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Analyis of Liquidity, Profitability, and Financial Distress : A Case Study of Kesoram Cements

KEYWORDS: Liquidity, Profitability, Bankruptcy, Financial Distress, Z-Score, and Efficiency

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ABSTRACT *Liquidity involves planning and controlling of current assets and current liabilities in such a manner that eliminates the risk of the inability to meet due short-term obligations, on one hand, and avoids excessive investment in these assets, on the other hand . Liquidity management has been taken as an important tool to analyze the sustainability and liquidity position of any enterprise that may also help any organization to derive maximum profits at minimum cost Profitability, in this reference may be the return earned on the total assets of the company. A firm is required to maintain a balance between liquidity and profitability while conducting its day-to-day operations. Investments in current assets are inevitable to ensure delivery of goods or services to the ultimate customers. The long-term survival depends on satisfactory income earned by it. This paper attempts to study the association between liquidity, profitability and efficiency from the year 2005-2012. The Altman's Z-score model has been employed by the researcher to predict the risk of financial distress during the period 2005-2012. The results indicated that the liquidity, and solvency position of the company has been satisfactory. The Z-score analysis revealed that the company is not suffering from financial distress and there are indications of turnaround activities already undertaken by the company.*

1. Introduction:

Liquidity has been taken as an important tool to analyze the sustainability and liquidity position of any enterprise that may also help to derive maximum profits at minimum cost. A company must maintain its ability to pay off its current obligations and have a sound base of working capital to stay for a long period in the competitive market.

Profitability, in this reference may be the return earned on the total assets of the company. The success of the company usually depends on its returns earned, keeping the liquidity prospects in view. Usually, it is a difficult task to trade off between the liquidity and profitability, as the conservative policy of working capital may ensure sound liquidity but endangers the profitability. On the other hand, aggressive policy helps in making profits but the liquidity is in not promised. Before deciding on an appropriate level of working capital investment, a firm's management has to evaluate the trade-off between expected profitability and the risk that it may be unable to meet its financial obligations.

Risk analysis is the technique of defining and analyzing the dangers to business posed by adverse events. Finance deals with creating a proper framework to maximize profits at a given level of risk. In pursuing this balance, the firm must develop controls over the flows of funds while allowing sufficient flexibility to respond to changes in the operating environment.

The situation where a company cannot meet or has difficulty in paying off its current obligations is called financial distress. The symptoms of financial distress include erosion of net worth, negative operating results, factory layoff, dividend reductions and plummeting share prices.. The chance of financial distress increases when a firm has high fixed costs, illiquid assets or revenues that are sensitive to economic downturns. An organization has to successfully manage its finances to achieve overall efficiency and a healthy growth in its operations.

2. Company Profile:

Kesoram cement is one of the leading manufacturers cement in India, incorporated by Birla Group Company. It is a dry process cement plant. The plant capacity is 8.26 lakh tones per annum. Located at Basanthnagar in Karimnagar Dist. Of Andhra Pradesh. Kesoram offers a choice of top quality Portland cement for light, heavy constructions and allied applications. Kesoram Cement captured various awards including national awards for productivity technology conservation and several state awards.

3. Need for the study:

A study on liquidity, efficiency, profitability analysis with reference to kesoram industries ltd. This study is made in the light of one of the tool of financial management. The study broadly makes an alter to determine the overall financial performance of a company for last 8 years. Since finance is an important parameter of every business concern to determine the growth and profitability, the study of the topic sound momentous.

Therefore, an attempt has been made to analyze the trend in which the company is moving based on ratio analysis & to identify the areas where lapses have occurred and also to suggest necessary remedial measure to overcome the lapses

4. Objectives:

1. To analyze the short-term financial position through liquidity analysis.
2. To analyze the short- term profitability position of the company over the study period.
3. To test the correlation between liquidity and risk,
4. To know the association between profitability and risk.
5. To measure the financial health of the company using Altman's Z-Score Test

Hypothesis of the study:

The above stated objectives are to be achieved by testing the following hypothesis:

1. There is negative association between liquidity and risk.
2. Profitability and risk of the firm are negatively correlated.

5. Research design:

In view of the above objectives, exploratory research design has been chosen. Exploratory research is one, which largely interprets the already available information, and it lays particular emphasis on analysis and interpretation of the exist-

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ing and available information and it makes use of secondary data.

Sources of data:
The study is based on secondary data, discussions with personnel concerned. The secondary data consists of annual reports of the kesoram cements ranging for the last 7 years. Various other reports like company's magazines, published books and web sites.

Tools used:
The financial tools are: Current ratio, Quick ratio, absolute quick ratio, Gross profit ratio, Operating profit ratio, Net profit ratio, return on capital employed, return on net worth, return on assets, fixed assets to sales , risk factor and correlation analysis are used.

6. Limitations of the Study:
The information used is primarily form historical annual reports available to the public and the same does not indicate the current situation of the firm. Detailed analysis could not be carried for the research work because of the limited time span.

