

ISSN 2809-929X (Print)  
ISSN 2809-9303(Online)

# Journal of Social Commerce

Vol. 2 No. 3, 2022 (Page:117-126)

DOI: <https://doi.org/10.56209/jommerce.v2i3.34>

## Performance Evaluation of Selected Cement Companies in India through Value Added Statements

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### Article History

Submitted: 19 July 2022,  
Revised: 29 August 2022,  
Accepted: 12 September 2022

### Keywords

Value added statement,  
Gross Value Added,  
Net Value-Added,  
Value-added ratios,  
Cement industry

### Abstract

Directors have turned their consideration to the way of increasing the value of their companies. And for that one of the major goals for higher authority of financial management is to do maximum utilization of the capital employed. This study gives an importance to the performance evaluation through value added statements of selected cement companies. This study is done to prepare and analyze value added statements and also compare the value-added ratios of selected cement companies in India. This secondary data-based study selects two cement companies as samples by using simple random sampling method of probability sampling from NSE and BSE listed cement companies. In this study ratio analysis as an accounting tool is used in which five value added ratios are selected and T-test technique of parametric test as statistical tool is used to identify the difference between samples mean. As per the result of the value-added statements it is found that value created by Ultratech Cement Ltd. was higher than Ambuja Cement Ltd. during this study period. As per the result of T test it can be said that the performance of both the companies are equal in performing ratios excluding Government share to net value added ratio and Capital provider to net value added ratio. The overall conclusion can be made on the basis of value-added ratios that during these five years the performance of Ultratech Cement Ltd. was better than Ambuja Cement Ltd.

## Introduction

Cement is an essential element for infrastructure development and cement is the most significant contributor in construction industry, mainly in the infrastructure of government and housing projects (Quanbeck et al., 2021; Akhtar & Sarmah.,2018). Because this are essential for the socioeconomic strengthening of nation and growth as well as development. Cement is the second most consumed material on the globe. The cement industry of India is the second largest cement manufacturer in the world after China, and also ahead of United States and Japan

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(Meshram & Kumar, 2022). This industry is considered to be a core contributor in Gross Domestic Product (GDP) around 1.3% and providing employment for 0.14 million jobs. Also, this industry is an important provider to the revenue of the central and state governments by mode of excise and sales taxes.

Cement is necessary good having fundamental importance in almost all development activities. Cement industry is one of the main contributors considered to industrial and economic growth of India. For all expansionary projects like the construction of small factory to the construction of multipurpose projects a significant element is cement (Baidya & Ghosh, 2019). This industry is also called as a vital industry. The performance of a cement company can be inspected in many ways. The performance can be judged regarding market place, acceptance of technology, competitiveness, environmental protection and strategic positioning. But financial performance is considered as the operational efficiency of a company in terms of the monetary parameter. The financial efficiency of a business unit can be measured in terms of solvency, stability, liquidity, capitalization, ability to turnover, ability of coverage and profitability (Zaidan et al., 2021; Narkhede, 2017).

In a developing economy the profitability of an industry in real sense needs to be evaluated neither on the base of its growing rate of return nor on relative terms of investment. In recent eras another or said additional approach of “Value added statement” (VAS) has been used for measurement of success in an organization. The value-added statement can be well-defined as a statement showing the value created by an organization during an accounting period (Nassif et al., 2018; Nasim & Solihati, 2019). Value added is calculated as the positive difference between the value of the goods or services produced by organization, i.e., sales revenue, and the value of the goods and services bought from outsiders, i.e., the cost of bought in goods and service. The profit and loss statement give an idea about the performance of a company concerning to their shareholders, whereas the value-added statement shows the performance of a company that affects employees, capital providers and the government. (Sledgianowski et al., 2017).

(Sharma & Lenka, 2018; Sahoo & Pramanik, 2017) suggest that the calculation of value added can be classified into two categories Gross Value Added (GVA) and Net Value Added (NVA). Gross Value Added (GVA) refers to sales plus income from other services minus cost of bought in material and services purchased from outside suppliers. Net Value Added (NVA) refers to the difference of Gross Value Added and Depreciation. In other words, Net Value Added is the total of the value added to employees, to loan capital providers, to Government and to owners (retained earnings). The majority of Indian companies choose to present their value-added statement as a report on Gross Value Added not on Net Value Added.

