A COMPARATIVE ANALYSIS OF PROFITABILITY OF SELECTED ALUMINIUM COMPANIES IN INDIA

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ABSTRACT

Aluminium Industry is the largest non-ferrous industry in the world economy and one of the leading industries in the Indian economy. With the Indian economy projected to be amongst the top five in the world in the year of 2022, the overall consumption of aluminium in India is projected to be about 5 million tonnes in the year of 2021, and 10 million tonnes in the year 2025. The research paper focuses on the profitability of select aluminium companies. Besides management of the company, creditors and owners are interested in the profitability of the firm. For this purpose researcher had evaluated the profitability analysis with reference to various ratios for the select aluminium companies. In this research paper data have been collected from annual reports and financial accounts of selected companies and for analyzing the results some tools & techniques have been used viz. Averages, Standard Deviation and Co-efficient of variance. For analyzing of hypothesis t test has been used. The main objective of the study is to compare the profitability of selected companies in the period of study and give some worth full suggestions to the management of selected companies in India.

Keywords: Profit, Profitability, factors, aluminium, hypothesis, t-test etc.

INTRODUCTION

Aluminium Industry in India is a highly concentrated industry with the top 5 companies constituting the majority of the country's production. With the growing demand of aluminium in India, the Indian aluminium industry is also growing at an enviable pace. In fact, the production of aluminium in India is currently outpacing the demand.

Aluminium Industry is the largest non-ferrous industry in the world economy and one of the leading industries in the Indian economy. With the Indian economy projected to be amongst the top five in the world in the year of 2022, the overall consumption of aluminium in India is projected to be about 5 million tonnes in the year of 2021, and 10 million tonnes in the year 2025..

Though India's per capita consumption of aluminium stands too low (under 1 kg) comparing to the per capita consumptions of other countries like US & Europe (range from 25 to 30 kgs), Japan (15 kgs), Taiwan (10 kgs) and China (3 kgs), the demand is growing gradually. In India, the industries that require aluminium most include power (44%), consumer durables, transportation (10-12%), construction (17%) and packaging etc.

The research paper focuses on the profitability of select aluminium companies. Besides management of the company, creditors and owners are interested in the profitability of the firm. For this purpose researcher had evaluated the profitability analysis with reference to various ratios for the select aluminium companies

MEANING AND CONCEPT OF PROFIT

The main objective of every business firm is to earn profit it mean that profit is the prima facie object of every business. In the words of Lord Keynes, "Profit is the engine that drives the business enterprise." A business needs profit not only for its existence but also for the expansion and diversification. Profit is the barometer of the success of the business. It is indeed, a magic eye that mirrors all aspects of entire business operations including the quality of output. Profit is the soul of the business without which it is lifeless. In fact, profits are useful intermediate beacon towards which a firm's capital should be directed. The profit can be calculated as:

Profit = Total Revenue – Total Expenses

MEANING AND CONCEPT OF PROFITABILITY

Profitability means ability to make profit from all the business activities of an organization, company, firm, or an enterprise. It shows how efficiently the management can make profit by using all the resources available in the market. According to Harward & Upton profitability is the 'the ability of a given investment to earn a return from its use.

The term 'profitability' should be distinguished from 'profits'. Profit is an absolute measure of earning capacity whereas profitability is the relative measure of earning capacity and it indicates the most profitable alternative profit. On the other hand, profitability is an absolute measure − it indicates the overall amount of profit earned by transactions. Profitability depends on quantum of sales, cost of production and use of financial resources etc. and it reflects the final result of business operations. Profitability is taken into consideration in judging the degree of operational efficiency of the management and controlling operations and performance. However, the term 'Profitability' is not synonymous to the term 'Efficiency'.

