Comparative Study of Efficiency Analysis of Grasim Industries and Ultra Tech Cement Limited

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Abstract:

The Cement Industry globally has immense forward and backward linkages with a Nation's economy. For a developing and transitioning economy such as India, the value proposition of the Cement Industry is even greater given the immense infrastructure requirements of a growing and urbanising country, as well as its contributions by way of direct and indirect employment. The Government of India has emphasised its focus on infrastructure development with the announcement of several schemes that cut across manufacturing, housing and education. At the heart of all the planned infrastructure development is the cement sector and, as part of the Country's bouquet of eight core industries, the Cement sector's value proposition for laying the foundations of a new India is unique.The objective of this paper is to analyze comparative study of efficiency analysis of GRASIM INDUSTRIES and ULTRA TECH CEMENT LIMITEDduring 2015-16 to 2019-20.

Keyword: *Efficiency Analysis, Asset Turnover, Inventory Turnover*

1. Introduction

India accounts for 8% of the global cement production installed capacity. In FY 2018, India held the second position in the global cement industry, with a production volume of 297.56 MN tons in comparison to China's 2170 MN tons. The cement industry in India is supported by high FDI. During the April 2000-March 2019 period, FDI in the cement and gypsum products industry was INR 369.38 Bn.Hence for the present study of comparative efficiency analysis of two companies Grasim Industries and Ultratech Cement Ltd has been considered for the present study.

2. Objectives of the study

1. To study the two parameters of **efficiency analysis** of Grasim Industries Ltd and Ultratech Cement Ltd for the period 2015-16 to 2019-20
2. To study **Inventory Turnover Ratio** for Grasim Industries Ltd and Ultratech Cement Ltdfor the period from 2015-16 to 2019-20
3. To study **Asset Turnover Ratio** for Grasim Industries Ltd and Ultratech Cement Ltdfor the period from 2015-16 to 2019-20

3. Research Design

(i)Sample Design: There are various organizations working in Cement Industry in India Researcher has consideredGrasim Industries Ltd and Ultratech Cement Ltd two samples from NSE base NIFTY 50 Companies for the present study.

(ii)Data Collection: The present study is mainly based on secondary data and the required data is collected from Annual Published Report of selected units, various Magazines, Periodicals related to cement industries, related websites and subject matter is also used.

(iii)Period of study: The study period is to be converted 5 years; from 2015-16 to 2019-20.

(iv)Tools & Techniques: For the present study, Ratio-Analysis as an Accounting tools and T-Test two sample unequal variances is used as tools of Statistics.

(I)Efficiency Analysis

There are various parameters to measure the efficiency on the ground of financial reports but for the present study researcher has considered two parameters with reference to efficiency analysis as shown follows:

Inventory turnover: The inventory turnover ratio, also known as the stock turnover ratio, is an efficiency ratio that measures how efficiently inventory is managed. The inventory turnover ratio formula is equal to the cost of goods sold divided by total or average inventory to show how many times inventory is "turned" or sold during a period. The ratio can be used to determine if there are excessive inventory levels compared to sales.

Asset Turnover: Asset turnover ratio is the ratio between the value of a company's sales or revenues and the value of its assets. It is an indicator of the efficiency with which a company is deploying its assets to produce the revenue. Thus, asset turnover ratio can be a determinant of a company's performance. The higher the ratio, the better is the company's performance. Asset turnover ratio can be different from company to company.

(II)T-Statistic

There are two approaches for T-test statistical analysis as follows:

i. **Critical Value Approach:** By applying the critical value approach it is determined, whether or not the observed test statistic is more extreme than a defined critical value for two tails left side t critical value < t statistic value < right side t critical value that means the null hypothesis is accepted that there is significant difference between two sample unequal variance.

ii. **P- Value Approach:** For the p-value approach, the likelihood (p-value) of the numerical value of the test statistic is compared to the specified significance level (α) 0.05 of the hypothesis test.The p-value corresponds to the probability of observing sample data at least as extreme as the actually obtained test statistic. Small p-values provide evidence against the null hypothesis. The smaller (closer to 0) the p-value, the stronger is the evidence against the null hypothesis. If the p-value is less than or equal to the specified significance level α, the null hypothesis is rejected; otherwise, the null hypothesis is not rejected. In other words, if $p \le \alpha$, reject H0; otherwise, if $p > \alpha$ do not reject H0.

