assess key areas of performance and supports a broader view of corporate performance that also encompasses society at large (Holder-Webb *et al.* 2009). These insights are not new – the role of intangibles such as quality of management in corporate success has a long history in the literature (Trueman 1986) – but they do point to a crucial question raised by critics of the current reporting system. What is the most effective way of informing stakeholders of those elements of business performance that do not show up on the financial statements?

A number of recent initiatives designed to encourage the integration of financial and non-financial metrics in an integrated reporting framework have been taken over the past decade. For example, the Global Reporting Initiative (GRI) (2011) provides guidelines for presenting a sustainability report that emphasizes evaluating a company by its ability to promote sustainable growth that is also cognizant of environmental, social, and governance metrics. Adams *et al.* (2011) argue that three major differences between integrated reporting and traditional reporting are "incorporating a variety of financial and non-financial metrics and their interlink ages; capturing a longer-term perspective; and providing a better reflection of company strategy."

This begs the question of what metrics allow external users to evaluate a company's viability and the company's value proposition effectively. We classify non-financial indicators into two broad categories namely economic and non-economic metrics. Economic metrics focuses on the information, which tells about the performance of the firm in its business. On the other hand non-economic metrics are those, which informs about the firms involvement in other important areas like environment, society, social welfare etc. Recently investors and other stakeholders have shown more interest towards non-economic indicators rather than economic non-financial indicators. Corporate social responsibility (CSR) activity is an area of intense and increasing interest both on the practice and academic fronts. Due to this shift in the preference of information it is necessary for the firms to give such information to their stakeholders.

3. Data and Methodology

3.1 Data

For the analysis, we have considered the period from February 2005 to October 2013 and collected monthly closing prices of both ESG and NIFTY Index for above said period from PROWESS database of CMIE (Centre for Monitoring Indian Economy). Total number of observations is for 105 Months.

3.2 Identification of breaks

After obtaining the data, we plot the data so as to identify the breaks. We obtain the following trends when we plotted the closing prices of both the indices with respect to time:

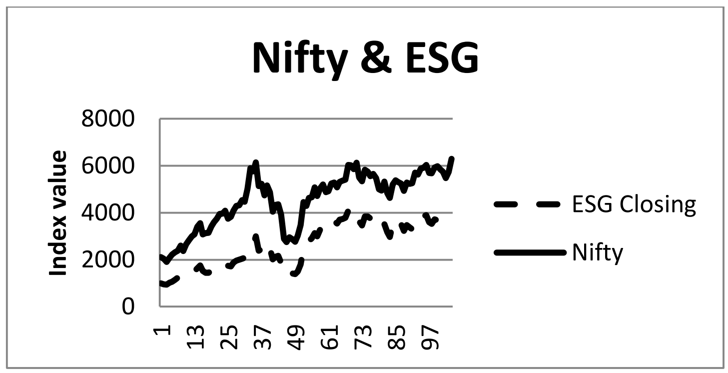

Fig 1: Plotting Nifty and ESG Indices to identify breaks

From the above trend, we can identify three breaks occurring simultaneously both in case of ESG and NIFTY Index values. These breaks are as follows:

February 2005 to October 2007 – Pre Crisis Period
November 2007 to September 2008 – Crisis Period
October 2008 to October 2013 – Post Crisis Period

We observe that the above-mentioned breaks occurred simultaneously in case of ESG and NIFTY. However, we are interested in knowing the fact that how these indices behaved during these periods and fitting regression equation and using dummies for the identified breaks can achieve this. These equations are estimated later in this section.

3.3 Model in General Form and in the Form of Estimated Equation

We are interested in finding out the price discovery process for the whole period and the behavior of the index in the identified breaks for both the indices. Then, we want to find the trend in the returns for the whole period and for the identified breaks for both the indices. It would be followed with the performance of Relative Index for the whole period and for the identified breaks.

