

## CSR Reporting Through Value Added Profitability (A Case Study of Steel Authority of India Limited)

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### **Abstract**

*The purpose of this paper is to examine the limits of traditional corporate reporting system and to apply an alternative corporate social responsibility (CSR) reporting through value added profitability. It provides financial information in a better way and it is very much useful to judge the performance and productivity of an enterprise from social as well as economic point of view. This framework allows organizations to estimate their economic and social value added. The paper deals with the Value Added Profitability of Steel Authority of India Ltd. based on its published annual reports and accounts. Value Added Profitability has been shown by preparing Value Added Profitability Statement. This study makes use of Regression Analysis, Correlation and Chi-Square Test.*

**Keywords:** CSR, Reporting, Value Added Profitability.

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### **Introduction**

Expectations about the responsible role of business in society are increasing and the recent research on corporate social responsibility discourse shows that there have been developments of a variety of instruments that aim to improve, evaluate and communicate socially responsible practices (Golob and Bartlett, 2007). The main impetus for this paper is that the traditional accounting statements that organizations prepare fall short in showing their social side. Indeed, traditional accounting statements were developed to measure success in terms of profit and shareholder returns. Value Added Profitability appears to be appropriate measures for measuring the efficiency and contribution of a corporate entity towards society. This approach can serve to indicate the efficiency and effectiveness of an enterprise and also effects of its relations with employees and society in general.

### **Review of Literature**

A study by Michael F. Morley (1979) on 'The Value Added Statement in Britain' relates the structure of the value added statement to the underlying theory of company team membership and the statement is contrasted with the earnings statement which it resembles. The advantages and disadvantages of including a value added statement in annual reports are discussed. Recommendations on an accounting standard are given, including the conclusion that value

added should be calculated after deducting depreciation.

The study conducted by American Accounting Association Committee on Accounting and Auditing Measurement (1991) examines empirically the relative merits of derived performance indicator numbers from value added reporting, accrual accounting and cash flow accounting. The results show that the derived performance indicator numbers based on net value added had lower variability and higher persistency than corresponding numbers based on the either earnings or cash flows of 673 US firms for the 1981-1990 periods. The findings of the study made a strong case for both mandatory disclosure and increased research on the usefulness of value added reporting in US context.

The study by Askren and Pavlik (1994) seeks to gain the impact of performance plan adoption on value added and earnings. The results indicate that the firms adopting accounting based performance plans do not experience any greater gains in accounting return or productivity measures than do a set of control firms.

The study by Pradeep Singh (2008) on "Social Performance Through Value Added Reporting"- An Empirical study of Lupin Lab. Ltd. concludes that the management of Lupin Lab. Ltd. has served to the society very well as total value added has been distributed among the employees, government, financial Institutions, banker & shareholders. Also it added to the growth and development of the company.

Mandal Niranjana, Goswami Suvarun, (2008) have worked on "Value Added Statement (VAS) - A Critical Analysis a case study of Bharat Heavy Electricals Limited" This paper has analyzed that to what extent the value added statement can supplement additional financial information to satisfy all the stakeholder.

The study by Aruwa A.S. Suleiman., (2009) on "the worth of disclosures in the value added statement and pattern of value added distribution." focuses on to establish the significance of value added reports, pattern of value added distribution and to examine whether the value added statement disclosures are useful in social reporting.

R. H. Davada, (2012) has carried out research on "Social Responsibility of Tata Consultancy Services Ltd. through Value Added Reporting" which focuses that value added is meaningful measure of corporate performance rather than conventional measures based on traditional financial accounting. It highlights employee oriented approach, which will result in more fruitful discussion with employees and can be especially useful in productivity arrangements.

Staden (2014) in the research paper opined that a structured presentation of the traditional measure of "value added" in a so-called "value added statement" (VAS) has the potential to serve as a practical and effective reporting instrument for integrated reporting (IR). The proposed VAS not only meets the guiding principles of IR but also reports on the monetary effects of different types of capital included in IR and in this way complements and represents the concept of IR very well.

### **Objectives of The Study**

This study is based on the following objectives:

- To study the need for value added profitability as a financial tool for evaluating the performance of public enterprises in India.

- To study the relationship between net value added and capital employed.
- To provide guidelines to interested parties like present and potential investors, employees, customers etc., to take decision related to their own spheres of interest.

### **Limitations of The Study**

1. The information used is primarily from historical annual reports available to the public.
2. The study covered data only for a period of 10 years.

