

Assets Utilization and Profitability: A Study on select Cement Companies in India

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Asset utilization deals with the financial health of a company and it also plays an important role in maximizing the shareholders wealth. Asset utilization ratios provide measures of management effectiveness. These ratios serve as a guide to critical factors concerning the use of firm's assets, inventory and accounts receivable collections in day to day operations. The aim of the study is to measure the performance of ten select cement companies in India in terms of profitability and asset utilization during the period of observation and to exhibit the relationship between profitability and the asset utilization of the ten select cement companies in India during the period of observation. Ten cement companies has been selected on the basis of their total assets on a particular day and the period of the study is five years from 2013-2017. It can be said from the conclusion that there is a relation between profitability and asset utilization ratio in case of Shree cement, Ramco cement, J.K.Cement and J.K.Lakshi Cement.

Keywords: *Asset utilization ratios, profitability, management effectiveness, shareholders wealth.*

Introduction

Asset means something valuable that an entity owns, benefits from, or has use of in generating income. In accounting assets means something that an entity has acquired or purchased and that has money value (its cost, book value, market value or residual value). An asset can be something physical, enforceable claim against others, right and an assumption. Asset management is concerned with the efficient utilization of the organization's investment in both physical and human asset to guarantee profit maximization objective of the firm. Asset utilization deals with the financial health of a company and it also plays an important role in maximizing the shareholders wealth, hence, every company needs to sustain the balance between liquidity and profitability. The financial management is generally concerned with procurement, allocation and control of financial resources of a concern. The objectives of financial management

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are to ensure regular and adequate supply of funds to the concern, to ensure adequate returns to the shareholders, to ensure optimum funds utilization and to plan a sound capital structure. The accomplishment of objective of financial management in most business depends largely on the manner in which they manage their assets. Administration of fixed assets falls within the realm of capital budgeting while the management of working capital is a continuing function which involves control of every day and flow of financial resources circulating in the company in one form or the other. In turn, these decisions are influenced by the trade-off that must be made between profitability and risk. Asset utilization ratios provide measures of management effectiveness. These ratios serve as a guide to critical factors concerning the use of firm's assets, inventory and accounts receivable collections in day to day operations. Asset utilization ratios are especially important for internal monitoring concerning performance over multiple periods and serve as warning signals or benchmarks from which meaningful conclusions may be reached on operational issues. Asset turnover ratio, total asset turnover ratio, fixed asset turnover ratio are the measures of asset utilization. The asset turnover ratio indicates how much a business is generating in revenues for every rupee invested in total assets and fixed asset turnover ratio indicates how much a business is generating in revenues for every rupee invested in fixed assets.

Literature Review:

Deloof (2003) investigated the relationship between working capital management and corporate profitability of 1,009 large Belgian non-financial firms for the 1992-1996 period. The relation between working capital management and corporate profitability is investigated for a sample inventory policy are measured by number of days accounts receivable, accounts payable and inventories, and the cash conversion cycle is used as a comprehensive measure of working capital management. The results suggest that managers can increase corporate profitability by reducing the number of days accounts receivable and inventories. Less profitable firms wait longer to pay their bills. Ghosh and Maji (2003) made an empirical study on the relationship between utilization of current assets and operating profit considering twenty companies belonging to Indian Cement and Tea Industries. The study concluded that the degree of utilization of current assets was positively associated with the operating profitability for all the companies under study.

Patra (2005) has undertaken a research study to examine the impact of liquidity on profitability considering the case of a private sector steel giant viz. Tata Steel and found that four ratios namely, current ratio, acid test ratio, current assets to total assets ratio and inventory turnover ratio showed negative

correlation with profitability ratio. The remaining three ratios namely, working capital turnover ratio, receivable turnover ratio and cash turnover ratio showed positive association with the profitability ratio.

Sur and Rakshit (2005) investigated the linkage between assets management and profitability taking twenty five companies in the Indian industries for the period from 1993-94 to 2002-03. The traditional view of positive relationship between assets turnover and corporate profitability did not fully conform in this study.

Bhayani, J. Sanjoy (2006) conducted a research study to assess the combined effect of assets utilization on profitability by the use of fixed assets turnover, inventory turnover, debtor's turnover and return on capital employed. The study reported that utilization of corporate assets was the most influencing factor on profitability of Indian industry.

