

## Analysis of Profitability in Exide Industries Limited

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### Abstract

The present study attempts the profitability analysis in Exide Industries Limited. The study is based on secondary data from 2008-09 to 2017-18. To evaluate the profitability of the company, relevant ratios are used. The data analyzed through statistical tools such as mean, coefficient of variation, minimum, maximum, trend, correlation, coefficient of determination and 't' test. The results reveal that profitability position of the company is observed to be good during the study periods and its market is rising. It has been earning an acceptable return on invested capital and has positive future opportunities for growth. The study may be helpful to funds manger, owners, lenders and investors alike in assessing the level of financial position and to design its policies to achieve the goals of wealth maximization.

**KEYWORDS:** Profitability, Profit margin, Correlation, Coefficient of determination and 't' test

### Introduction

Profitability is an index of evaluating the overall efficiency of an enterprise. The management, owners, investors, funds manager, banks, financial institutions and other creditors look at the profitability ratios as a signal of whether or not a firm earns substantially more than its pay. The enterprise is bound to become sick without profit making and not adding value may cause its death. So, earnings are essential requirements to continue the business. Profitability is the major factor of an enterprise, which reflects the growth and success of the business. It makes the business in such a sound position to face the difficult financial conditions and the various future crises in the business. The different ratios have been suggested to access the profitability of the firm from different angles. The performance of the business can be evaluated in terms of its given level of sales, assets and owner interest etc. Thus, it is the criteria of judging the operational, financial and managerial decisions.

### Objectives of the study

1. To examine the profitability ratios in relation to sales.
2. To assess the profitability ratios in relation to investment.
3. To test the relationship between the profitability ratios in relation to sales and investment

### Hypothesis of the Study

The following hypothesis is framed to assess the profitability results:

H01 –There is no significant relationship between gross profit and net sales.

H02 –There is no significant relationship between net profit and net sales.

H03 –There is no significant relationship between operating profit and net sales.

H04 –There is no significant relationship between cash profit and net sales.

H05 –There is no significant relationship between profitability ratios in relation to sales and investment.

## Methodology

The present study is based on secondary data. The data have been taken from the published annual reports of the company. The collected data have been analyzed through the use of various accounting and statistical techniques such as ratios, percentage, mean, co-efficient of variation (C.V.), minimum, maximum, trend, correlation (r), co-efficient of determination ( $r^2$ ) and 't' test

## Scope of the Study

Keeping in view the objectives of the study it has been decided to choose the company on purposive sampling basis. A sample of one unit out of five top has been taken. The study covers ten years period from 2008-09 to 2017-18. A period longer than ten years could have been better to draw out more reliable results, particularly on the basis of time series analysis. The list of five units is given in references.

## Analysis and Discussion

The data analyzed have been presented in different tables (seven in numbers), reflecting upon the various objectives of the study.

Table No. 1  
Analysis of Gross Profit of Exide Industries Limited

	<b>Gross Profit (Rs. In crores)</b>	<b>Net Sales (Rs. In crores)</b>	<b>Gross Ratio (%)</b>	<b>Profit Trend</b>
<b>2008-09</b>	435	3393	12.82	17.29
<b>2009-10</b>	811	3794	21.38	16.57
<b>2010-11</b>	940	4554	20.64	15.85
<b>2011-12</b>	645	5107	12.63	15.13
<b>2012-13</b>	742	6071	12.22	14.41
<b>2013-14</b>	723	5964	12.12	13.69
<b>2014-15</b>	798	6866	11.62	12.97
<b>2015-16</b>	908	6848	13.26	12.25
<b>2016-17</b>	976	7583	12.87	11.53
<b>2017-18</b>	1006	9186	10.95	10.81
<b>Mean</b>	798.4	5936.6	14.05	

<b>C.V</b>	.21	.29	.26
<b>Minimum</b>	435	3393	10.95
<b>Maximum</b>	1006	9186	21.38
<b>r</b>	.68		
<b>r<sup>2</sup></b>	.46		
<b>'t' Value</b>	3.56		

Source: Annual Reports of Exide Industries Limited.

Table No.1 shows that the highest gross profit ratio is recorded to be 21.38 percent and the lowest gross profit ratio is noticed to be 10.95 percent during the period of ten year study. The mean value of gross profit ratio is observed to be 14.05 percent with c.v. value .26. The highest ratio shows an increase in the selling price of goods sold without any corresponding increase in the cost of goods sold. A lower ratio may be result of unfavourable purchasing policies. The trend values witnessed a declining trend over the period of the study. It proves the poor progress of the company. The gross profit and sales are positively correlated (i.e. .68). It means that with increase in the sales, gross profit will increase. The calculated value of 't' test (3.56) is more than the tabulated value (2.31) at 5 percent level of significance. It proves that there is significant relationship between gross profit and net sales during the business cycles. Hence, null hypothesis is rejected. It is found that the value of  $r^2$  is .46 which proves that 46 percent variation in gross profit is due to change in sales and remaining 54 percent variation due to other factors.