Functional Equation

ESG Index value = f (Time)

Nifty Index value = f (Time)

Equation 1 (ESG Price Discovery)

$$Ln\ (ESG\ Index\ value) = b_0 + b_1T + u_t$$

Where, Ln (ESG Index values) = Natural log of ESG Index values

b_0 = Constant/ intercept of ESG Index values

b_1 = Growth rate of ESG Index values

T = Time period (1 for February 2005, 2 for March 2005........105 for October 2013)

Equation 1A (NIFTY Price Discovery)

$$Ln\ (NIFTY\ Index\ value) = b_0 + b_1T + u_t$$

Where, Ln (NIFTY Index values) = Natural log of NIFTY Index values

b_0 = Constant/ intercept of NIFTY Index values

b_1 = Growth rate of NIFTY Index values

T = Time period (1 for February 2005, 2 for March 2005........105 for October 2013)

Equation 2 (ESG Index using time dummy for identified breaks)

$$Ln\ (ESG\ Index\ value) = b_0 + b_1d_1 + b_2d_2 + b_3T + b_4Td_1 + b_5Td_2 + u_t$$

Where, Ln (ESG Index values) = Natural log of ESG Index values

$d_1 = 0, d_2 = 0$ for pre-crisis period

$d_1 = 1, d_2 = 0$ during crisis period

$d_1 = 0, d_2 = 1$ for post-crisis period

b_0 = constant/ intercept for pre-crisis period of ESG Index values

$b_0 + b_1$ = constant/ intercept during crisis period of ESG Index values

$b_0 + b_2$ = constant/ intercept for post crisis period of ESG Index values

b_3 = Growth rate for pre-crisis period of ESG Index values

$b_3 + b_4$ = Growth rate during crisis period of ESG Index values

$b_3 + b_5$ = Growth rate for post crisis period of ESG Index values

T = Time period (1 for February 2005, 2 for March 2005........105 for October 2013)

Equation 2A (NIFTY Index using time dummy for identified breaks)

$$Ln\ (NIFTY\ Index\ value) = b_0 + b_1d_1 + b_2d_2 + b_3T + b_4Td_1 + b_5Td_2 + u_t$$

Where, Ln (NIFTY Index values) = Natural log of NIFTY Index values

$d_1 = 0, d_2 = 0$ for pre-crisis period

$d_1 = 1, d_2 = 0$ during crisis period

$d_1 = 0, d_2 = 1$ for post-crisis period

b_0 = constant/ intercept for pre-crisis period of NIFTY Index values

$b_0 + b_1$ = constant/ intercept during crisis period of NIFTY Index values

$b_0 + b_2$ = constant/ intercept for post crisis period of NIFTY Index values

b_3 = Growth rate for pre-crisis period of NIFTY Index values

$b_3 + b_4$ = Growth rate during crisis period of NIFTY Index values

$b_3 + b_5$ = Growth rate for post crisis period of NIFTY Index values

T = Time period (1 for February 2005, 2 for March 2005........105 for October 2013)

3.4 Hypotheses of the Study

For achieving the purpose of our study we have made the following hypotheses

A) First Primary Hypothesis

Null Hypothesis (H_0P_1): Efficiency of Price discovery process is same both for ESG and NIFTY Index.

Alternate Hypothesis (H_1P_1): Efficiency of Price discovery process is better in case of ESG India Index then that of NIFTY Index.

B) Secondary Hypothesis of first primary hypothesis

Null Hypothesis (H_0S_{11}): Structural break has no impact on growth of the Index. Alternate Hypothesis (H_1S_{11}): Structural break has an impact on growth of the Index.

4. Analysis Results

4.1 Regression Analysis of Model 1 and 1A (Price Discovery)

4.1.1 Results that we have obtained from SPSS by estimating the data collected in estimated equation 1 [i.e. Ln (ESG Index value) = $b_0 + b_1T$] are as follows:

Table 1: Results for ESG Price Growth

Multiple R	0.870900563				
R Square	0.75846779				
Adjusted R Square	0.756122817				
Standard Error	0.211731712				
Observations	105				
ANOVA					
	Df	***SS***	***MS***	***F***	***Significance F***
Regression	1	14.50010444	14.5001	323.4442	1.5E-33
Residual	103	4.617522732	0.04483		
Total	104	19.11762717			

Value of parameters and t-statistics					
	Coefficients	***Standard Error***	***t Stat***	***P-value***	
Intercept	7.1469	0.041622754	171.7072	0.0000	
Time period	0.0122	0.00068173	17.98455	0.0000	

Ln (ESG Index value) = 7.1469 + 0.0122T
P-Value (0.0000) (0.0000)

