



## AN ANALYSIS OF PROFITABILITY OF SELECT ALUMINIUM COMPANIES IN CHENNAI

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### ABSTRACT

The income is golden egg, the centre of the appeal of some of these which are inquisitive about the company unit. Therefore, it's miles vital to examine and interpret the profitability withinside the company region as a complete. The commercial enterprise companies are usually hooked up with a view of incomes income shape the commercial enterprise operations. But beneathneath exclusive scenario the item of the commercial enterprise companies can be modified to survival, boom balance etc., and Business companies are to live on in dynamic and increasing surroundings. It has to move on increasing the dimensions of its operation on a everyday and persevering with foundation via way of means of producing enough income. Profits are beneficial intermediate beacon closer to which a organization's capital must be directed. It is tough for a commercial enterprise to respire nicely with out income. It can be appeared as a replicate of the working overall performance of the commercial enterprise activities. But withinside the actual commercial enterprise surroundings of today, income it thus, now no longer the only goal however one many of the maximum vital objectives, which commonly manual and direct commercial enterprise operations.

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### INTRODUCTION

Indeed, income are the take a look at of performance and a degree of control; to the owners, a degree of really well worth in their funding; to the creditor, the margin of safety; to the employees, supply of fringe benefits; to the governments, degree of taxable capability and the idea of legislative action; to the customer, call for for fee cut. It is the standards of judging the green operation. In short, income is the valid item of an corporation shape the investor. According to monetary thinkers, income are the record card of the past, incentive gold famous person for the destiny and additionally stake for the brand new venture. Accountant confirm income, isn't best a dependable degree of

green overall performance in the use of manufacturing resources. But additionally, manner of measuring the development of the commercial enterprise or `checking out its pulse` and of indicating whilst and complete remedial action, if vital will be taken. In the technology of monetary development, the income and the profitability are exclusive concepts. Although each of them are controversial, even then each are inter-associated and at the same time inter-dependent.

Profit is absolutely the time period and profitability is a relative concept. Notably, whilst income is the residue of profits profitability is the income making cappotential may denote a consistent or advanced or deteriorated situation at some



point of a given period. Thus, income is an absolute connotation, while profitability is a relative concept, in spite of being carefully associated with a at the same time interdependent, as they are, income and profitability are exclusive concepts. In different phrases, notwithstanding their general nature, every certainly considered one among them has a wonderful position in commercial enterprise issues is probably the identical and get extra frequently than be aware their profitability ought to range whilst measured in phrases of the dimensions of investments. Ana evaluation of the profitability well-knownshows as to how the placement of income stands because of overall transactions made at some point of the year.

### MEASUREMENT OF PROFITABILITY

Profitability is the principle indicator of the performance and effectiveness of a commercial enterprise corporation in accomplishing its purpose of incomes income. Profitability of a organization may be measured via way of means of its profitability ratios. In the technique of overall performance appraisal a commercial enterprise, profitability ratios may be calculated to degree the working performance. The profitability ratios may be decided on the idea of both funding or income and for this cause a quantitative courting among the income and the funding or the income is hooked up. In different phrases James C. Van Horne, “profitability ratios are of types: the ones displaying profitability in terms of income, and people displaying profitability in terms of funding. He similarly delivered with all the profitability ratios, comparisons of a employer with comparable corporations are extraordinarily valuable.

Only via way of means of assessment are we to choose whether or not the profitability of a selected employer is right or bad, and why. Absolute figures provide identical insight, however it's miles relative overall performance that's the maximum vital”. The profitability of the employer must be evaluated in phrases of its funding is belongings and in phrases of capital contributed via way of means of lenders and owners, as such if a employer is not able to earn a excellent go back on investments, its survival is threatened. The profitability of pick Aluminium industries has been analysed from the factor of view of economic management, shareholders and usage of belongings. The following profitability ratios has been laptop and analysed for the pick Aluminium industries at some point of the have a look at period.

### OPERATING PROFIT RATIO

The first profitability ratio in relation to sales is the Operating Profit Ratio. The Operating Profit Ratio reflects the efficiency with which the management produces each unit of product. This ratio indicates the average spread between the cost of goods sold and sales. It is one of the most carefully watched measures profitability. A high Operating Profit Ratio is the sign of managerial effectiveness. Conversely, a low ratio should be carefully, investigated and compared with the ratios of similar corporations to diagnoses as also to remedy problem. There is no standard norm for Operating Profit Ratio and it may vary from business but the operating profit should be dividend. The Operating Profit Ratio for the select Aluminium industries during the study period presented in the following table.