TableNo. 2  
Analysis of Net Profit Ratio of Exide Industries Limited

<b>Year</b>	<b>Gross Profit (Rs. In crores)</b>	<b>Net Sales (Rs. In crores)</b>	<b>Gross Ratio (%)</b>	<b>Profit Trend</b>
<b>2008-09</b>	284	3393	8.37	11.71
<b>2009-10</b>	537	3794	14.15	11.25
<b>2010-11</b>	666	4554	14.62	10.79
<b>2011-12</b>	461	5107	9.03	10.33
<b>2012-13</b>	523	6071	8.61	9.87
<b>2013-14</b>	487	5964	8.17	9.41
<b>2014-15</b>	546	6866	7.95	8.95
<b>2015-16</b>	624	6848	9.11	8.49
<b>2016-17</b>	694	7583	9.15	8.03
<b>2017-18</b>	668	9186	7.27	7.57
<b>Mean</b>	549.0	5936.6	9.64	
<b>C.V.</b>	.21	.29	.25	
<b>Minimum</b>	284	3393	7.27	
<b>Maximum</b>	694	9186	14.62	
<b>r</b>	.65			
<b>r<sup>2</sup></b>	.42			
<b>'t' Value</b>	2.42			

Source: Annual Reports of Exide Industries Limited.

Table No. 2 reveals the net profit ratio over the periods of ten year study. The highest net profit ratio is noticed to be 14.62 percent and the lowest is happened to be 7.27 percent. The mean value of net profit ratio is observed to be 9.64 percent with c.v. value .25. The trend values showed a declining trend during the study periods. It needs to be properly safe guarded. The net profit and net sales are positively correlated. It proves that increase in sales, net profit will increase. The 't' value 2.42 is significant at 95 percent level of confidence which proves that there is significant relationship between net profit and net sales during the study periods. Hence, the null hypothesis is rejected. The value of  $r^2$  is .42. It means that 42 percent variation in net profit is due to change in sales and remaining 58 percent variation due to other factors.

Table No. 3  
Analysis of operating Profit Ratio of Exide Industries Limited

Year	Gross Profit (Rs. In crores)	Net Sales (Rs. In crores)	Gross Profit Ratio (%)	Trend
2008-09	549	3393	16.18	18.66
2009-10	893	3794	23.54	17.98
2010-11	903	4554	19.83	17.30
2011-12	687	5107	13.45	16.62
2012-13	790	6071	13.01	15.94
2013-14	825	5964	13.83	15.26
2014-15	917	6866	13.36	14.58
2015-16	1026	6848	14.98	13.90
2016-17	1082	7583	14.27	13.22
2017-18	1241	9186	13.51	12.54
Mean	891.3	5936.6	15.60	
C.V	.21	.29	.21	
Minimum	549	3393	13.01	
Maximum	1241	9186	23.54	
r	.82			
$r^2$	.67			
't' Value	4.07			

Source: Annual Reports of Exide Industries Limited.

Table No. 3 depicts the operating profit ratio over the periods of ten year study. The highest ratio is recorded to be 23.54 percent and lowest is noticed to be 13.01 percent. The mean value of operating profit ratio is observed to be 15.60 percent with c.v. value .21. The trend value witnessed a declining trend during

the period of the study. The declining trend values pointed that company should be checked forth with. The operating profit and sales are positively correlated i.e. .82. It means increase in the sales, operating profit will increase. The 't' value 4.07 is statistically significant at 95 percent level of confidence which proves that there is significant relationship between operating profit and net sales during the business cycles. Hence, the null hypothesis is rejected. The value of  $r^2$  is .67. It means that 67 percent

variation in operating profit is due to change in net sales and remaining 33 percent variation due to other factors.

Table No. 4  
Analysis of Cash Profit Ratio of Exide Industries Limited

Year	Cash Profit (Rs. In crores)	Net Sales (Rs. In crores)	Cash Ratio (%)	Profit Trend
2008-09	352	3393	10.37	13.52
2009-10	618	3794	16.29	13.14
2010-11	750	4554	16.47	12.76
2011-12	562	5107	11.00	12.38
2012-13	636	6071	10.48	12.00
2013-14	613	5964	10.28	11.62
2014-15	685	6866	9.98	11.24
2015-16	782	6848	11.42	10.86
2016-17	900	7583	11.87	10.48
2017-18	914	9186	9.95	10.10
Mean	681.2	5936.6	11.81	
C.V	.23	.29	.20	
Minimum	352	3393	9.95	
Maximum	914	9186	16.47	
r	.81			
r <sup>2</sup>	.66			
't' Value	3.95			

Source: Annual Reports of Exide Industries Limited.