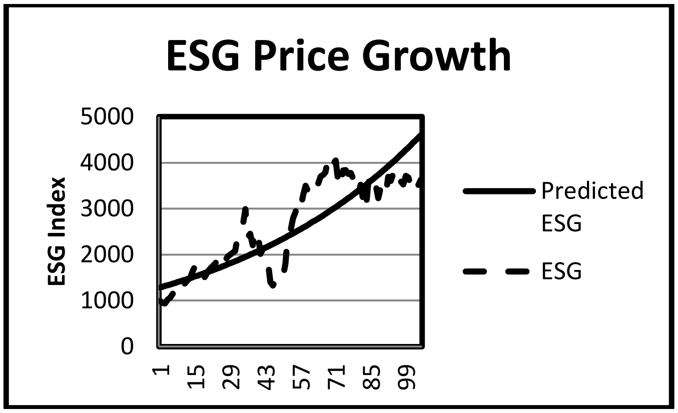

Fig 2: ESG Price Growth

4.1.2 Results that we have obtained from SPSS by estimating the data collected in estimated equation 1A [i.e. Ln (NIFTY Index value) = $b_0 + b_1T$] are as follows:

Table 2: Results for Nifty Price Growth

Regression Statistics					
Multiple R	0.789142				
R Square	0.622744				
Adjusted R Square	0.619082				
Standard Error	0.189316				
Observations	105				
ANOVA					
	Df	***SS***	***MS***	***F***	***Significance F***
Regression	1	6.093745	6.093745	170.0244	1.55E-23
Residual	103	3.691561	0.03584		
Total	104	9.785306			
Value of parameters and t-statistics					
	Coefficients	***Standard Error***	***t Stat***	***P-value***	
Intercept	7.9560	0.037216	213.7802	0.0000	
Time	0.0079	0.00061	13.03934	0.0000	

Ln (Nifty Index value) = 7.9560 + 0.0079T
P-Value (0.0000) (0.0000)

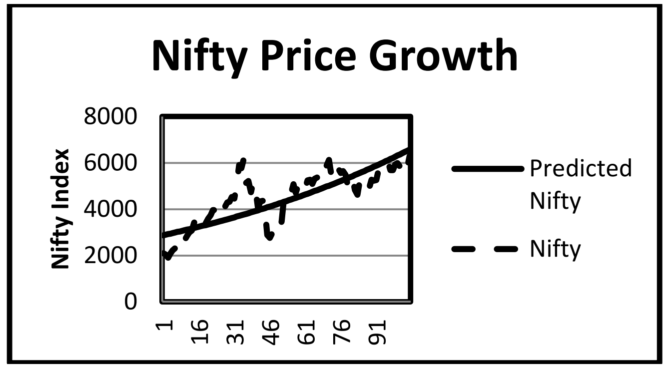

Fig 3: Nifty Price Growth

4.1.3 Interpretation of value of the Parameters and t-test for both the indices:

Coefficient of determination (R^2) for ESG Index is at 0.75846779 as against NIFTY Index in which case the R^2 is 0.622744. This indicates that growth in ESG Index is adequately captured by time period under study as the actual value of ESG Index is revolving around the predicted ESG Index as can be seen in the Chart IV and V.

Intercept of the ESG Index (i.e. 7.146927201) is lower than that of NIFTY Index (i.e. 7.956075). The reason for this being that the NIFTY Index had been launched much earlier than ESG Index and as a result absolute value of NIFTY Index is higher than ESG Index. In respect of p-values of both the intercepts are concerned, both are significant which implies that there are some other factors besides the time-period, which have significant effect on growth rate. Although, the intercepts can't be directly interpreted as it is semi-log equation. However, due to limitations on scope of our study we have not considered the other factors.

Growth rate for ESG Index is 1.22%, which is higher than NIFTY Index, which is at 0.79%, and both are significant. This shows that companies, which are socially responsible, are outperforming the general companies in the market. Investors are nowadays become more sensitized towards social responsibility and non-financial information. There has been a paradigm shift as stressed by Murthy (2007) and this paradigm shift has completely changed the philosophy of business. Now the corporate responsibility framework has taken a concrete form and this has been vindicated from the results above. An efficient market is able to absorb and internalize all the available information whether financial or non-financial. Our results corroborate this fact since price discovery is better in case of socially responsible companies. Public at large are nowadays discounting and internalizing the social responsible behavior of the companies.