7. Data Analysis and Interpretations:
Table – 1 shows liquidity position of kesoram industries ltd (2005-2012):

year	current ratio		quick ratio		inventory turnover ratio		debtors turnover ratio		fixed assets turnover ratio		total	ranking
	ratio in times	rank	ratio in times	rank	ratio in times	rank	ratio in times	Rank	ratio in times	rank		
2005	1.23	7	0.59	4	0.17	8	7.05	8	2.487	1	28	1.5
2006	1.35	5	0.61	3	6.39	2	8.85	4	2.196	2	16	7
2007	1.53	3	0.64	1	5.89	4	9.04	3	2.012	3	14	8
2008	1.32	6	0.55	6	6.79	1	10.99	1	1.23	8	22	4.5
2009	1.54	2	0.14	8	3.48	7	10.25	2	1.460	4	21	6
2010	1.43	4	0.58	5	5.18	5	8.75	6	1.235	7	27	3
2011	1.6	1	0.62	2	4.82	6	8.54	7	1.307	6	22	4.5
2012	0.96	8	0.41	7	5.94	3	8.78	5	1.386	5	28	1.5

Table No.1 exhibits the five basic ratios of liquidity, viz. Current, Quick inventory turnover, Debtor's turnover and fixed assets turnover ratio. The ratios are ranked in the order of their influence on liquidity.. Further, ultimate rank has been calculated from the total of the ranks of ratios. Ultimate ranking has been done on the principle that the lower the aggregate of the individual ranks, the more profitable is the liquidity position and vice versa.

- Current ratio is a relationship between the current assets and current liabilities compared to all years in 2011 it has crossed 1.5 and for all the remaining year it has not reached the limit of [2:1]
- Quick ratio is a relationship between the quick assets and current liabilities , if the ratio is higher it shows the higher liquidity position, from the year 2005 it has drastically increased in 2009 it shows the negative ratio (-0.139) it indicates difficult to reach the liquidity position end and it started to increase and able to meet the expenses.
- Inventory turnover is relationship between the sales and inventory .the ratios of all the years has been fluctuating with variations. The highest ratio is (6.79) for the year 2008.
- Debtor's turnovers ratio is relationship between credit sales and debtor has, there following ratios from 2005 to2012, indicates the more efficiency in the management of credit. It gradually increase from 7.05and reached 10.88 for the year 2008 and has been gradually decreasing ,
- Fixed assets turnover exhibits the relationship between sales to net fixed assets from the year 2005 it has the highest ratio of 2.487 from the year 2006 it started decreasing the ratio. Further, the ultimate ranks denote that in the year 2005,2010,2011,2012 the company has highest liquidity and the year 2006 and 2007 shows the poorest performance of liquidity.

Table - 2 shows profitability position of kesoram industries ltd (2005-12):

year	gross profit		net profit		operating profit		return on net worth	return on assets		Return on capital employed			total	ranking
	ratio in times	rank	ratio in times	rank	ratios in times	rank	ratio in times	rank	ratio in times	rank	ratio in imes	rank		
2005	0.06	6	0.02	5.5	0.074	6	0.08	6	0.04	6	0.05	6	35.5	6
2006	0.07	5	0.02	5.5	0.082	5	0.109	5	0.047	5	0.06	5	30.5	5
2007	0.18	2	0.12	2	0.185	2	0.405	1	0.183	2	0.24	1	10	2
2008	0.194	1	0.13	1	0.224	1	0.39	2	0.184	1	0.223	2	8	1
2009	0.134	3	0.09	3	0.163	3	0.284	3	0.114	3	0.14	3	18	3
2010	0.103	4	0.04	4	0.139	4	0.154	4	0.05	4	0.061	4	24	4
2011	-0.013	7	-0.04	7	0.037	7	-0.161	7	-0.039	7	-0.05	7	42	7
2012	-0.057	8	-0.06	8	-0.007	8	-0.415	8	-0.075	8	-.088	8	48	8

The gross profit margin measures relationship of gross profit to net sales. From the year 2005 to 2009 the G.P margin shows an increasing trend, later on it goes on decreasing. The net profit margin measures he relationship of net profit and sales. If indicates the efficiency of the management in manufacturing, selling, administrative and other activities of the firm. From the year 2005 it begin to increases and from 2009, the net profit margin gradually declines due to the competitor's pressure it unable to meet the desired profits. The operating profit measures the change in profit margin (i.e., EBIT to sales), from the starting year till to the end the margin has been drastically declined which shows

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the companies good performance. Return on net worth is the relationship between the net profit and the shareholder's funds of company the ratio reveals high yield up to 2007 later onwards it started to decline. Return on capital employed represents the net profit to the capital. It started to increase the yield up to 2007 and from year it started to decline which shows the poor performance.

Trade off between risk and profitability:
Trade off between risk and profitability can be made by calculating the risk factor. The analysis can be done through working capital policies of the company.

