



## Triple Bottom Line of Material Sector

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### ABSTRACT

*In Indian business environment, Triple Bottom Line is relatively a young subject in comparison to the developed economies. This study is an attempt to explore trends in Triple Bottom Line measured by Environment, Social score and RONW, ROCE and PE Ratio and association between the performances. Sixteen companies belonging to Materials Sector (according to Global Industry Classification Standards) are considered as sample companies. This sector is considered as its impact on environment and social is greater compared to many other sectors. Correlation is used to estimate the association in the corresponding years as well as the lag effect is studied.*

**Key Words:** Triple Bottom Line (TBL), Material Sector, Association

### INTRODUCTION

The phrase ‘Triple Bottom Line’ (TBL-3Ps-Planet, People and Profit) has been coined by John Elkington in 1994. According to Mahoney et al., 2004 [1] TBL is ‘a framework linked to the broader sustainability agenda that underpins and reviews environmental, economic and social performance of organisations. According to **Foran et al., 2005** [2], ‘... the triple bottom line distills a communication focus for complex decision making processes that in reality have to deal with many bottom lines which according to some, currently have too great an emphasis on financial outcomes.’ ‘The TBL agenda focuses ... not just on the economic value that they add, but also on the environmental and social value that they add – or destroy’ **Elkington, 2004** [3].

Any company that makes money through mining and selling of physical materials of the earth belong to Material Sector. Everything on the planet is made of some kind of material, this sector is very vast. This sector includes companies whose sales originate from mining, acquisition and sale of physical substances for manufacturing related purposes. This sector is sensitive to economic cycles. Material stocks quickly increase at the conclusion of a recession, because material is a primary input for many industries. According to GICS, Materials Sector includes Chemicals, Construction Materials, Containers and Packaging, Metals and Mining, Paper and Forest Products. Chemicals are sub divided into Commodity Chemicals, Diversified Chemicals,

Fertilizers and Agricultural Chemicals, Industrial Gases, Specialty Chemicals.

### LITERATURE REVIEW

The following paragraphs outline summary of selected studies in the field of TBL.

In the study by **Foran et al., 2005** [2] the input-output approach has been used to study three sectors, viz. seed cotton, paper, pulp and paperboard and vegetables and fruit growing sectors in Australia. The three accounts derived from the integration of the national input-output for economic issue include, imports, exports and surplus; social issue include employment, wages and government revenue and environmental issue includes green house gas emissions, water and land disturbance. They compared the sector specific figures with that of the economy wide average figures. They studied the direct and indirect impact (upstream effect) and tried to find points in the supply chain to reduce the negative impact. It is concluded that ‘...integration (of methods, data and institutions) must take place if individual nations and humankind in general are to solve the many social and environmental dilemmas that intricately and intimately link the world’s consumers and the producers that serve them.’

**Fry et al., 2008** [4] researched over a period of eight years to understand ‘... about the spiritual leadership theory with hundreds of leaders in over 100 government and for-profit organizations.’ They present ‘... a general process for maximizing the triple bottom line through the development of the motivation and leadership required to simultaneously optimise employee wellbeing, social responsibility, organizational commitment and financial performance. According to them, some companies have been experimenting with new business models and adopting sustainable business strategies that have a positive economic, social and environmental impact, often referred to as the TBL. They state that ‘Spiritual leadership is a significant source of competitive advantage. If sustained and compounded, spiritual leadership would result in thirteen percent increase in sales growth.’

Hacking et al., 2008 [5] state that “*Integrated Assessment, Triple Bottom-Line Assessment ... are used in the literature (for) promoting the use of impact assessment as a means of directing, planning and decision-making towards sustainable development*”.

### OBJECTIVES OF THE STUDY

- To understand the concept of Triple Bottom Line.
- To study trends in TBL (environment, social and financial performance).
- To study association between environment, social and financial performance.

### RESEARCH METHODOLOGY

**Data :** Secondary data from CRISIL Limited has been accessed and used. CRISIL provided the Environment, Social (ES) scores of 748 companies, listed on National Stock Exchange. Of the 748 companies, companies belonging to Material Sector are considered. Sixteen companies’ quantitative and qualitative scores of environment, social are available for five years (2005 to 2009). The financial data is accessed from Capital Line Database (Capital Market Publishers India Limited).

### Measures of Environment, Social and Financial performance considered

The two measures of environment, social performance considered in this study are:

- Transparency and Disclosure Environment Social (TES) scores;
- Quality Environment Social (QES) scores

The three financial performance measures considered are:

- Purely accounting - return on net worth (RONW) and return on capital employed (ROCE)
- Accounting and market based measures – PE (Price Earning) ratio

### Statistical Techniques used

The statistical techniques used include mean, standard deviation and correlation co-efficient.

### Sample Companies

The selected sample of sixteen companies belonging to Material Sector according to GICS is outlined in Table 1.