In contemporary scenario, markets are responding both to financial and non-financial information since we believe that there is a paradigm shift and corporate responsibility model has gained momentum. As ESG Index is performing better in terms of price discovery, it would confirm our broad contentions that social responsibility has got a distinct and positive influence in stock market.

4.2 Regression Analysis of Model 2 and 2A (Price Discovery)

4.2.1 Results that we have obtained from SPSS by estimating the data collected in estimated equation 2 [i.e. Ln (ESG Index value) = $b_0 + b_1d_1 + b_2d_2 + b_3T + b_4Td_1 + b_5Td_2$] are as follows:

Table 3: Results for ESG Price Growth with dummies

Regression Statistics					
Multiple R	0.902490878				
R Square	0.814489785				
Adjusted R Square	0.805120582				
Standard Error	0.189270666				
Observations	105				
ANOVA					
	df	***SS***	***MS***	***F***	***Significance F***
Regression	5	15.57111205	3.114222	86.93267	1.22455E-34
Residual	99	3.546515123	0.035823		
Total	104	19.11762717			
Value of parameters and t-statistics					
	Coefficients	***Standard Error***	***t Stat***	***P-value***	
Intercept	6.8862	0.067422329	102.1362	0.0000	
Month	0.0260	0.00346021	7.529954	0.0000	
D_2	2.1561	0.709325142	3.039655	0.0030	
D_3	0.3921	0.125654776	3.120562	0.0023	
D_2T	-0.0590	0.018374988	-3.2162	0.0017	
D_3T	-0.0156	0.003723905	-4.20736	0.0000	

Ln (ESG Index value) = 6.8862 +0.0260d_1 + 2.1561d_2 + 0.3921T - 0.0590Td_1 - 0.0156Td_2
P-Value (0.0000) (0.0000) (0.0030) (0.0023) (0.0017) (0.0000)

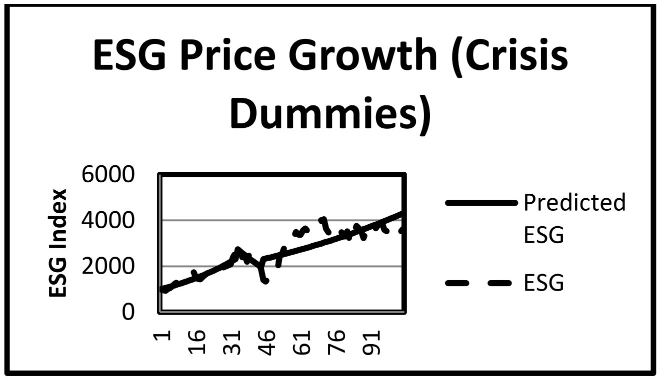

Fig 4: ESG Price Growth (Crisis Dummies)

4.2.2 Results that we have obtained from SPSS by estimating the data collected in estimated equation 2A [i.e. Ln (NIFTY Index value) = $b_0 + b_1d_1 + b_2d_2 + b_3T + b_4Td_1 + b_5Td_2$] are as follows:

Table 4: Results for Nifty Price Growth with dummies

Regression Statistics					
Multiple R	0.918338853				
R Square	0.843346249				
Adjusted R Square	0.835434443				
Standard Error	0.12443427				
Observations	105				
ANOVA					
	Df	***SS***	***MS***	***F***	***Significance F***
Regression	5	8.252401024	1.65048	106.5933984	2.98866E-38
Residual	99	1.532904878	0.015484		
Total	104	9.785305902			
Value of parameters and t-statistics					
	Coefficients	***Standard Error***	***t Stat***	***P-value***	
Intercept	7.5871	0.044326194	171.167	0.0000	
Month	0.0289	0.002274884	12.73188	0.0000	
D_2	2.4176	0.466339335	5.184291	0.0000	
D_3	0.3110	0.082610584	3.764934	0.0002	
D_2T	-0.0679	0.012080468	-5.62579	0.0000	
D_3T	-0.0206	0.002448248	-8.4483	0.0000	

Ln (Nifty Index value) = 7.5871 +0.0289d_1 + 2.4176d_2+ 0.3110T - 0.0679Td_1 - 0.0206Td_2
P-Value (0.0000) (0.0000) (0.0000) 0.0003) (0.0000) (0.0000)