### **Methodology and Data Source of The Study**

The present study is based on the analysis of data available from the financial statement of Steel Authority of India Limited for a period of 10 years (i.e. from 2005-06 to 2014-15). The study deals with the Value Added Profitability of SAIL. The relevant data has been collected through the published annual reports and accounts of the SAIL. To supplement the data so collected from annual reports and accounts, other publications, newspapers, journals and magazines etc. have also been consulted in the present study. Editing, classification and tabulation of the financial data collected from the above mentioned sources has been done as per requirement of the study. For the analysis of value added reporting, data is analyzed with the help of value added profitability statement. In order to assess the behavior of the data, simple statistical techniques such as 'Mean', 'Coefficient of Correlation', 'Growth Rate' and 'Regression Analysis' have been used, and to examine whether the differences between actual values and calculated values are significant or not, the 'chi-square test' has been made use of.

### **Hypothesis**

H0: The differences between actual NVA and expected NVA are not significant.

H1: The differences between actual NVA and expected NVA are significant.

### **Company Profile**

SAIL is India's largest steel producing company. With a turnover of Rs. 50,627 crore, the company is among the seven Maharatnas of the country's Central Public Sector Enterprises. Incorporated on 24 January 1973, SAIL operates and owns 5 integrated steel plants at Rourkela, Bhilai, Durgapur, Bokaro and Burnpur and 3 special steel plants at Salem, Durgapur and Bhadravathi. The vision of SAIL is to be a respected world class corporation and the leader in Indian steel business in quality, productivity, profitability and customer satisfaction.

### **Conceptual Framework of Value Added Profitability**

Value added refers to the contribution of the factors of production, i.e., land, labour, and capital goods, to raising the value of a product and corresponds to the income received by the owners of these factors. Therefore value added represents the worth generated by a concern in raw material used. Value added represents the total wealth of the enterprise. Thus the concept of value added is broader than the concept of profit. The value added is a measure of workers, government, financiers as well as the owners of enterprise.

Value added may be in the form of gross value added or net value added. Gross value added indicates sales plus income from services, minus bought-in materials and services purchased

from outsiders. Net value added is obtained by deducting the figure of depreciation from the figure of gross value added.

Value added profitability is the firm's ability to create that value with the collective efforts of stakeholders. In the present paper value added profitability has been shown by preparing Value Added Profitability Statement (VAPS). VAPS is a way of CSR reporting.

#### **Profit & Loss Account VS. Value Added Profitability Statement**

The conventional Profit & Loss Account is prepared on the theory that the company is created by its shareholders and exists for their benefits. But the Value Added Profitability Statement is not prepared on the basis of that theory. The Value Added Profitability Statement shows the wealth obtained by its employees, government, providers of capital or business itself during a period of time and the manner in which the generated value is distributed among the employees, government and providers of capital. It shows the Company's contribution to National Income.

#### **Results and Discussion**

The Value Added Profitability Statement of SAIL has been prepared in two parts viz., (A) and (B). Part (A) reveals the generation of Value Added while part (B) discloses information regarding application of Value Added. The figures of Gross Value Added (GVA) have been arrived at by adding income from services to the figure of Sales Revenue and deducting from the resultant total, the cost of bought in goods and services purchased from outsiders. However, the amount of Depreciation has been deducted from the amount of GVA to arrive at the figure of Net Value Added (NVA). The Value Generated has been distributed to different stakeholders, viz. employees, government, providers of capital (i.e. lenders and shareholders) and the remaining balance was retained in the business.

Table 1 shows the Value Added Profitability Statement of Steel Authority of India Limited (SAIL) for the years from 2005-06 to 2014-15. The absolute figures of Net Value Added fluctuated from year to year and so was the index number of NVA. The lowest figure of NVA was in the year 2005-06 at ₹ 13528.11 crores and that of highest in 2007-08 at ₹ 23866.94 crores. The index number of NVA was 100.00 in 2005-06 which increased to 176.42 in 2007-08 but decreased to 160.12 in 2008-09 and 124.2 in 2010-11. It was affected adversely, mainly due to adverse impact of input prices consisting of imported coal, indigenous coal, limestone, nickel, ferro-alloys, aluminium, boiler coal, purchase power, increase in royalty on minerals. But it bounced back with renewed sense of commitment and dedication in 2011-12 and the index number shoots up to 148.55. From 2012-13 there was an increasing trend in the index number of NVA. Higher production and sales along with lower cost of imported coal helped improve the bottom line in 2013-14.

The analysis of application of value added reveals that during the years from 2005-06 to 2014-15 a very significant part of value added was applied for payment to employees and government. In 2013-14, 52.37 percent of NVA was paid to employees. Another major application of NVA was for payment to the Government, which varied from 45.35 percent in 2005-06 to 29.83per cent in 2014-15. The next major portion was consumed for payment of interest to lenders. It marked a fluctuating trend up to the year 2009-10, while registered an increasing trend during later period of study. It shows an increasing burden of borrowed funds during the latter half period of the study.