Operational Profitability
(A)Inventory Turnover Ratio

Table 1:Inventory Turnover for Grasim Industries Ltd and Ultra tech cement Limited for the period from 2015-16 to 2019-20							
H0	There is No Significant difference between two sample variances						
H1	There is Significant difference between two sample variances						
Company	2015-16	2016-17	2017-18	2018-19	2019-20	Average	Variance
Grasim	5.58	5.97	6.09	7.01	7.09	6.348	0.447
Ultratech	10.41	10.74	9.61	10.91	10.60	10.454	0.2563
t Stat	(10.94)						
P(T<=t) one-tail	5.8718						
t Critical one-tail	1.8946						
P(T<=t) two-tail	0.0000						
t Critical two-tail	2.3646						
Source: moneycontrol.com T-Test self-calculation							

Financial Data Analysis

From the above table it is evident that Average stock turnoveron the base of inventory turnover ratioof Ultratech Cement Ltd (10.454) is better to Grasim industries (6.348) during research period as both the research unit is showing stable inventory turnover with slight fluctuation during research period.

Critical Value Approach: By applying the critical value approach it is determined, whether or not the observed test statistic (10.94) is more extreme than a defined critical value for two tails is 2.36 i.e. -2.36>(10.94)< 2.36 that means the null hypothesis is rejected that there is significant difference between two sample unequal variance for inventory turnover of Grasim Industries and Ultratech Cement Ltd during research period.

P- Value Approach: P value for the Inventory turnover ratio is found as 0.00 for two tails while α is 0.05 @ 5% significant level hence P Value is smaller than α for the P< α i.e. 0.00<0.05 for Inventory turnover under study during research period for Grasim industries and Ultratech Cement Ltd. Hence alternate hypothesis is accepted that there is significant difference between two sample unequal variance.

(B)Asset Turnover Ratio

Table 2: AssetTurnover for Grasim Industries Ltd and Ultra tech cement Limited for the period from 2015-16 to 2019-20							
H0	There is No Significant difference between two sample variances						
H1	There is Significant difference between two sample variances						
Company	2015-16	2016-17	2017-18	2018-19	2019-20	Average	Variance
Grasim	52.87	52.11	29.38	39.66	37.59	42.32	101.009
Ultratech	61.91	60.82	54.78	61.09	56.60	59.04	09.93
t Stat	(3.55)						
P(T<=t) one-tail	0.0082						
t Critical one-tail	2.0150						
P(T<=t) two-tail	0.0164						
t Critical two-tail	2.5705						
Source: moneycontrol.com T-Test self-calculation							

Financial Data Analysis

From the above table it is evident that Average asset turnover on the base of Asset turnover ratio of Ultratech Cement Ltd (59.04) is better to Grasim industries (42.32) during research period as both the research unit is showing slightly fluctuation in asset turnover during research period.

Critical Value Approach: By applying the critical value approach it is determined, whether or not the observed test statistic (3.55) is more extreme than a defined critical value for two tails is 2.57 i.e. -2.57 >(3.55)< 2.57 that means the null hypothesis is rejected that there is significant difference between two sample unequal variance for asset turnover of Grasim Industries and Ultratech Cement Ltd during research period.

P- Value Approach: P value for the Asset turnover ratio is found as 0.016 for two tails while α is 0.05 @ 5% significant level hence P Value is smaller than α for the P< α i.e. 0.0164 <0.05 for Asset turnover under study during research period for Grasim industries and Ultratech Cement Ltd. Hence alternate hypothesis is accepted that there is significant difference between two sample unequal variance.

4. Conclusion

From the above table it is concluded that there is significant difference for efficiency analysis between two research unitsGrasim Industry and Ultratech Cement Limited during research period as both the research unit is having fluctuating efficiency during research period.

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