Table No. 4 exhibits the cash profit ratio over the periods of ten year study. The highest ratio is observed to be 16.47 percent and the lowest is noticed to be 9.95 percent. The means value is recorded to be 11.81 percent with c.v. value .29. The trend value showed a declining trend during the periods of the study. However the declining trend values must be a point of concern to the management. The two variables i.e. cash profit and net sales are positively correlated. It proves that increase in net sales, the cash profit will increase. The 't' value 3.95 is statistically significant relationship between cash profit and net sales. Hence, null hypothesis is rejected. The value of r<sup>2</sup> is .66 which proves that 66 percent variation in cash profit is due to change in net sales and remaining 34 percent variation due to other factors.

Table No. 5  
Analysis of Profitability Ratio in relation to Investment

Year	RONW (%)	Trend	ROCE (%)	Trend	ROTA (%)	Trend	EPS (Rs.)	Trend
2008-09	28.7	32.60	27.60	30.67	13.77	16.81	3.55	5.04
2009-10	44.1	30.04	34.67	29.03	18.32	15.81	6.32	5.36
2010-11	30.4	27.48	33.75	27.39	18.60	14.81	7.84	5.68
2011-12	17.0	24.92	20.71	25.75	11.33	13.81	5.43	6.00
2012-13	17.2	22.36	21.22	24.11	11.56	12.81	6.15	6.32

<b>2013-14</b>	14.3	19.80	18.96	22.47	9.87	11.81	5.73	6.64
<b>2014-15</b>	14.7	17.24	19.19	20.83	10.15	10.81	6.42	6.96
<b>2015-16</b>	15.5	14.68	19.58	19.19	10.22	9.81	7.35	7.28
<b>2016-17</b>	15.4	12.12	19.07	17.55	10.24	8.81	8.16	7.60
<b>2017-18</b>	13.5	9.56	18.19	1591	9.03	7.81	7.86	7.92
<b>Mean</b>	21.08		23.29		12.31		6.48	
<b>C.V</b>	.45		.26		.29		.21	
<b>Minimum</b>	13.5		18.19		9.03		3.55	
<b>Maximum</b>	44.1		34.67		18.32		8.16	

Source: Annual Reports of Exide Industries Limited.

Table No. 5 shows the profitability ratios based on investment from the year 2008-09 to 2017-18. The highest ratio of return on net worth was 44.1 percent in the year 2009-10 and lowest ratio was 13.5 percent in the year 2017-18. The average ratio was 21.08 percent with c.v. value .45. The trend values of return on net worth ratio recorded a declining trend during the period of the study. The highest ratio of return on capital employed was 34.67 percent and lowest was 18.19 percent. The means ratio value was 23.29 percent with c.v. value .26. The trend values witnessed a declining trend during the study periods. The highest ratio of return on total assets was recorded to be 18.32 percent and lowest ratio was 9.03 percent. The mean value of the ratio was 12.31 percent with c.v. value .29. The trend value showed a declining trend over the periods of the study. The highest ratio of earning per share was Rs. 8.16 and lowest was Rs. 3.55. The mean value of the ratio was Rs. 6.48. The trend values showed an increasing trend over the period of the study. It can be safely concluded that return also seems to be satisfactory on the face of it. However, the declining trend needs to be properly safe guarded. It is pleasing to note that the Excide Industries Limited is showing rising trend value in their earning per share over the periods of the study. It is good if company can maintain this trend in future years also.

Table No 6  
Relationship Analysis of Profitability Ratios in relation to Sales and Investment

Year	Rank (GP R)	Rank (NP R)	Rank (OP R)	Rank (CP R)	Total	ultimate Rank (R <sub>1</sub> )	Rank (RON W)	Rank (ROCE)	Total	Capital ultimate Rank (R <sub>2</sub> )
<b>2008-09</b>	6	4	8	3	21	5	8	8	24	3
<b>2009-10</b>	10	9	10	9	38	1.5	10	10	29	1
<b>2010-11</b>	9	10	9	10	38	1.5	9	9	28	2
<b>2011-12</b>	5	6	3	5	19	6	6	6	18	5
<b>201</b>	4	5	1	4	14	7.5	7	7	21	4

<b>2-13</b>										
<b>201</b>	3	3	5	2	13	9.0	2	2	6	9
<b>3-14</b>										
<b>201</b>	2	2	2	8	14	7.5	3	4	10	8
<b>4-15</b>										
<b>201</b>	8	7	7	6	28	3.5	5	5	14	6
<b>5-16</b>										
<b>201</b>	7	8	6	7	28	3.5	4	3	12	7
<b>6-17</b>										
<b>201</b>	1	1	4	1	7	10.0	1	1	3	10
<b>7-18</b>										
<b>r</b>	.78									
<b>r<sup>2</sup></b>	.61									
<b>'t' value</b>	3.50									

Source: Annual Reports of Exide Industries Limited.