**Table 1: Steel Authority of India Limited**  
**Value Added Profitability Statement (2005-06 to 2014-15)**

[₹ in Crores]

Particulars	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
<b>(A) Generation of Value Added</b>										
Sales Revenue	32707.75	39598.66	46046.15	49250.09	43934.7	47040.5	51036.16	49986.9	52375.7	51129.38
Add: Income from Services	1046.42	1532.3	1831.03	2407.99	2681.88	2154.72	1622.98	933.74	833.8	1020.78
Total Revenue	33754.17	41130.96	47877.18	51658.08	46616.58	49195.22	52659.14	50920.64	53209.5	52150.16
Indices of Total Revenue(2005-06=100)	100	121.85	141.84	153.04	138.11	145.75	156.01	150.86	157.64	154.5
Less : Cost of bought in goods and services from outside	19018.76	21147.86	22774.76	28711.45	28597.68	30907.21	30996.05	31346.41	33201.63	31320.58
GROSS VALUE ADDED	14735.41	19983.1	25102.42	22946.63	18018.9	18288.01	21663.09	19574.23	20007.87	20829.58
Less : Depreciation	1207.3	1211.48	1235.48	1285.12	1337.24	1485.8	1567.03	1402.98	1716.69	1773.28
NET VALUE ADDED	13528.11	18771.62	23866.94	21661.51	16681.66	16802.21	20096.06	18171.25	18291.18	19056.3
Indices of Value Added (2005-06=100)	100	138.76	176.42	160.12	123.31	124.2	148.55	134.32	135.2	140.86
<b>(B) Application of Value Added</b>										
Payment to Employees	4156.69 (30.73)	5087.42 (27.1)	7919.02 (33.18)	8401.51 (38.79)	5416.81 (32.47)	7623.33 (45.37)	7932.05 (39.47)	8637.2 (47.53)	9578.51 (52.37)	9736.33 (51.09)
Payment to Government	6134.95 (45.35)	8485.87 (45.21)	9978.84 (41.81)	8759.95 (40.44)	6760.66 (40.53)	6611.36 (39.35)	6302.52 (31.36)	6458.95 (35.54)	6285.36 (34.36)	5684.83 (29.83)
Payment to providers of capital										
(i) Lenders (interest)	467.76 (3.46)	332.13 (1.77)	250.94 (1.05)	253.24 (1.17)	402.01 (2.41)	474.95 (2.83)	677.7 (3.37)	747.66 (4.11)	967.64 (5.29)	1454.23 (7.63)
(ii) Shareholders (dividend)	941.94 (6.96)	1478.4 (7.88)	1787.16 (7.49)	1255.16 (5.79)	1590.55 (9.53)	1152.45 (6.86)	960 (4.78)	961 (5.29)	976 (5.34)	991 (5.2)
Retained Earnings (Excluding Dep.)	1826.77 (13.5)	3387.8 (18.05)	3930.98 (16.47)	2991.65 (13.81)	2511.63 (15.06)	940.12 (5.6)	4223.79 (21.02)	1366.44 (7.52)	483.67 (2.64)	1189.91 (6.24)
Net Value Added	13528.11 (100)	18771.62 (100)	23866.94 (100)	21661.51 (100)	16681.66 (100)	16802.21 (100)	20096.06 (100)	18171.25 (100)	18291.18 (100)	19056.3 (100)

Source: Computed and Compiled on the basis of information available in Annual Reports of SAIL from 2005-06 to 2014-15

**Table 2: Steel Authority of India Limited  
Analysis of Coefficient of Correlation**

(2005-06 to 2014-15)

<i>Year</i>	<i>Net Value Added(₹ in crores)(X)</i>	<i>Capital Employed (₹ in crores)(Y)</i>
2005-06	13528.11	21438
2006-07	18771.62	25476
2007-08	23866.94	28450
2008-09	21661.51	34704
2009-10	16681.66	41696
2010-11	16802.21	39431
2011-12	20096.06	32921
2012-13	18171.25	31381
2013-14	18291.18	38450
2014-15	19056.3	48314
	$\Sigma X = 186926.84$	$\Sigma Y = 342261$

Source: Computed and Compiled from Annual Report of SAIL from 2005-06 to 2014-15 and Table1.0

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \times \sum y^2}} = 0.074$$

To analyze, whether there is any correlation between the value added and the capital employed, Karl Pearson's coefficient of correlation has been applied.

From the analysis of Table 2, it is clear that the coefficient of correlation between Net Value Added (i.e., X) and capital employed (i.e., Y) is 0.074 (positive). This indicated that both the variables are varying in same direction but the relation between two variables does not appear to be strongly related at all.