Brief Profile of Hindalco Industries Ltd

The Aditya Birla Group incorporated the Hindustan Aluminum Corporation Limited in 1958. In 1962, the company started production in Renukoot in Uttar Pradesh making 20 thousand metric tons per year of aluminium metal and 40 thousand metric tons per year of alumina. In 1989, the company was restructured and renamed Hindalco. An industry leader in aluminium, copper, Hindalco Industries Limited, the metals Flagship Company of the Aditya Birla Group is the world's largest aluminium rolling company, and one of the biggest producers of primary aluminium in Asia. The Company has annual sales of US$ 15 billion and employs around 20,000 people. It is listed in the Forbes Global 2000 at 895th rank. Its market capitalization by the end of May 2013 was US$ 3.4 billion. Hindalco is one of the world's largest aluminium rolling companies and one of the biggest producers of primary aluminium in Asia

Brief Profile of National Aluminium Company Ltd

National Aluminium Company Limited, abbreviated as NALCO, (incorporated 1981) has units in Odisha at places Angul and Damanjodi. It was incorporated as a public sector enterprise of the Ministry of Mines, Government of India in 1981. It is Asia's largest, and the sixth largest, integrated aluminium complex, encompassing bauxite mining, alumina refining, aluminium

smelting and casting, power generation, rail and port operations. Commissioned during 1985-87, NALCO produced and exported alumina and aluminium. The main units of NALCO are at Damanjodi (Mines & Refinery complex) and Nalconagar, Angul (Smelter & Power Plant Complex). The Company received Indira Priyadarshini Vrikshamitra Award from Govt. of India for its contribution in the field of afforestation and wasteland development. The 1200 MW Captive Thermal Power Plant of the Company also received the prestigious Indira Gandhi Paryavaran Puraskar for the year 2000 from Govt. of India for its outstanding contributions in the field of environment management. The Company and its Units have received various National, State and Institutional awards for excellence in Safety & Environment Management. Nalco received ISO 9001:2000 awards and OHSAS 140001 for its excellence in production technology & occupational health & safety systems respectively.

REVIEW OF LITERATURE

Dr. Shishir Pandey and Vikas Kumar Jaiswal(2014) in their paper "Comparative Study of Profitability analysis of Indian Aluminium Industry between Public and Private sector". The main objective of this research paper is to analyze the profitability position of the selected aluminium companies for five years (2008-2014). The study is based on secondary data. Profitability position is analyzed by using different profitability ratios and regression analysis of selected aluminium companies. Hence, it may be said that aluminium industry in India shows satisfactory performance in concerned with profitability.

Pratibha Jain and Megha Mehta(2013) in their study " An Analytical Study of Profitability Position of the Selected Automobile Companies in India (2009-2013)" they have selected 5 automobile companies in India. The main objective of this research paper is to analyze the profitability position of the selected automobile companies for last five years (2009-2013). The study is based on secondary data. Profitability position is analysed by using different profitability ratios and Two Way ANOVA of ROCE of selected automobile companies. From the study, they ascertained the highest degree of positive correlation between NP ratio of Maruti Suzuki & Tata Motors.

Chundawat and Bhanawat (2000) examined the working capital policy practices in IDBI helped tube and type companies for the period 1994-1998 by utilizing different applicable financial ratios and decided that the working capital policy; of IDBI aided companies was more effective than the industry as a complete.

Deloof (2003) deliberated that greatest of the companies had a great amount of each invested in working capital. Therefore, be predictable that the way in which working capital is achieved will have an important influence on profitability of those companies. The study has conducted by using correlation and regression tests and originate an important negative association among gross operating income and the number of days accounts receivable, inventories and accounts payable of firms.

Dheenadayalan V. and Mrs. R. Deviananbrasi4 (2007) in their research recommended that the "Z" score of the sample units continue underneath the grey area from 1997-07, the reductions in the score indicate that the sample unit is not financially complete and well. The sample units need to place in efforts to upsurges the score. This will help the sample unit to circumvent any impairment to its liquidity and solvency positions, thus evading financial suffering and insolvency.