**Table 1: List of sample sixteen companies**

Asian Paints Limited	Hindalco Industries Limited
Birla Corporation Limited	Jubilant Organosys Limited
Chambal Fertilizers & Chemicals Limited	Sesa Goa Limited
EID Parry Limited	Shree Cement Limited
Godrej Industries Limited	Sterlite Industries Limited
Grasim Industries Limited	Tamilnadu Newsprint & Papers Limited
Gujarat Alkalis & Chemicals Limited	Tata Steel Limited
Gujarat State Fertilizers & Chemicals Limited	United Phosphorous Limited

### Descriptive Statistics of Environment, Social performance measure

The descriptive statistics outline briefly the measures of Environment, Social and Financial performance during the five years (2005-2009). The descriptive statistics of Environment, Social performance of the sample sixteen companies is presented in Table 2.

**Table 2 : Statistics of Environment, Social Performance**

Year	Min	Max	Mean	Standard Deviation
<b>TES Scores</b>				
2005	12.62	36.63	22.32	7.19
2006	13.86	40.35	24.35	7.52
2007	17.57	45.05	27.46	7.09
2008	19.55	54.95	33.68	9.84
2009	20.79	62.13	35.58	11.86
<b>QES Scores</b>				
2005	56.00	65.00	62.75	2.91
2006	54.00	65.00	62.44	3.71
2007	53.00	65.00	62.44	3.93
2008	49.00	65.00	61.06	4.48
2009	49.00	65.00	61.31	3.86

It is observed that mean TES score has increased with a compounded annual growth rate of 12.36% while QES score has reduced. The variation in the scores is measured by standard deviation; it is highest in 2009 (TES) while in 2008 it is the highest for the QES score.

### Descriptive Statistics of Financial Performance

The descriptive statistics outline briefly the three measures of financial performance during five years

(2005-2009). The details of the financial performance of the sample sixteen companies are presented in Table 3.

**Table 3 : Statistics of Financial Performance**

Year	Minimum	Maximum	Mean	Standard Deviation
<b>ROCE (%)</b>				
2005	6.45	122.48	28.50	28.91
2006	6.57	88.34	26.19	20.79
2007	7.77	69.38	26.14	19.21
2008	-0.61	104.17	26.23	26.14
2009	-0.03	72.06	22.99	18.36
<b>RONW (%)</b>				
2005	8.30	88.94	27.13	20.90
2006	4.98	59.66	24.24	14.13
2007	5.29	63.24	26.30	15.94
2008	-3.20	69.44	25.71	18.74
2009	-5.78	61.39	22.08	16.90
<b>PE Ratio</b>				
2005	5.78	77.31	18.83	19.33
2006	4.64	195.09	31.65	45.60
2007	4.56	64.72	18.64	18.92
2008	0.00	81.30	20.96	25.09
2009	1.43	150.29	17.33	36.52

### Association - Triple Bottom Line

The association between the performance measures is estimated by calculating correlation coefficient. *Correlation Coefficient* indicates relationship between two variables. As one of the objectives is to estimate association between financial performance and environment, social performance; this tool has been used to estimate the association between the same variable over a period of five years and also among the five measures of performance during the five year period (2005-2009).

The range of auto correlation coefficient values of the five performance measures is presented along with the correlation coefficients between the financial performance measures and two ES measures (TES and QES). The range of correlation between the various measures of performance over five year period is estimated and presented in Table 4.

**Table 4: Co-relation Coefficients**

	TES	QES	ROCE	RONW	PE Ratio
TES	0.72 to 0.95				
QES	0.07 to 0.71	0.56 to 0.93			
ROCE	-0.44 to 0.00	-0.11 to 0.31	0.73 to 0.97		
RONW	-0.44 to 0.15	-0.19 to 0.23	0.47 to 0.97	0.44 to 0.89	
PE Ratio	-0.28 to 0.32	-0.32 to 0.22	-0.33 to 0.07	-0.48 to 0.21	-0.01 to 0.98

### Main Observations:

Except in case of PE ratio, the auto correlation of the four performance measures is high and positive during 2005 to 2009. Strikingly the correlation between PE ratio and other four measures of performance during the period of study is negative and the range is high. The correlation between the ES measures (TES and QES) is positive and also in case of ROCE AND RONW. The correlation between the ES measures and financial measures is ranging from -0.44 to 0.32.

### FINDINGS

In the light Sustainable Development Goals (SDGs), it becomes imperative for individuals, organizations and society to contribute positively to planet, people and profit. It is noted that India Inc., in general and Material Sector in particular is making efforts to contribute positively to TBL and improve the same over a period. Trends in the performance measures indicate that selected companies have improved on Transparency and Disclosure of Environment, Social aspect but there is no great improvement in Quality aspect and hence there is a need to practically improve by taking appropriate initiatives.

The mean scores of selected financial performance are varying over a period of five years and there is a drastic change during 2008 and 2009 indicating that the selected companies have been affected by the economic recession. The association between the ES measures and financial performance is varying during the five years and is negative in some of the years.

### CONCLUSION

The selected companies in the Material Sector are oriented towards the concept of TBL. In the short run, good performance on environment and social does not pay-off financially immediately.

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