Arshad and Gondal (2013) found out empirical impact of the relationship between working capital management and profitability of Pakistan cement sector. This research adopted quantitative method of research approach to test a research hypothesis. The survey used ration of 21 listed cement companies in Karachi stock exchange during the period of 2004 – 2010. The result of study showed that there is significant negative relationship between working capital management on profitability of the firms.

Oluwaremi and Memba (2016) found out the relationship between asset management and the financial performance of listed manufacturing firms in Nigeria, Return on Asset will serve as an indicator for the dependent variable of the study which is the financial performance of listed manufacturing companies in Nigeria while the indicators for the dependent variable (asset management) are fixed asset management, cash management, inventory management and accounts receivable management. The entire population of 74 listed manufacturing companies was considered for the study and secondary data was obtained from their Financial Statements (2005-2014) which statutorily were released to the public for consumption. Both Correlational and Regression Analysis were carried on the data obtained by using Statistical Package for Social Science (SPSS 22). The findings of the study show that there was significant and positive relationship between asset management and the financial performance of listed manufacturing companies in Nigeria as substantiated with the p-value of less than 0.05 recorded by each construct of the Independent variable Among the major recommendations of the study is that organization should pay premium importance to the management of its fixed assets in terms of high maintenance culture and good depreciation strategy to provide adequate funds for their replacement as and when necessary. Also, organizations should strive for a good account receivable management which will guarantee that good percentage of monies owed to the organization are collected and promptly too. Records of

increasing bad debt value and provisioning for doubtful debts erode the financial capability of the organization

Patra (2016) made an attempt to judge the efficiency of some selected manufacturing industries in India in utilizing fixed assets, the highest income generating assets in the business, over a period of ten years. For this purpose eight manufacturing industries in India are selected covering a sample size of 3,268 companies. Fixed assets turnover ratio and percentage of fixed assets to the total assets along with some statistical measures have been employed in the study to judge the efficiency in utilizing fixed assets. Empirical evidences showed that majority of the sample could not utilize fixed assets in an effective manner during the period under review. Some suggestions are also laid down in the study for better utilization of fixed assets in future.

Objectives of the study:

The objectives of financial management are to ensure regular and adequate supply of funds to the concern, to ensure adequate returns to the shareholders, to ensure optimum funds utilization and to plan a sound capital structure. The accomplishment of the objectives of financial management in most businesses depends largely on the manner in which they manage their assets. In light of the importance of assets on the earning of revenue and profitability of business, the present study has the following objectives. They are:

The measurement the performance ten select cement companies in India in terms of profitability and asset utilization during the period of observation.

Exhibition of the relationship between profitability and the asset utilization of the ten select cement companies in India during the period of observation.

Research Gap:

Deloof had investigated the relation between working capital management and corporate profitability. Ghosh and Maji had studied relationship between utilization of current assets and operating profit. Sur and Rakshit investigated the linkage between assets management and profitability. Arshad and Gondal found out empirical impact of the relationship between working capital management and profitability of Pakistan cement sector. Bhayani, J. Sanjoy conducted a research study to assess the combined effect of assets utilization on profitability by the use of fixed assets turnover, inventory turnover, debtor's turnover and return on capital employed. Oluwaremi and Memba found out the relationship between asset management and the financial performance of listed manufacturing firms in Nigeria. But no one of the previous researchers had taken any initiative to find out the relation between profitability and asset utilization ratio of the cement companies.

Research Methodology:

- **Selection of Data:** Ten cement companies in India viz, Ultratech cement, Ambuja cement, ACC, Shree Cement, India Cement, Ramco cement, Birla Corporation, J.K.Cement, J.K.Lakshi Cement and OCL India have been selected on the basis of their total assets amounting to more than Rs.2,000 crore as on 24.08.2017.
- **Collection of Data:** This study is based on secondary data only. The secondary data have been collected from www.moneycontrol.com and www.morningstar.in. Editing, classification and tabulation of the data collected from the above mentioned sources have been done as per the requirements of the study.
- **Analysis of Data:** For analyzing the data simple mathematical tool like ratios, percentages etc. and statistical techniques like measures of central tendency, measures of dispersion, Karl Pearson's simple correlation and multiple correlation and regression analysis have been used.

Limitations of the study:

- The study is limited for a period of 5 years from year 2013 to 2017.
- The study has taken into consideration ten cement companies in India viz, Ultratech cement, Ambuja cement, ACC, Shree Cement, India Cement, Ramco cement, Birla Corporation, J.K.Cement, J.K.Lakshi Cement and OCL India have been selected on the basis of their total assets amounting to more than Rs.2,000 crore as on 24.08.2017.
- The study has used limited numbers of mathematical and statistical parameters.