Mandal & Goswami (2008) suggest that the main aim of the research work was to analyze the performance of BHEL Ltd. through value added statement and value-added ratio for the study period of 8 years from 1999-2000 to 2006-2007. On the basis of profit & loss statement of the company, value added statement was prepared. The analysis of the study was done in four different parts viz. value-added statement analysis, value added ratios analysis, time series analysis and regression analysis.

Yogesha & Mahadevappa (2014) explain that have analyze value added ratios of oil corporation ltd. in India and also define value added concept and how it was differed from the concept of profit. The study covered a period of 8 years from 2004-05 to 2011-12. This research work was full based on secondary data sources and financial data was collected from annual reports of oil corporation ltd. For the calculation of value-added ratios, value added statement was also prepared and analyze.

Hossain (2017) suggest that the aim of this research work was to examines value added statement as social responsibility reporting. This paper examined the limit of traditional accounting and tried to apply new method of value-added reporting. This research was based on historical perspective grounded from secondary data sources. In this paper the detailed information about value added statement preparation and conceptual issue relating to it was given. This was a descriptive type of paper said about voluntary disclosure of value-added statement in accounting of companies.

(Ting et al., 2021) In this paper the researchers have made an attempt to analyze the value-added statements and understand the usefulness of value-added ratios as an indicator to measure the profitability and productivity in selected Indian companies. The study period of this research work was 5 years from 2008-2009 to 2012-2013 and two Indian companies were selected as a sample viz. INFOSYS Ltd. and BHEL Ltd. For the analysis purpose, ratio analysis and regression analysis were used in the study. the finding of the study reveals that management of selected both companies have not only improved its productivity and profitability but also fulfilled their accountability towards the society.

(Snyder, 2019) above literature reviews and other reviewed studies by the researcher shows the research done in the area of value-added statement analysis considered different research methodology, statistical tools, data, samples, time period etc. Thus, to do something addition to these researches researcher have decided to analyze the performance of cement companies through value added statements for study period of 2015-16 to 2019-20.

## Methods

Research methodology is a systematic and scientific approach to solve the research problems. The methodology adopted for research problems are different for each research problems (Idris et al., 2022; Yamtinah et al., 2017). Which is tells about methods and techniques to be followed during the research process starting from investigation to reach conclusion.

The present study focuses to investigate gross value added (GVA) and net value added (NVA) of the selected cement companies; analyze the application of value-added statement through performance and social responsibility towards employees, government, capital provider and shareholders (owners); examine and compare value added ratios of the selected cement companies (Rossini et al., 2019; Ghafoorpoor Yazdi., 2018).

### Nature of the Study

In this research work facts and information used is already available in various sources to make critical evaluation. So, from this point of view the nature of this research work become analytical.

### Period of the Study

The present research is covered a period of the 5 financial years from 2015-16 to 2019-20.

### Sampling Design

All the cement companies listed in BSE and NSE are considered as target population of the research work. From the population, two cement companies are selected on the basis of simple random sampling method of probability sampling technique. The selected cement companies for the research work includes Ambuja Cement Ltd. And Ultratech Cement Ltd.

## Scope of the Study

Functional scope of this research work is to analyze the value-added performance through value added statements and value-added ratios of selected cement companies in India. In this research work selected two cement companies which are providing cement products in India. So, whole India is considered as geographical criteria for this research work (Ayub et al., 2022).

## Data Collection and Tools & Techniques of Data Analysis

This research work is based on secondary data sources. Financial data is collected from the published annual reports of selected cement companies (MacGregor Pelikánová, 2019). The accounting tool used for this research work are value added statements and ratio analysis in which five value added ratios are used viz net value added to total revenue ratio (NVA to TR), employee benefits to net value-added ratio (EB to NVA), government shares to net value added ratio (GS to NVA), capital providers to net value added ratio (CP to NVA) and retain earnings to net value-added ratio (RE to NVA). The statistical tool used for this research work is arithmetic mean and T-test of non-parametric test and graphical representation is also used to show the performance of selected companies in different ratios (Abhisha & Anjali, 2022; Pelaez-Verdet & Loscertales-Sanchez, 2021).

## Results and Discussion

### Value Added Statement

Value added statement is arranged in two parts. The first part displays value generated by the business entity after deducting the cost of bought in materials and services as well as depreciation from total revenue. The second part displays the contribution of various stakeholders of the entity like employees, government, shareholders (owners), debt capital provider and retained earnings of the business entity in net value added.

Table 1. Value Added Statement of Ambuja Cement Ltd.