Risk factor can be calculated through the following formula:

Risk Factor (R_k) $= \frac{(E_j + L_j) - A_j}{C_j}$

Where, R = Risk factor, E = Equity + Retained Earnings,

Lj = Long term Loans, Aj = Fixed Assets, Cj = Current Assets.

Based on the above formula, following inferences can be drawn:

Value of R is zero or less would mean that the firm is using the aggressive policy and normally the profitability would be high.

Value of R is 1 or close to 1 would mean that the firm is using a conservative policy and the profitability would be low.

Table -3 shows Risk Vs Profitability of kesoram industries ltd (2005-12):

Year	Equity + Retained earnings (1)	Long term loan (2)	Fixed assets(3)	Current assets(4)	Risk factor = (1+2-3)/4 Factor (Rk)	Rank (Rk)
2005	377.15	440.93	571.48	451.42	0.546	3
2006	416.05	555.52	743.22	464.38	0.492	6
2007	654.43	793.07	1105.2	649.89	0.526	5
2008	981.92	1092.35	2438.83	755.6	-.482	8
2009	1330.1	1970.43	2669.92	1025.8	0.614	2
2010	1540.24	3126.22	3844.65	1539.22	0.534	4
2011	1300.25	3999.27	4129.53	1821.77	0.64	1
2012	915.01	4105.34	4267.86	1738.33	0.105	7

- As the risk factor value is near to one in the years 2005, 2009 to 11, which means the firm, is uses conservative policy The profitability is relatively low as the return on current assets is normally less. But ensuring good liquidity as the risk of meeting current obligations is reduced.
- As the risk factor value is near to zero and less than zero in the years 2006-08,2012 where the firm is using aggressive policy, the firm opts for a lower level of working capital thereby investing in current assets at lower proportion to total assets. When a firm adopts this policy, the profitability is high but at higher risk of liquidity.

Table-4 Rank Correlation between Risk, Liquidity and profitability

Year	R1	R2	Rk
2005	1.5	6	3
2006	7	5	6
2007	8	2	5
2008	4.5	1	8
2009	6	3	2
2010	3	4	4
2011	4.5	7	1
2012	1.5	8	7
r value	-0.5595	-0.2619	
T value of r	3.166	1.3187	
Note: table value of t at (n-2) degree of freedom at 0.05 level of significance is 2.015			

Source: Calculations are done using MS Excel.

The Liquidly, Profitability and Risk Analysis of selected company compared by using and tested by the following hypothesis:

1. Calculated Value of't'=3.166 and Critical value of't'= 2.015 as the calculated value is greater than the critical value, thus the null hypothesis is rejected. Thus, it can be said that there is significant association between liquidity and risk of this company.
2. The null hypothesis states that profitability and risk of the firm are negatively correlated.

Calculated value of't' = 1.318 & Table value of't' = 2.015 as the calculated value is less than the table value, the null hypothesis is accepted. Hence, it can be said that the profitability and risk are negatively correlated.

8. ALTMAN'S Z SCORE TEST FOR SOLVENCY ANALYSIS:
Category Z-score value Inference/Implications

- Z < 1.8 indicates bad performance and is considered to be in bankruptcy zone.
- Z > 1.8 and Z < 3 indicates gray area, uncertain to predict (Healthy performance).
- Z > 3 indicates very good/healthy financial performance.

Table – 5

Year	WC÷TA (X_1)	RE÷TA (X_2)	EBIT÷TA (X_3)	Equity ÷ TA (X_4)	Sales÷TA (X_5)	Z score value
2005	0.217	0.405	0.13	0.009	1.738	2.499
2006	0.205	0.381	0.138	0.01	1.68	2.414
2007	0.217	0.42	0.285	0.041	1.536	2.499
2008	0.148	0.451	0.325	0.04	1.448	2.412
2009	0.173	0.389	0.193	0.025	1.181	1.961
2010	0.165	0.32	0.142	0.011	1.018	1.656
2011	0.208	0.286	0.038	-0.009	1.019	1.542
2012	0.137	0.173	-0.009	-0.017	1.179	1.463
Factor weightage	0.184	0.353	0.155	0.0137	1.349	

- As from the years 2009 to 2012 the firm is maintaining the range of z-score value between 1.8to3 indicates gray area, uncertain to predict (Healthy performance) and from the years 2008,2007,2005 the z-score value is greater than 3 which indicates very good/healthy financial performance.

9.Conclusion:
Kesoram Cemets being an established company from past few decades is satisfactorily giving out profits and maintaining its liquidity position but at increased risk factor. The liquidity position of the company is fluctuating but it is acceptable. The risk factor calculated is a needle of the working capital management and the policy adopted. The company is timely changing its policies for better results but at higher risk. The profitability is increasing at good pace showing the efficiency of the company. Thus, it can be concluded that the company is earning good profits moderate liquidity and higher risk.

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