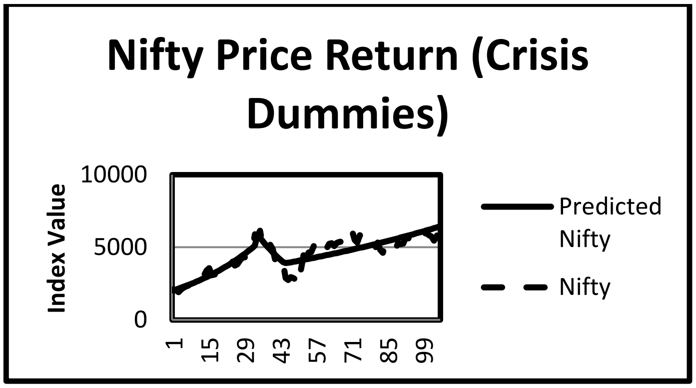

Fig 5: Nifty Price Return (Crisis Dummies)

Table 5: Analysis for Pre – crisis period

	ESG Index			Nifty Index		
	Identifier	Value of Parameter	P-value	Identifier	Value of Parameter	P-value
Intercept	B_0	6.886261043	0.0000	B_0	7.587179945	0.0000
Growth Rate	B_3	0.026055225	0.0000	B_3	0.028963545	0.0000

4.2.3 Interpretation of value of the Parameters and t-test for both the indices for pre-crisis period

Intercept of the ESG Index (i.e. 6.88) is lower than that of NIFTY Index (i.e. 7.587).The reason being that NIFTY Index was launched much earlier as compared to ESG Index and absolute value of NIFTY Index is higher than ESG Index. P-values of both the intercepts are significant which implies that there are some other factors besides the time-period, which have significant effect on growth rate.

During pre-crisis period, price discovery is better in case of general companies (i.e. 2.89% growth rate in case of NIFTY Index) than that of socially responsible companies (i.e. 2.60% growth rate in case of ESG Index). Our pre-crisis period ranges from February 2005 to October 2007. During this period, concept of corporate responsibility was in developing phase and there was not much public awareness about it. Shift in paradigm was taking place but at an impending pace. During this period, businesses were still considered as merely a property institution rather than social institution and there was a weak link between business ethics and corporate responsibility. As there was no public awareness about business ethics and corporate responsibility, so investors were not absorbing and internalizing the behavior of socially responsible companies. As a result, the growth rate of socially responsible companies is less than the growth rate of general companies. No doubt that market was efficient but they were only responding to financial information. The standards relating to disclosure of non-financial information were not sufficiently developed and as a consequence there is ebbing impact of non-financial information on price discovery.

Table 6: Analysis of crisis period

	ESG Index			Nifty Index		
	Identifier	Value of Parameter	P-value	Identifier	Value of Parameter	P-value
Intercept	B_0+B_1	9.042365	0.0030	B_0+B_1	10.00482	0.0000
Growth Rate	B_3+B_4	-0.03304	0.0017	B_3+B_4	-0.039	0.0000

4.2.4 Interpretation of value of the Parameters and t-test for both the indices for crisis period

Intercept of the ESG Index (i.e. 9.042) is lower than that of NIFTY Index (i.e. 10.004). The reason as already known that the NIFTY Index had been launched much earlier than ESG Index. P-values of both the intercepts are significant which implies that there are some other factors besides the time-period, which have significant effect on growth rate.

We can see the effect of shock (i.e. crisis) in both the indices. We can observe that the growth rate during crisis period is negative for both the indices. However, the growth rate of ESG Index (i.e. -3.30%) is less negative than in case of NIFTY Index (i.e. -3.9%). This shows that the public as annoyed by the crisis had become skeptical towards companies and as a result had started penalizing the companies. The stock prices of general as well as socially responsible companies had fallen drastically. But the interesting fact to observe here is that the stock price of socially responsible companies had fallen at lesser rate than general companies. This implies that during this period there is a shift in paradigm and is taking place rapidly. The investors had begun to absorb and internalize the behavior of socially responsible companies. The impact of financial as well as non-financial information is being felt on the stock prices on both the indices. During adversity, investors put more faith on socially responsible companies and as a result, impact of crisis has been internalized more in case of socially responsible companies.