Table No. 6 shows the profitability ratio in relation to sales and investment. The ratios are ranked in order that influence the profitability position of the company. The ultimate rank has been calculated from the total rank of the ratios. The ultimate rank has been done on the principle that the lower the aggregate of the individual ranks, the more is the profitability position and vice-versa. The profitability ratios in relation to sales and investment are positively correlated (i.e. .78). The 't' value 3.50 is statistically significant at 95 percent level of confidence. Hence, null hypothesis is rejected. It proves that increase the profitability ratios in relation to sales, the profitability ratios in relation to investment will increase. It is found that value of  $r^2$  is .61 which proves that 61 percent various in profitability ratio in relation to investment is due to change in profitability ratio in relation to sales and remaining 39 percent variation due to other factors. It is positive signal for the company and has good future opportunities for growth.

Table No. 7  
Summary of the Result

Sr. No.	Hypothesis	Tabulated value (0.05)	Degree of Freedom=n-2	Calculated value	Results
1	H01	2.31	8	3.56	Reject
2	H02	2.31	8	2.42	Reject
3	H03	2.31	8	4.07	Reject
4	H04	2.31	8	3.95	Reject
5	H05	2.31	8	3.50	Reject

Table No. 7 reveals that the hypothesis i.e. H01, H02, H03, H04 and H05 are rejected. It can be inferred that calculated value of 't' test is more than the tabulated value at 5 percent level of significance. The null hypothesis is rejected. This proves that gross profit, net profit, operating profit cash profit to sales and profitability ratios in relation to sales and investment have significant relationship during the period of the study.

## Findings and Suggestions

The sale of Exide Industries Limited is recorded to be growing over the period of the study. The gross profit ratio increased from 10.95 percent to 21.38 percent. The gross profit and sales are positively correlated. It proves that with increase in sales, gross profit will increase. The value of  $r^2$  .46 which proves that 46 percent variation in gross profit is due to change in sales and remaining 54 percent variation due to other factors. It reflects the positive signal of the management overall effectiveness on sales and gross profit. The company should use consistent techniques and financial polices to decline the cost of goods sold, which will help to lead more returns.

Net profit ratio grew from 7.27 percent to 14.62 percent during the periods of the study. The net profit and sales are positively correlated. The value of  $r^2$  is .42. It proves that 42percent variation in net profit is due to change in sales and remaining 58 percent due to other factors. Therefore, company should control high expenses with the help of accounting and financial policies, which will help to reach higher level of profitability.

The operating profit ratio indicates the pure profit of an enterprise. It increased from 13.01 percent to 23.54 percent in the study period. The operating profit and sales are highly positively, correlated. The value of  $r^2$  is .67. It proves that 67 percent variation in operating profit is due to change in net sales and remaining 33 percent variation due to other factors. It reflects the good signal of the company's performance.

The cash profit ratio increased from 9.95 percent to 16.47 percent over the periods of the study, which implies good level of profitability of the company. The cash profit and net sales are highly positively correlated. The value of  $r^2$  is .66 which proves that 66 percent variation in cash profit is due to change in sales and remaining 34 percent due to in other factors. It proves that company customer base has been growing during the period of the study.

Return on net worth grew from 13.5 percent to 44.1 percent within given period. Return on capital employed ranged between 18.19 percent to 34.67 percent. The return on total assets increased from 9.03 percent to 18.32 percent for the given period. It indicates from 3.55 percent to 8.16 percent. The earnings per share are rising over the periods of the study. It shows the increasing trend, which is a good signal for both company management and prospective stock holders.

The profitability ratios in relation to sales and investment are highly positive correlated. It proves that increase in the profitability ratio in relation to sales, the profitability ratios in relation to investment will increase. The value of  $r^2$  .61, which proves that 61 percent variation in profitability ratios in relation to investment is due to change in profitability ratios in relation to sales and remaining 39 percent due to change in other factors. It is good if the company can maintain this trend in future years also.

On the whole, it may be concluded that overall performance of the company regarding profitability is good over the years considered for the study. It has been earning an acceptable return on invested capital. The company is profitable and has positive future opportunities. The company has to look carefully at controlling the costs of goods



sold and decline its expenses to face the various future crises and difficult financial conditions. The study may be useful for stock holders, lenders and the firm's manager to assess the financial strength of a company.

### Scope for Future Research

Further researchers can examine funds management, relationship between working capital and Profitability, relationship between capital structure and profitability, relationship between Liquidity, Profitability and risk etc. of Exide Industries Limited.

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