OBJECTIVES OF STUDY:

The present study has been carried out with the following objectives:

- To evaluate the profitability of selected Aluminium Companies.
- To compare the profitability of the Aluminium Companies selected for study
- To suggest the ``management corrective measures for improving profitability

Sample design: In the present study following two units of Aluminium Companies have been chosen for the study:

1. HINDALCO
2. NALCO

The study is based on the data relating to five years i.e. from 2012-13 to 2016-17

Hypothesis: The present study is based on null hypothesis as follows"

- *"There is no significant difference in the profitability of the selected Aluminium Companies under study".*

RESEARCH METHODOLOGY

The present study is fully based on secondary data taken from the published annual accounts and reports. The financial statements have been redrafted for the purpose of analysis. The required ratios for the purpose of profitability have been calculated by applying the technique of ratio analysis. Statistical tools such as average, standard deviation, coefficient of variation have been used. To test the hypothesis student's t test has been applied.

ANALYSIS OF PROFITABILITY:

1.) Gross Profit Ratio: This profit establishes a relationship between gross profit and net sales, and is generally expressed in percentage.This ratio is calculated to find the profitability of business. A high gross profit margin ratio is a symbol of good management. If the actual gross profit ratio is lower than expectation then it provides that profit in the business is not sufficient in comparison to sales. This situation is not healthy for the business. Hence a low gross profit margin ratio should be carefully investigated. This may be due to higher cost of production, inefficient utilization of plant and machinery etc.

The gross profit ratio has been calculated by using the following formula:

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

There is no standard ideal norm of gross profit ratio as it differs from industry to industry. But, however, a gross profit ratio above 20% is regarded satisfactory as it will provide an adequate cushion to cover the indreict cost of operation of the business. The gross profit ratio of the companies under study has been shown in the following table 1:

Table 1

Gross Profit Ratio of Selected Aluminium Companies under study

(From: 2012-13 to 2016-17)

(Ratio in %)

YEARS	HINDALCO	NALCO
2012-13	16.55	5.50
2013-14	17.51	5.79
2014-15	20.82	9.23
2015-16	21.11	6.07
2016-17	26.13	7.70
MEAN	**20.42**	**6.86**
S.D	**3.37**	**1.41**
C.V	**16.49**	**20.56**

Source: Computed from Annual Reports and Accounts of selected companies for study.

The above table shows that the gross profit ratio of **Hindaldo** showed an increasing trend during the period of study. It was mainly because of increasing trend of sales of the company which affected the gross profit of the company also. The gross profit ratio of the company during the year 2012-13 was 16.55 percent which increased to 26.13 percent in 2016-17. The average of the gross profit ratio for the period of study was 20.42 percent which can be regarded quite satisfactory as the higher gross profit ratio provides the safety to the company to cover the indirect expenses. The higher gross profit ratio also indicates that the management of the company controlled the cost of goods sold which shows efficiency of the management. The coefficient of variation was 16.49 percent denoting a fluctuating trend of the ratio which should be maintained in future also. It can be suggested that the management of the company should continue the same policy in future.

NALCO: It can be noted from the above table that the gross profit ratio showed an increasing cum decreasing trend throughout the period of study. It should be noted that the sales and gross profit of the company showed an increasing cum decreasing trend during the period of study. The increasing trend of the gross profit ratio denotes that the management of the company has

kept the cost of goods sold under control despite decrease in the sales. The gross profit ratio of the company varied within the range of 5.50 percent in 2012-13 to 7.70 percent in 2016-17. The average of the gross profit ratio was 6.86 percent which is not satisfactory and shows inefficiency of the management to control the cost of goods sold. The coefficient of variation was 20.56 percent showing a fluctuating trend and this trend should be controlled.

Test of Significance: The test of significance has been carried out by using student's t test.

Null Hypothesis: There is no significant difference in the gross profit ratio of the companies under study

Computed Value of t = 8.29

Critical value of t (for V=8) at 5% level of significance= 2.306

Inference: Since the computed value of t is more than the critical value of t at 95 percent level of significance, hence the null hypothesis is rejected and it can be concluded that the difference in the gross profit ratio of the Aluminium Companies under study is significant.

2.) Net Profit Ratio: This ratio measures the relationship between net profit and sales of a firm. Net profit is the excess of revenue over expenses during a particular accounting period. "It is also called net profit to sales ratio. The profit margin is indicative of management's ability to operate the business with sufficient success not only to recover from revenues of the period, cost of merchandise or services, the expenses of operating the business and cost of borrowed fund, but also to leave a margin of reasonable compensation to the owners for providing their capital at risk. Higher the ratio of net operating profit to sales better is the operational efficiency of the concern."