Analysis and findings:

Table 1 to 4 represent the ROCE, FATR, ATR and TATR of the ten cement companies in India for the years 2013 to 2017. Table 5 shows Pearson's simple correlation between profitability and asset utilization ratios and table 6 gives the multiple correlation and regression between profitability and asset utilization ratios.

Table 1. Return on capital employed (%) (ROCE)

Name of company	2013	2014	2015	2016	2017	Average	S.D	C.V (%)
Ultratech cement	20.48	14.08	13.53	13.93	14.95	15.39	2.89	18.78
Ambuja Cement	25.52	16.33	18.25	12.23	7.37	15.94	6.79	42.60
ACC	25.46	16.34	14.78	11.84	10.61	15.80	5.86	37.09
Shree Cement	27.24	17.70	9.45	7.71	18.46	16.11	7.86	48.79
India Cement	8.73	5.15	7.63	9.90	7.96	7.87	1.76	22.36
Ramco Cement	17.62	7.24	11.20	18.20	19.54	14.76	5.29	35.84
Birla Corporation	11.48	6.91	7.87	8.22	7.32	8.36	1.82	21.77
J.K.Cement	18.39	7.74	9.30	9.78	13.83	11.81	4.31	36.49
J.K.Lakshi Cement	14.18	7.83	8.85	5.53	7.85	8.85	3.22	36.38
OCL India	7.45	17.66	11.64	9.59	16.72	12.61	4.45	35.29

Source: calculated by author

Table 1 is showing the ROCE of the ten select companies in India. The five years' average ROCE is the highest for Shree Cement (16.11%) and lowest for India Cement (7.87%). The standard deviation and co-efficient of variation of ROCE for five years is the highest for Shree Cement(7.86,48.79) and the standard deviation of ROCE for five years is the lowest for India Cement (1.76) and coefficient of variation of ROCE for five years is the lowest for Ultratech cement (18.78).

Table 2: Fixed assets turnover ratio (FATR)

Name of company	2013	2014	2015	2016	2017	Average	S.D	C.V (%)
Ultratech cement	0.95	0.81	0.72	0.70	0.95	0.83	0.12	14.46
Ambuja Cement	0.96	0.85	0.88	0.79	0.75	0.85	0.81	95.29
ACC	1.12	1.08	1.08	1.04	0.80	1.02	0.13	12.75

Shree Cement	0.94	0.86	0.76	0.59	1.83	1.00	0.48	48.00
India Cement	0.72	0.67	0.66	0.62	0.78	0.69	0.06	8.69
Ramco Cement	0.61	0.57	0.52	0.49	0.52	0.54	0.05	9.26
Birla Corporation	0.97	1.03	1.02	0.97	1.45	1.09	0.20	18.35
J.K.Cement	0.95	0.88	0.79	0.79	0.91	0.86	0.07	8.23
J.K. Lakshmi Cement	0.77	0.70	0.56	0.59	0.92	0.71	0.02	2.82
OCL India	0.79	0.91	0.80	0.90	1.02	0.88	0.09	10.23

Source: calculated by author

Table 2 is showing the FATR of the ten select companies in India. The five years' average FATR is the highest for Birla Corporation (1.09) and lowest for Ramco Cement (0.54). The standard deviation and co-efficient of variation of FATR for five years is the highest for Ambuja Cement (0.91,95.29%) and the standard deviation of FATR for five years is the lowest for J.K.Lakshmi Cement (0.02) and coefficient of variation of FATR for five years is the lowest for J.K.Lakshmi Cement (2.82).

Table 3: Assets turnover ratio (ATR)

Name of company	2013	2014	2015	2016	2017	Average	S.D	C.V (%)
Ultratech cement	1.11	0.97	0.97	0.95	0.87	0.97	0.09	9.28
Ambuja Cement	1.15	1.00	1.02	0.93	0.63	0.95	0.19	20.00
ACC	1.50	1.46	1.46	1.41	1.30	1.43	0.08	5.59
Shree Cement	1.31	1.11	1.10	0.87	1.06	1.09	0.16	14.68
India Cement	0.70	0.66	0.69	0.69	0.83	0.71	0.07	9.86
Ramco Cement	0.90	0.81	0.76	0.74	0.81	0.80	0.06	7.50
Birla Corporation	0.74	0.83	0.86	0.87	0.77	0.81	0.06	7.40
J.K.Cement	1.07	0.82	0.84	0.86	1.03	0.92	0.12	13.04