Particulars	2015-16	2016-17	2017-18	2018-19	2019-20
	Amt.	Amt.	Amt.	Amt.	Amt.
<b>Generation of Value Added</b>					
Total Sales	10407.1	9819.59	9844.05	11584.21	11731.74
Less: Cost of Bought in Goods and Services	7273.84	7344.5	6993.13	8429.52	8786.72
Gross Value Added	3133.26	2475.09	2850.92	3154.69	2945.02
Less: Depreciation	509.53	625.66	850.13	572.92	548.09
<b>Net Value Added</b>	<b>2623.73</b>	<b>1849.43</b>	<b>2000.79</b>	<b>2581.77</b>	<b>2396.93</b>
<b>Application of Value Added</b>					
Cost of Employees	581.58	589.52	593.72	661.37	679.57
Cost of Government	287.05	309.07	356.74	393.67	391.07
Cost of Capital providers	64.48	91.79	71.48	107.19	82.33
Cost of Retained Earnings	1690.62	859.05	978.85	1419.54	1243.96
<b>Net Value Added</b>	<b>2623.73</b>	<b>1849.43</b>	<b>2000.79</b>	<b>2581.77</b>	<b>2396.93</b>

Sources: Computed from Published Annual Report of Ambuja Cement Ltd.

The above shows the generation and application of value added of Ambuja Cement Ltd. For the five years starting from 2015-16 to 2019-20. From this table it can be seen that total revenue of the company was increased in five years while the net value added is decreased in these years. The reason behind this decreased was increase in the cost of bought in goods and

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services. The net value created by the company for these years were 2623.73 cr., 1849.43 cr., 2000.79 cr., 2581.77 cr. and 2396.93 cr. which shows fluctuating trend so overall there is decrease in the creation of net value added. On the other side of the statement shows the application of the net value added or the contributors of net value added. In this application side the cost of retained earnings was shown more in all the years i.e., on an average 1000 cr. Second number can be given to employees of Ambuja Cement Ltd. They were costing more than 500 cr in all the study time. Then cost of government were shown in increasing trend as 287.05 cr., 309.07 cr., 356.74 cr., 393.67 cr. and 391.07 cr. in last year. Ambuja Cement Ltd. was not depending on borrowed capital can be said from the above data as the minimum cost were contributed to the loan capital providers during the study period.

Table 2. Value Added Statement of Ultratech Cement Ltd

Particulars	2015-16	2016-17	2017-18	2018-19	2019-20
	Amt.	Amt.	Amt.	Amt.	Amt.
<b>Generation of Value Added</b>					
Total Sales	20608.84	23298.97	24342.52	27822.37	31278.63
Less: Cost of Bought in Goods and Services	15479.69	17555.63	18186.07	17528.05	22238.9
Gross Value Added	5129.15	5743.34	6156.45	10294.32	9039.73
Less: Depreciation	1052.26	1133.11	1289.03	1267.87	1763.56
<b>Net Value Added</b>	<b>4076.89</b>	<b>4610.23</b>	<b>4867.42</b>	<b>9026.45</b>	<b>7276.17</b>
<b>Application of Value Added</b>					
Cost of Employees	1014.63	1218.29	1341.52	1413.44	1706.24
Cost of Government	558.82	498.38	623.41	806.66	712.00
Cost of Capital providers	319.17	547.45	505.29	571.39	1186.30
Cost of Retained Earnings	2184.27	2346.11	2397.2	6234.96	3671.63
<b>Net Value Added</b>	<b>4076.89</b>	<b>4610.23</b>	<b>4867.42</b>	<b>9026.45</b>	<b>7276.17</b>

*Sources: Computed from Published Annual Report of Ultratech Cement Ltd*

The above shows the generation and application of value added of Ultratech Cement Ltd. For the five years starting from 2015-16 to 2019-20. From the above table it can be said that the total sales of the company show increasing trend during the time period of study which was increased from 20608.84 cr. to 31278.63 cr. in five years. The amount of net value added was increased from 4076.89 cr. to 7276.17 cr. in this five-year period but not showing increasing trend. Here the reason behind less increase in net value added was cost of bought which was also increasing in this time period. If on the other side of statement is shown than more cost is applied to the retained earnings. Second contributors were employees of the company which were having on an average 1500 cr contribution in the application of value added. Cost of government for the company were 558.82 cr., 498.38 cr., 623.41 cr., 806.66 cr. and 712 cr. in each year. Cost of capital providers were increased in these five years from 319.17 cr. to 1186.30 cr. shows the increase in debt capital.