Table 7: Analysis for Post – crisis period

	ESG Index			Nifty Index		
	Identifier	Value of Parameter	P-value	Identifier	Value of Parameter	P-value
Intercept	B_0+B_2	7.278375	0.0023	B_0+B_2	7.898203	0.0002
Growth Rate	B_3+B_5	0.010387	0.0000	B_3+B_5	0.00828	0.0000

4.2.5 Interpretation of value of the Parameters and t-test for both the indices for post-crisis period

Intercept of the ESG Index (i.e. 7.278) is lower than that of NIFTY Index (i.e. 7.898) and the reason for this has already been given above.

The growth rate during post-crisis period is positive for both the indices. This is the indication of the fact that now the economy is recovering from the shock. However, the growth rate of ESG Index (i.e. 1.03%) which is much higher than the growth rate of NIFTY Index (i.e. 0.82%). This shows us that investors, after the crisis has become more sensitive towards CSR and is effectively giving due regard to companies that are socially responsible. Investors are discounting financial as well as non-financial information and for the same reason price discovery is better in case of socially responsible companies. This also corroborates with the fact that paradigm shift has taken place, concept of corporate responsibility has been conceptualized and public in general have become much more aware towards social responsibility and non-financial information. Awareness has come in the society that businesses are not property institution but are societal institution whose main aim is to fill the gap in respect of the natural environment and society not covered by the state rather than carrying out economic activities for profit alone.

5. Conclusion

Hitherto it can be seen that there exists no sound framework for Business Ethics. The concept of Business Ethics is somewhat mirage. Traditionally as there was no conceptual framework for business ethics so it was just limited to payment to various factors of production at the prices established in the market. Hence, in the traditional sense there existed no social responsibility. If any social responsibility was there then it was purely on personal and individual basis. So traditionally CSR was just entirely on voluntarily basis and as it was on voluntarily basis, it logically limit down to philanthropy.

5.1 Hypothesis and Their Results

a) First Primary Hypothesis

Null Hypothesis (H_0P_1): Efficiency of Price discovery process is same both for ESG and NIFTY Index.

Alternate Hypothesis (H_1P_1): Efficiency of Price discovery process is better in case of ESG India Index then that of NIFTY Index.

Result: Null hypothesis is rejected and Alternate hypothesis is accepted i.e. price discovery process is better in case of ESG India Index.

b) Secondary Hypothesis of first primary hypothesis

Null Hypothesis (H_0S_{11}): Structural break has no impact on growth of the Index.

Alternate Hypothesis (H_1S_{11}): Structural break has an impact on growth of the Index.

Result: Null hypothesis is rejected and Alternate hypothesis is accepted i.e. structural breaks have impact on the growth of the index.

5.2 Contribution of the Study

This study has linked non-financial reporting with accounting: This study has linked non-financial reporting with traditional accounting, which is static. The accounting information system however is intended to be dynamic because it relates to dynamic environment and to the larger stakeholders. Therefore this study is an off shout of the accounting information system and it tends to go beyond the traditional static framework of accounting that is essentially financial in nature.

Identification of the breaks: For Macro analysis we have identified the structural breaks with the help of graphs. These breaks helped us in studying the performance of index in different structural breaks and give interpretation about the performance in these structural breaks.

5.3 Limitations of the Study

Numbers of firms were limited: The firms in the analysis were only 39 that are very less even in the Indian context. A larger pool of firms can be taken for analysis so that the results are verified.

Time period for the analysis was short: We have studied the impact of financial and non-financial factors on the performance of the firms for a period from February 2005 to October 2013. The period of very short but as the ESG Index was discontinued so this period was selected.

5.4 Scope of Further Study

Number of firms can be increased: As the number of firms is limited in the analysis, we can broaden the analysis by increasing the number of firms by selecting a broader index.

Time period can be extended: We can also extend the time period and calculate the ESG Index on our own by using the methodology used by S&P as the ESG Index had been discontinued.

5.5 Overall conclusion

Analysis shows that the performance of ESG Index is better as compared to Nifty Index in the crisis and post-crisis period which indicate that the markets are maturing where non-financial information is also given same weightage as given to financial information. It also means that the expenditure done by the companies for such social activities is not wasteful as it was considered earlier.

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