The net profit ratio is determined by dividing the net profit by sales and expressed as percentage the formula used is as follows:

$$\textbf{Net Profit Ratio} = \frac{\textbf{Net Profit (After Tax)}}{\textbf{Net Sales}} \times \textbf{100}$$

Though there is no standard norm of the net profit ratio but a higher net profit ratio is always regarded favourable. Therefore, the management should always try to increase the net profit ratio

by increasing the sales and controlling the indirect ost of operation of the business. The net profit ratio of the Aluminium Companies under study has been shown in the following table 2:

Table 2

Net Profit Ratio of Selected Aluminium Companies under study

(From: 2012-13 to 2016-17)

(Ratio in %)

YEARS	HINDALCO	NALCO
2012-13	8.87	2.30
2013-14	6.84	2.49
2014-15	4.48	5.13
2015-16	2.69	3.05
2016-17	6.99	3.46
MEAN	5.97	3.29
S.D	2.15	1.01
C.V	36.05	30.71

Source: Computed from Annual Reports and Accounts of selected companies for study.

The above table shows that the net profit ratio of **Hindalco** showed a decreasing trend during the period of study except in the year 2016-17. It was mainly because of decreasing trend of sales of the company which affected the net profit of the company also. The net profit ratio of the company during the year 2012-13 was 8.87 percent which decreased to 2.69 percent in 2015-16 but it again increased to 6.99 percent in the year 2016-17. The average of the net profit ratio for the period of study was 5.97 percent which is not satisfactory. The coefficient of variation was 36.05 percent denoting a fluctuating trend of the ratio. It can be suggested that the management of the company should control indirect cost and non-operating expenses for avoid exceptionally loss.

NALCO: It can be noted from the above table that the net profit ratio showed an increasing cum decreasing trend throughout the period of study. The net profit ratio of the company varied within the range of 2.30 percent in 2012-13 to 3.46 percent in 2016-17. The average of the net profit ratio was 3.29 percent which cannot be regarded satisfactory and it can be suggested that

to increase the net profit ratio either the management should try to increase the sales or reduce or control the indirect cost and non-operating expenses. The coefficient of variation was 30.71 percent which shows that company is experiencing a huge fluctuating trend which needs to be controlled by the management because stability is essential for the company.

Test of Hypothesis: The following hypothesis has been tested by applying t test

Null Hypothesis: There is no significant difference in the net profit ratio of the companies under study

Computed Value of t = 2.511

Critical value of t (for V=8) at 5% level of significance= 2.306

Decision: Since the computed value of t is more than the critical value of t at 95 percent level of significance, hence the null hypothesis is rejected and it can be concluded that the difference in the net profit ratio of the Aluminium Companies under study is significant.

3.) Operating Profit Ratio: The Operating Profit Ratio expresses the relationship between operating profit and net sales. This ratio helps to find out the profit arising out of the main business. In other words this ratio helps to determine the efficiency with which affairs of business are being managed. It is also defined as the ratio of profit before depreciation, interest and tax to total turnover. Operating profit is calculated by subtracting all direct and indirect expenses relating to main business from net sales. This ratio indicates the net profitability of the main business i.e. operating efficiency o a firm. This ratio is calculated by using the following formula :

$$\textbf{Operating Profit ratio} = \frac{\textbf{Operating Profit}}{\textbf{Net Sales}} \times \textbf{100}$$

In some firms, the profit from main business is very low; while the profit from secondary functions such as interest on bank deposits and dividend on shares etc. is so much that the net profit of the firm at the end is enhanced. A high ratio indicates the improvement in the operational efficiency of the business and vice versa. In other words, the higher the operating ratio, the better would be the operational efficiency of the firm.