J.K.Lakshi Cement	0.92	0.81	0.81	0.87	0.91	0.86	0.05	5.81
OCL India	0.94	1.12	1.08	1.07	1.08	1.06	0.07	6.60

Source : calculated by author

Table 3 is showing the ATR of the ten select companies in India. The five years' average ATR is highest for ACC (1.43) and lowest for India Cement (0.71). The standard deviation and co-efficient of variation of ATR for five years is the highest for Ambuja Cement (0.19,20.00%) and the standard deviation of ATR for five years is the lowest for J.K.Lakshmi Cement (0.05) and coefficient of variation of ATR for five years is the lowest for J.K.Lakshmi Cement (5.81).

Table 4: Total assets turnover ratio (TATR)

Name of company	2013	2014	2015	2016	2017	Average	S.D	C.V (%)
Ultratech cement	1.03	0.93	0.91	0.95	0.83	0.93	0.07	7.53
Ambuja Cement	1.10	0.96	0.99	0.92	0.49	0.89	0.23	25.84
ACC	1.52	1.43	1.43	1.39	1.28	1.41	0.09	6.38
Shree Cement	1.16	1.02	1.11	0.81	0.94	1.00	0.14	14.00
India Cement	0.74	0.74	0.75	0.73	0.74	0.74	0.01	18.92
Ramco Cement	0.90	0.80	0.76	0.75	0.82	0.81	0.06	7.41
Birla Corporation	0.72	0.84	0.83	0.9	0.67	0.79	0.09	11.39
J.K.Cement	1.12	0.75	0.82	0.84	1.00	0.91	0.15	16.48
J.K.Lakshi Cement	0.87	0.76	0.77	0.87	0.87	0.83	0.06	7.23
OCL India	0.97	1.06	1.08	0.92	1.06	1.02	0.07	6.86

Source : calculated by author

Table 4 is showing the TATR of the ten select companies in India. The five years' average TATR is highest for ACC (1.41) and lowest for India Cement (0.74). The standard deviation and co-efficient of variation of TATR for five years is the highest for Ambuja Cement (0.23,25.84%) and the standard deviation of TATR for five years is the lowest for India Cement (0.01) and coefficient of variation of TATR for five years is the lowest for ACC (6.38).

Table 5: Pearson's simple correlation analysis of profitability and asset utilization ratio

Name of company	Correlation coefficient between ROCE and FATR	Correlation coefficient between ROCE and ATR	Correlation coefficient between ROCE and TATR
Ultratech cement	0.93[t=0.00]	-0.92[t=0.00]	-0.79[t=0.00]
Ambuja Cement	1.00 [t=0.01]	0.93[t=0.00]	0.88[t=0.00]
ACC	0.66[t=0.00]	0.78[t=0.01]	0.89[t=0.01]
Shree Cement	0.40[t=0.01]	0.85[t=0.01]	0.58[t=0.01]
India Cement	-0.11[t=0.00]	0.22[t=0.00]	-0.46[t=0.00]
Ramco Cement	-0.22[t=0.00]	0.14[t=0.00]	0.27[t=0.00]
Birla Corporation	-0.41[t=0.00]	-0.58[t=0.00]	-0.29[t=0.00]
J.K.Cement	0.75[t=0.00]	0.96[t=0.00]	0.99[t=0.00]
J.K.Lakshi Cement	0.28[t=0.00]	0.42[t=0.00]	0.15[t=0.00]
OCL India	0.72[t=0.00]	0.78[t=0.00]	0.70[t=0.00]
Figures in bracket show [t] values ***Significant at 10% level ** Significant at 5% level * Significant at 1% level			
Table values of t with (n-2) i.e 8 degrees of freedom at 10%, 5% ,1% levels are 1.86, 2.306 and 3.355 respectively			

Source : calculated by author

Table 5 is showing the Pearson's simple correlation analysis of profitability and asset utilization ratios and in Ambuja cement(1.00) and ultratech cement(0.93) there is correlation between ROCE and FATR. In Ambuja cement(0.93) there is correlation between ROCE and ATR. In J.K.Cement there is correlation coefficient ROCE and ATR and ROCE and TATR. All these coefficients of correlation are not statistically significant as the [t] values are equal to zero.