The effect of the capital employed has been analyzed on value added using simple regression. The regression equation for X on Y being

$$X = a + bY$$

Where X represents computed or estimated value of dependent variable i.e. Net Value Added, whereas Y represents Capital Employed which is taken as independent variable, 'a' and 'b' are the constants. 'a' is the intercept made by the regression plane and 'b' determines the slope of the regression line. It is also known as regression coefficient. It measures the amount by which a unit change in X is expected to affect Y and a unit change in Y is expected to affect X. In the present study, short cut method has been used to calculate the value of correlation coefficient and regression coefficient. The regression equation of X on Y is

$$X = a + bY \quad \text{Or, } (X - \bar{X}) = b_{xy} (Y - \bar{Y})$$

The value of  $b_{xy}$  shows that how much a unit change in capital employed (i.e. Y), is expected to affect net value added (i.e. X). The value of constant for SAIL is as follows:

$$b_{xy} = 0.028$$

**Table 3: Steel Authority of India Limited  
Regression Analysis of Net Value Added (2005-06 to 2014-15)**

(₹ In hundred crores)

Year	Net Value Added(X)	Capital Employed (Y)	Expected Net Value Added[E(X)]
2005-06	135.28	214.38	183.51
2006-07	187.71	254.76	184.66
2007-08	238.66	284.5	185.5
2008-09	216.61	347.04	187.24
2009-10	166.81	416.96	189.2
2010-11	168.02	394.31	188.55
2011-12	200.96	329.21	186.73
2012-13	181.71	313.81	186.31
2013-14	182.91	384.5	188.3
2014-15	190.56	483.14	191.04

Source: Table-2

Where, Regression Coefficient of X on Y

$$b_{xy} = \frac{N \sum dx dy - \sum dx \sum dy}{N \sum dy^2 - (\sum dy)^2}$$

An analysis of the values as shown in Table 3 indicates that a unit change in capital employed is expected to affect Net Value Added to the extent of 0.028 in same direction.

If one compares the actual figures of Net Value Added with that of expected values of net value added, calculated through regression equation, it will be noted that the differences were positive in the years 2006-07, 2007-08, 2008-09 and 2011-12, i.e. the company was able to generate more value than what was expected from it. Whereas the differences were negative in the years 2005-06, 2009-10, 2010-11, 2012-13, 2013-14 and 2014-15, which shows that the company was unable to generate the expected values during these years.

The differences between the original NVA and expected NVA were very high during the years 2005-06, 2007-08, 2008-09, 2009-10 and 2010-11 being 48.23 (negative), 53.16 (positive), 29.37 (positive), 22.39 (negative) and 20.53 (negative) respectively.

To analyze whether the differences between actual NVA and expected NVA were significant

or not, the chi-square ( $\chi^2$ ) test has been applied. Results of the same are given below:

**Table 4: Steel Authority of India Limited  
Analysis of Net Value Added (2005-06 to 2014-15)**

[₹ in ten crores]

Year	Net Value Added(O)	Expected Net Value Added (E)	(O - E)	(O - E) <sup>2</sup>	(O - E) <sup>2</sup> /E
2005-06	135.28	183.51	-48.23	2326.1329	12.68
2006-07	187.71	184.66	3.05	9.3025	0.05
2007-08	238.66	185.5	53.16	2825.9856	15.23
2008-09	216.61	187.24	29.37	862.5969	4.61
2009-10	166.81	189.2	-22.39	501.3121	2.65
2010-11	168.02	188.55	-20.53	421.4809	2.24
2011-12	200.96	186.73	14.23	202.4929	1.08
2012-13	181.71	186.31	-4.6	21.16	0.14
2013-14	182.91	188.3	-5.39	29.0521	0.15
2014-15	190.56	191.04	-0.48	0.2304	0.00

Source: Table-3

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

$$v = (n - 1) = 9; \chi^2_{0.05} = 16.9$$

The calculated value of chi-square comes to 38.83 whereas the table value of chi-square for 9 degrees of freedom i.e., (v) at 5 per cent significance level is 16.9. The calculated value being much higher than the table value, hence the differences between actual NVA and expected NVA were significant. Hence, null hypothesis (H0) is rejected and alternate hypothesis (H1) is accepted. This shows that the company needs to improve its performance as the differences during the study period were positive in four years out of ten years. The company should take proper steps to keep its performance standards high in future.

### Conclusions

The value added profitability reflects the ability to create value from the business activity. It is an indicator of company's responsibility towards society. This paper begins with the concept of value added profitability and analyzed how it is different from the concept of profit. It collected the financial statements of Steel Authority of India Ltd. for ten years and restated them into value added profitability statements. The value added has been positively related with capital employed. Value added profitability statements of SAIL reveals that Gross Value Added showed a fluctuating trend throughout the study period and so was the Net Value Added. The analysis of application of value added reveals that during the years from 2005-06 to 2014-15. A very significant part of value added was applied for payment to employees and Government. The paper illustrates how value added profitability statements can provide relevant information for CSR reporting.



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