The operating profit ratio of the companies under study has been shown in the following table 3-

Table 3

Operating Profit Ratio of Selected Aluminium Companies under study

(From: 2012-13 to 2016-17)

(Ratio in %)

YEARS	HINDALCO	NALCO
2012-13	10.69	3.51
2013-14	8.16	3.56
2014-15	6.04	8.20
2015-16	3.19	4.61
2016-17	9.67	4.99
MEAN	**7.55**	**4.97**
S.D	**2.68**	**1.71**
C.V	**35.55**	**34.45**

Source: Computed from Annual Reports and Accounts of selected companies for study.

The above table shows that the operating profit ratio of **Hindalco** showed a decreasing trend during the period of study except in the year 2016.17. The operating profit ratio of the company during the year 2012-13 was 10.69 percent which decreased to 3.19 percent in 2015-16. This ratio increased to 9.67 percent in 2016-17. The average of the operating profit ratio for the period of study was 7.55 percent which low satisfactory and it can be suggested that to increase the operating profit ratio either the management should try to increase the sales and reduce or control the cost of goods sold and operating expenses. However, the coefficient of variation was 35.55 percent denoting a fluctuating trend of the ratio which should be controlled in future also.

NALCO: It can be noted from the above table that the operating profit ratio showed an increasing cum decreasing trend throughout the period of study. The operating profit ratio of the company varied within the range of 3.51 percent in 2012-13 to 8.20 percent in 2014-15. The average of the operating profit ratio was 4.97 percent which is cannot be regarded satisfactory as per the trend of company. The coefficient of variation was 34.45 percent denoting a fluctuating trend of the ratio which should be controlled in future also.

Test of Hypothesis: The following hypothesis has been tested by applying t test

Null Hypothesis: There is no significant difference in the operating profit ratio of the companies under study

Computed Value of t = 1.81

Critical value of t (for V=8) at 5% level of significance= 2.306

Decision: Since the computed value of t is less than the critical value of t at 95 percent level of significance, hence the null hypothesis is accepted and it can be concluded that the difference in the operating profit ratio of the Aluminium Companies under study is not significant.

4.) Return on Capital Employed Ratio: The return on capital employed ratio expresses the relationship between profit and capital employed and is calculated in percentage by dividing the net-profit by capital employed. This is the most important ratio for testing profitability of a business. It measures satisfactorily the overall performance of a business in terms of profitability. This Ratio expresses the relationship between profit earned and capital employed to earn it. The term 'capital employed' refers to long-term funds supplied by the creditors and owners of the firm. The term 'return' signifies operating profit before interest and taxes (EBIT).

This ratio is more appropriate for evaluating the efficiency of internal management. It indicates how well the management has utilized the funds supplied by the owners and creditors. In other words, this ratio intends to measure the earning power of the net assets of the business. It is calculated as shown below:

$$\textbf{Return on Capital Employed} = \frac{\textbf{Net Profit (PBIT)}}{\textbf{Capital Employed}} \times \textbf{100}$$

The return on capital employed ratio of the Aluminium Companies under study has been shown in the following table 4

Table 4

Return on Capital Employed of Selected Aluminium Companies under study

(From: 2012-13 to 2016-17)

(Ratio in %)

YEARS	HINDALCO	NALCO
2012-13	2.98	4.52
2013-14	2.30	4.82
2014-15	1.47	9.30
2015-16	0.81	5.34
2016-17	6.46	8.50
MEAN	**2.80**	**6.50**
S.D	**1.97**	**2.00**
C.V	**70.26**	**30.73**

Source: Computed from Annual Reports and Accounts of selected companies for study.

The above table shows that the return on capital employed ratio of **Hindalco** showed a decreasing trend during the period of study except year 2016-17. It was mainly because of decreasing trend of net profit of the company. The return on capital employed ratio of the company during the year 2012-13 was 2.98 percent which decreased to 0.81 percent in 2015-16. This ratio increased to 6.46 percent in 2016-17. The average of the return on capital employed ratio for the period of study was 2.80 percent which is not satisfactory and shows negative efficiency of the management and it is suggested that it should improve their profitability strength in respect of capital employed for achieving a respectable target of returns. The coefficient of variation was 70.26 percent denoting a very high fluctuating trend of the ratio which should be controlled in future.