Table 6 is showing the multiple correlation and multiple regression of profitability and asset utilization ratios. The computed multiple correlation coefficient is tested with the help of 'F' test and computed multiple regression coefficient is tested help of 'T'. In this analysis, fixed asset turnover ratio(FATR), asset turnover ratio(ATR), total asset turnover ratio(TATR) are selected as independent variables and the return on capital employed (ROCE) has been selected as dependent variable. Regression equation is $ROCE = \beta_0 + \beta_1 \cdot FATR + \beta_2 \cdot ATR + \beta_3 \cdot TATR$. Multiple correlation coefficient in case of all select cement companies (except India cement, Birla corporation and OCL India) is statistically significant at 5% level of significance. **Coefficient of regression between ROCE and FATR is statistically significant at 5% level for Ultratech cement and ACC**

and Coefficient of regression between ROCE and FATR is statistically significant at 1% level for J.K.Cement and J.K.Lakshmi Cement. Coefficient of regression between ROCE and ATR is statistically significant at 1% level for Shree Cement, Ramco Cement, J.K.Cement and J.K. Lakshmi Cement. Coefficient of regression between ROCE and TATR is statistically significant at 1% level for Shree Cement, Ramco Cement, J.K.Cement and J.K. Lakshmi Cement.

Table 6: Multiple correlation and multiple regression

Multiple correlation and multiple regression of return on capital employed on fixed asset turnover ratio, asset turnover ratio, total asset turnover ratio [Regression equation $ROCE = \beta_0 + \beta_1 \cdot FATR + \beta_2 \cdot ATR + \beta_3 \cdot TATR$]

Name of company	R	R ²	F	β_0		β_1		β_2		β_3	
				value	t	value	t	value	t	value	t
Ultratech cement	0.98	0.96	8.02#	0.26	-2.30*	0.22	2.72**	0.83	0.27	0.63	0.65
Ambuja Cement	1.00	1.00	134.68#	0.12	-5.38***	0.34	1.68	0.68	0.56	0.73	-0.45
ACC	1.00	0.99	37.27#	0.17	-3.73***	0.23	-2.66**	0.78	0.36	0.16	3.94
Shree Cement	1.00	1.00	249.43#	0.06	-10.05***	0.55	0.84	0.03	19.02***	0.05	-12.22***
India Cement	0.62	0.38	0.20	0.76	0.40	0.73	-0.45	0.69	0.53	0.78	-0.45
Ramco Cement	1.00	1.00	67.97#	0.17	-3.74***	0.40	1.37	0.14	-4.38***	0.12	5.38***
Birla Corporation	0.91	0.84	1.71	0.22	2.80**	0.44	-1.20	0.89	-0.18	0.74	-0.43
J.K. Cement	1.00	1.00	6328.38#	0.02	-33.83***	0.05	12.46***	0.05	-13.51***	0.02	36.97***
J.K. Lakshi Cement	1.00	1.00	107.33#	0.05	-11.73***	0.06	-10.70***	0.04	17.24***	0.04	-16.25***
OCL India	0.95	0.91	3.34	0.24	-2.47**	0.41	1.35	0.62	0.68	0.40	1.38
# Significant at 5% level of table value (k,n-k-1) i.e (3,6) degree of freedom at 5% is 4.76			*Significant at 10% level ** Significant at 5% level *** Significant at 1% level Table values of t with (n-k-1) or 6 degree of freedom at 10%, 5% and 1% levels are 1.943, 2.447, 3.707 respectively.								

Source : calculated by author

Conclusion:

It may be concluded from the above study that Shree cement has given a good return on capital employed for the period of study. Birla Corporation and ACC the two cement companies had utilized the fixed assets and total assets very effectively and efficiently. The correlation coefficients between return on capital employed and fixed turnover ratio, asset turnover ratio and total asset turnover ratio are not statistically significant for all select cement companies. There is also multiple correlation between return on capital employed and fixed turnover ratio, asset turnover ratio and total asset turnover ratio are not statistically significant for all select cement companies (except India cement, Birla corporation and OCL India). Multiple Regression co-efficient between return on capital employed and fixed turnover ratio for Ultratech cement, ACC, J.K.Cement and J.K.Lakshi Cement. Multiple regression coefficient between return on capital employed and asset turnover ratio for Shree Cement, Ramco cement, J.K.Cement and J.K.Lakshi Cement. Multiple regression between return on capital employed and total asset turnover ratio for Shree Cement, Ramco cement, J.K.Cement and J.K.Lakshi Cement. It can be said that in case of Shree cement, Ramco cement, J.K.Cement and J.K.Lakshi Cement there is a relation between profitability and asset utilization ratio.

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