### Value Added Ratio

For evaluating the value-added trends of the business entity and to assist in intercompany comparison, calculation of value-added ratios is done. It can be simply concluded with help of these value-added ratio that performance of the selected companies is satisfactory from values added point of view or not.

### Net Value Added to Total Revenue Ratio

The connection between Net Value Added and Total Revenue is disclosed by this ratio. It is to be said that a higher amount of this ratio considered as good and shows improved social performance. It is calculated in following manner.

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$$\text{Net Value Added to Total Revenue Ratio} = \frac{\text{Net Value Added}}{\text{Total Revenue}} \times 100$$

### ***Employee benefit to Net Value Added Ratio***

This ratio specifies percentage of Net Value Added offered for employees after paying cost of other group of society. It is suitable to measure efficiency and efficacy power of labor of an entity. This ratio calculated by succeeding formula.

$$\text{Employees Benefits to Net Value Added Ratio} = \frac{\text{Employees Benefits}}{\text{Net Value Added}} \times 100$$

### ***Government Share to Net Value Added Ratio***

Every business entity pays taxes to government which is reflect the value of government share. This ratio express percentage of government share in net value added. This ratio is calculated by following way.

$$\text{Government share to Net Value Added Ratio} = \frac{\text{Taxes paid to Govt.}}{\text{Net Value Added}} \times 100$$

### ***Capital Provider to Net Value Added Ratio***

Every business entity has to pay dividend and interest to their shareholders or providers of capital that is borrowed from them. This ratio displays the earning management policy of the entity. This can create following formula.

$$\text{Capital Provider to Net Value Added Ratio} = \frac{\text{Capital Provider}}{\text{Net Value Added}} \times 100$$

### ***Retained Earnings to Net Value Added Ratio***

This ratio displays the amount of Retained Earnings in the Net Value Added. It is measured by following formula:

$$\text{Retain Earnings to Net Value Added Ratio} = \frac{\text{Retained Earnings}}{\text{Net Value Added}} \times 100$$

Table 3. Value Added Ratios

Year	Ambuja Cement Ltd.					Ultratech Cement Ltd.				
	NVA to TR	EB to NVA	GS to NVA	CP to NVA	RE to NVA	NVA to TR	EB to NVA	GS to NVA	CP to NVA	RE to NVA
2015-16	25.21	22.17	10.94	2.46	64.44	19.78	24.49	13.71	7.83	53.58
2016-17	18.83	31.88	16.71	4.96	46.45	19.79	26.43	10.81	11.87	50.89
2017-18	20.32	29.67	17.83	3.57	48.92	19.99	27.56	12.81	10.38	49.25
2018-19	22.29	25.62	15.25	4.15	54.98	32.44	15.66	8.94	6.33	69.07
2019-20	20.43	28.35	16.32	3.43	51.90	23.26	23.45	9.79	16.30	50.46
Mean	21.42	27.54	15.41	3.71	53.34	23.05	23.60	11.21	10.54	54.65