NALCO: It can be observed from the table that the return on capital employed ratio showed an increasing cum decreasing trend throughout the period of study. It should be noted that the long term borrowings of the company showed an increasing cum decreasing trend and fixed assets of the company showed an increasing trend during the period of study. The return on capital employed ratio of the company was 4.52 percent in 2012-13 which increased to 9.30 percent in

2014-15. This ratio decreased to 8.50 percent in 2016-17. The average of the return on capital employed ratio was 6.50 percent which cannot be regarded satisfactory and it can be suggested it should increase the return on capital employed the management should try to increase the sales of existing projects. The coefficient of variation was 30.73 percent showing a denoting a high fluctuating trend of the ratio which should be controlled in future.

Test of Significance: The test of significance has been carried out by using student's t test.

Null Hypothesis: There is no significant difference in the gross profit ratio of the companies under study

Computed Value of t = 2.95

Critical value of t (for V=8) at 5% level of significance= 2.306

Inference: Since the computed value of t is more than the critical value of t at 95 percent level of significance, hence the null hypothesis is rejected and it can be concluded that the difference in the return on capital employed ratio of the Aluminium Companies under study is significant.

5.) Return on Equity Ratio: This ratio expresses the net profit in terms of the equity shareholders funds. This ratio is an important yardstick of performance for equity shareholders since it indicates the return on the funds employed by them. However, this measure is based on the historical net worth and will be high for old plants and how for new plants. This ratio is also known as 'Return on Proprietors' Funds'. It is used to ascertain the rate of return on resources provided by the shareholders. The ratio is calculated by using the following formula:

$$\textbf{Return on Shareholders' Fund} = \frac{\textbf{Net Profit (after tax and interest)}}{\textbf{Shareholders' Funds or Net Worth}} \times \textbf{100}$$

The return on equity or shareholder's funds has been shown in the following table 5

Table 5

Return on equity of Selected Aluminium Companies under study

(From: 2012-13 to 2016-17)

(Ratio in %)

YEARS	HINDALCO	NALCO
2012-13	5.08	4.96
2013-14	3.84	5.29
2014-15	2.48	10.32
2015-16	1.30	5.96
2016-17	3.28	6.54
MEAN	**3.20**	**6.61**
S.D	**1.27**	**1.93**
C.V	**39.77**	**29.21**

Source: Computed from Annual Reports and Accounts of selected companies for study.

The above table shows that the return on owner's equity ratio of **Hindalco** showed a decreasing trend during the period of study except year 2016-17. It was mainly because of decreasing trend of net profit of the company but the owner's equity showed an increasing trend during the period of study. The return on owner's equity ratio of the company during the year 2012-13 was 5.08 percent which decreased to 1.30 percent in 2015-16. This ratio increased to 3.28 percent in 2016-17. The average of the return on owner's equity ratio for the period of study was 3.20 percent which is not satisfactory and it can be suggested that company should control the losses. The return on owner's equity ratio shows the relationship between profit and owner's equity of the company. The coefficient of variation was 39.77 percent denoting a fluctuating trend of the ratio which should be controlled in future.

NALCO: It can be noted from the table that the return on owner's equity ratio showed an increasing cum decreasing trend throughout the period of study. It should be noted that the long term borrowings of the company showed an increasing cum decreasing trend. The return on owner's equity ratio of the company was varied from 4.96 percent in 2012-13 which increased to 10.32 percent in 2014-15. The average of the return on owner's equity ratio was 6.61 percent

which cannot be regarded satisfactory and it can be suggested that to increase the profit for increasing the return on owner's equity ratio. The coefficient of variation was 29.21 percent showing a fluctuating trend. It is suggested that the company should try to control the variation regarding return on owner's equity ratio of the company.

Test of Significance: The test of significance has been carried out by using student's t test.

Null Hypothesis: There is no significant difference in the gross profit ratio of the companies under study

Computed Value of t = 3.30

Critical value of t (for V=8) at 5% level of significance= 2.306

Inference: Since the computed value of t is more than the critical value of t at 95 percent level of significance, hence the null hypothesis is rejected and it can be concluded that the difference in the return on equity ratio of the Aluminium Companies under study is significant.

6.) Return on Total Assets Ratio: Profitability can be measured by establishing relationship between net profit and total assets. This ratio is computed by dividing the net profits after tax by total funds invested or total assets. Total assets mean all net fixed assets, current assets and non-trading investments. Fictitious assets are excluded but intangible assets are included only when they have realisable value. Expressed as formula, the ratio is:

$$\textbf{Return on Total Assets Ratio} = \frac{\textbf{Net Profit after tax} + \textbf{Interest}}{\textbf{Total Assets}} \times \textbf{100}$$

This ratio measures the profitability of investments which reflects managerial efficiency. The higher the ratio, the better is the profit earning capacity of the firm or vice versa. But this ratio does not reveal the profitability of different sources of funds used in purchasing the total assets. The return on total assets ratio of the companies under study has been shown in the following table-

Table 6

Return on Total Assets Ratio of Selected Aluminium Companies under study

(From: 2012-13 to 2016-17)

(Ratio in %)

YEARS	HINDALCO	NALCO
2012-13	2.55	3.63
2013-14	1.91	3.88
2014-15	1.21	8.17
2015-16	0.68	4.71
2016-17	1.79	4.60
MEAN	**1.63**	**5.00**
S.D	**0.64**	**1.64**
C.V	**39.13**	**32.78**

Source: Computed from Annual Reports and Accounts of selected companies for study.

The above table shows that the return on total assets ratio of **Hindalco** showed a decreasing trend during the period of study except in the year 2016-17. The return on total assets ratio of the company during the year 2012-13 was 2.55 percent which decreased to 0.68 percent in 2015-16. This ratio increased to 1.79 percent in 2016-17. The average of the return on total assets ratio for the period of study was 1.63 percent which is not satisfactory and it can be suggested that it should increase the profit for increasing the return on total assets. The coefficient of variation was 39.13 percent denoting a fluctuating trend of the ratio which should be controlled in future.

NALCO: It can be noted from the table that the return on total assets ratio showed an increasing cum decreasing trend during the period of study. The return on total assets ratio of the company was varied from 3.63 percent in 2012-13 which increased to 8.17 percent in 2014-15. The average of the return on total assets ratio was 5.00 percent which cannot be regarded satisfactory and it can be suggested that it should increase the profit for increasing the return on total assets. The coefficient of variation was 32.78 percent showing a fluctuating trend. It is suggested that the company should try to control the variation regarding return on total assets ratio of the company.

Test of Hypothesis: The following hypothesis has been tested by applying t test

Null Hypothesis: There is no significant difference in the return on total assets ratio of the companies under study

Computed Value of t = 4.28

Critical value of t (for V=8) at 5% level of significance= 2.306

Decision: Since the computed value of t is more than the critical value of t at 95 percent level of significance, hence the null hypothesis is rejected and it can be concluded that the difference in the return on total assets ratio of the Aluminium Companies under study is significant.

CONCLUSIONS

In present modest environment, assessing the financial performance is decisive for corporations in manufacturing sector. The analysis of financial performance reproduces the financial position as well as profitability of the corporation, the level of the competitiveness in the identical sector, and detailed information about the cost and profit hubs within the corporation. Managers, investors, and creditors can put on the different accounting evidence provided by financial analysis in their tactical planning and investment decisions. Therefore, this study involves the financial performance of two major companies i.e. HINDALCO and NALCO aluminium manufacturing companies in India.

This study related to the comparative study on financial performance of HINDALCO and NALCO over the five years from 2012- 13 to 2016-17. Rendering to subsequent assessments, it can be concluded that throughout study period both the company's overall performance in terms of profitability, liquidity, and credit quality deteriorated significantly. The liquidity positions of HINDALCO and NALCO in associations to the standard current ratio and debt equity ratios were inacceptable. In the comparisons of financial performance all profitability ratios of NALCO have performed better than HINDALCO and in the case of inventory management NALCO has achieved better than HINDALCO as well. It has found from the t test that there is significant difference between all financial ratios of HINDALCO and NALCO, therefore the null hypothesis (there is no significant difference between different financial ratios of HINDALCO and NALCO) is rejected and alternative hypothesis is accepted.

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