*NVA to TR = Net Value Added to Total Revenue Ratio*

*EB to NVA = Employees Benefits to Net Value Added Ratio*

*GS to NVA = Government Share to Net Value Added Ratio*

*CP to NVA = Capital Provider to Net Value Added Ratio*

*RE to NVA = Retain Earnings to Net Value Added Ratio*

*Sources: Computed from Published Annual Report of Selected Companies*

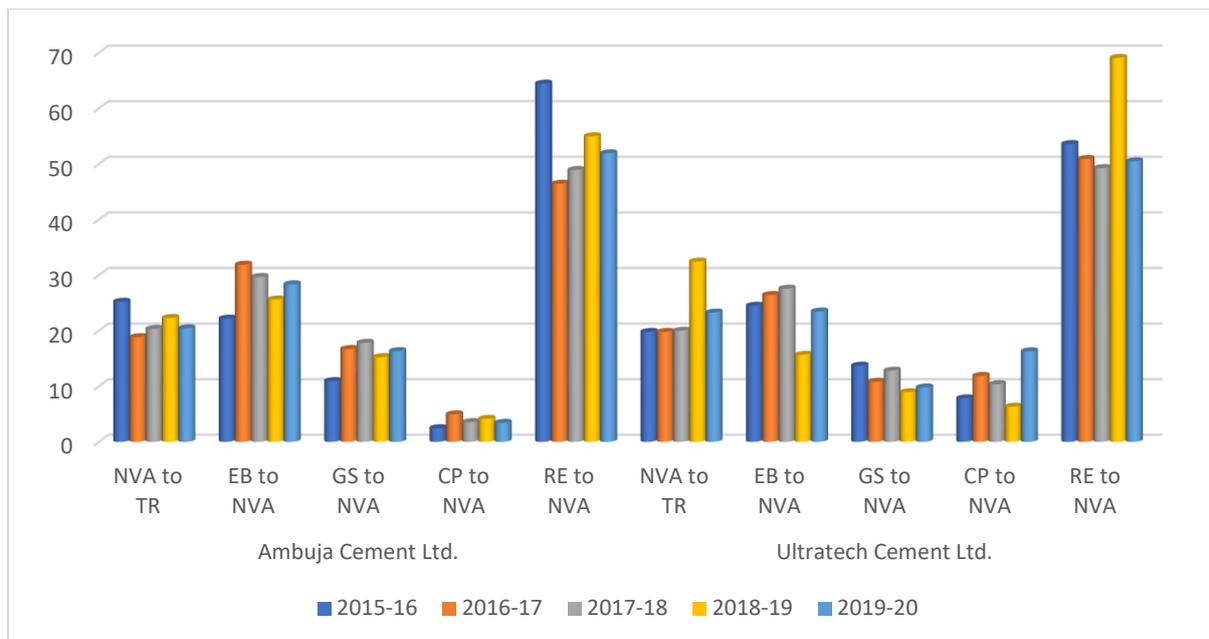


Figure 1. Value Added Ratios

From the above table and graph of value-added ratios the details relation to the performance of company is shown. NVA to TR ratio is higher in Ultratech Cement Ltd. in comparison to Ambuja Cement Ltd. for the study period. While EB to NVA ratio is more in Ambuja Cement Ltd. i.e., 27.54%. GS to NVA ratio shows decreasing trend in Ultratech Cement Ltd. fluctuating trend in Ambuja Cement Ltd. but the average is higher in Ambuja Cement Ltd. The CP to NVA ratio is very low in Ambuja Cement Ltd. i.e., average 3.71% in comparing to Ultratech Cement Ltd. i.e., 10.54% average. In RE to NVA ratio performance of both the companies are very similar to each other.

#### Hypotheses Testing for Value Added Ratios (T-Test):

Null Hypothesis [ $H_0$ ]: There is no significant difference in the performance of Ambuja Cement Ltd. and Ultratech Cement Ltd. in Selected Value-Added Ratios during the study period.

Alternative Hypothesis [ $H_1$ ]: There is a significant difference in the performance of Ambuja Cement Ltd. and Ultratech Cement Ltd. in Selected Value-Added Ratios during the study period.

Table 4. Finding of T-Test for Value Added Ratios

Value Added Ratios	Calculated Value	Table Value	Level of Significance	Results of $H_0$
Net Value Added to Total Revenue Ratio	-0.612	2.306	5%	Accepted
Employees Benefits to Net Value Added Ratio	1.463	2.306	5%	Accepted
Government Share to Net Value Added Ratio	2.813	2.306	5%	Rejected
Capital Provider to Net Value Added Ratio	-3.833	2.306	5%	Rejected
Retain Earnings to Net Value Added Ratio	-0.272	2.306	5%	Accepted

The above table shows the result of T-test for the value-added ratios which indicate except two ratios Government share to net value added ratio and Capital provider to net value added ratio, for all other ratios hypotheses are accepted means there is no difference in performance of selected ratios between this selected companies. In the remaining ratios there is significant difference in selected ratios between this selected companies as the hypotheses are rejected.

## Conclusion

Value added statement is the performance viewer of the companies in sense of social responsibility performance of various stakeholders of concerning companies. This statement shows the creation of value added by company using their man power and production function. This present study tries to analyze the performance of the Ambuja Cement Ltd. and Ultratech Cement Ltd. through value added statements and value-added ratios. After analyzing the value-added statements, it is found that value created by Ultratech Cement Ltd. was higher than Ambuja Cement Ltd. during this study period. As per the result of T test it can be said that the performance of both the companies are equal in performing ratios excluding Government share to net value added ratio and Capital provider to net value added ratio. The overall conclusion can be made on the basis of value-added ratios that during these five years the performance of Ultratech Cement Ltd. was better than Ambuja Cement Ltd.

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