#### OPERATING PROFIT RATIO

Year	HIL	NACL	CEL	SIL	BAL	PGFL	GJFL
2012-13	11.26	13.11	9.71	9.17	-6.92	0.66	12.3
2013-14	14.98	17.3	8.32	7.52	9.12	3.6	13.88
2014-15	15.04	28.5	14.92	8.97	10.86	8.74	9.72



2015-16	16.03	23.54	20.41	13.54	5.7	8.4	6.83
2016-17	17.1	36.2	17.08	9.71	11.4	4.78	3.24
2017-18	21.9	47.28	20.24	9.74	8.07	5.02	5
2018-19	22.25	61.06	18.48	6.74	8.42	1.52	4.14
2019-20	23.86	54.38	12.08	9.01	6.62	1.46	2.78
2020-21	23.83	54.38	10.53	7.71	5.3	1.07	2.14
2021-22	11.26	47.78	9.84	6.26	5.19	3.76	1.7
<b>Mean</b>	<b>17.75</b>	<b>38.35</b>	<b>14.16</b>	<b>8.84</b>	<b>6.38</b>	<b>3.90</b>	<b>6.17</b>
<b>CV</b>	<b>3.83</b>	<b>2.38</b>	<b>3.22</b>	<b>4.54</b>	<b>1.30</b>	<b>1.42</b>	<b>1.49</b>
<b>CAGR</b>	<b>0.00</b>	<b>15.45</b>	<b>0.15</b>	<b>-4.15</b>	<b>-196.85</b>	<b>21.3</b>	<b>-19.74</b>

Source: Annual Reports

The Operating Profit Ratio of Hindalco Ind was shown fluctuating ranged from 11.26 per cent in the year 2012-2013 and ended up with 11.26 per cent in the year 2021-2022 during the study period which is statistically significant. The CV value further indicated highly fluctuation 3.83 in this ratio with no Compound Annual Growth Rate (0.00) during the study period.

The above table above states the Operating Profit Ratio for National Aluminium, a select company, which has its ratio contents 13.11 per cent to 47.78 per cent during the study period 2012-2013 to 2021-2022. The ratio was highly fluctuating as either increasing or decreasing during the same. The Mean Value 38.35 and further the CV value were 2.38 with the Compound Annual Growth Rate of 15.45.

The table above for Operating Profit Ratio shows the operating profit progress of Century Extrusions. The values are ranging from 9.71 per cent to 9.84 per cent during the study period. The ratio value was high during 2015-2016 as 20.41 per cent and at its low on 2021-2022 as 9.71 per cent. There were slight fluctuations all through the period. The Mean Value was 14.16 with CV value 3.28 with a mild Compound Annual Growth Rate of 0.15.

The Operating Profit Ratio of Sudal Ind., has been stated by the above table. It is evident from the table, the Operating Profit Ratio of the company was is ranging from 9.17

per cent during 2012-2013 to 6.26 per cent during 2021-2022. The ratio was either increasing or decreasing all through the study period, not at major level. The fluctuations are effected in the Mean Value and CV value as 8.84 and 4.54 respectively. The Compound Annual Growth Rate for the company during the study period 2012-2013 to 2021-2022 was negative (-4.15).

The Bhoruka Ltd, with its Operating Profit Ratio has been clearly depicted by the table. The value for the company started with negativity during 2012-2013 with (-6.92) per cent and ended up with 5.19 per cent during 2021-2022. The values were kept fluctuating all through the study period. The Mean Value was 6.38 and CV value was 1.30 with negative Compound Annual Growth Rate of (-196.85) during the study period.

The table above represents the Operating Profit Ratio of P.G. Folis Ltd. The Value of the company started with 0.66 per cent in 2012-2013 to 3.76 per cent in 2021-2022. The value is its high at 8.74 per cent during 2004-2005 and low at 0.66 per cent during 2012-2013. The Mean and CV values were 3.90 and 1.42 respectively. The Compound Annual Growth Rate for the company during the study period 2012-2013 to 200-2012 was 21.3.

The Operating Profit Ratio of the company Gujarat Folis Ltd., has been represented by the above table. The table stands as the evident for the operating profit



values for the company during the study period 2012-2013 to 2021-2022. The values of the company were ranging from 12.3 per cent during 2012-2013 to 1.7 per cent during 2021-2022. The values are shown fluctuating during

the period. The Mean Value is 6.17 and CV value is 1.49. The Compound Annual Growth Rate of the company during the study period was negative as (-19.74).

### ANOVA

**H<sub>0</sub>**- There is no significant difference in Operating Profit Ratio between the companies and between years.

**H<sub>a</sub>** - There is a significant difference in Operating Profit Ratio between the companies and between years.

#### ANOVA - OPERATING PROFIT RATIO

<i>Source of Variation</i>	<i>SS</i>	<i>Df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Companies	599.0681	9	66.56313	1.225022	0.299552	2.05852
Between Years	8543.421	6	1423.904	26.2054	2.34E-14	2.271989
Error	2934.159	54	54.33627			
Total	12076.65	69				

It is evident from the above that the differences between Operating Profit Ratio in between the companies are not significant because the calculated value of 'F' (1.22) is less than the table value of 'F' (2.76) at 5 per cent level of significance. Hence, the null hypothesis is accepted. Further, the difference between years are significant because calculated value of 'F' (26.20) is higher than the table value of 'F' (3.74) at 5 per cent value of significance and the null hypothesis is rejected.

#### GROSS PROFIT RATIO

The profitability ratio that shows the relationship of Gross Profit with Sales is the Gross Profit Ratio. The Gross Profit reflects the field of improvement in production. A high Gross Profit Ratio is the sign of productive effectiveness. Conversely, a low ratio should be carefully, investigated and compared with the ratios of similar corporations to diagnoses as also to remedy problem. There is no standard norm for ratio and it may vary from business. The Gross Profit Ratio for the select Aluminium industries during the study period presented in the following table.



### GROSS PROFIT RATIO

Year	HIL	NACL	CEL	SIL	BAL	PGFL	GJFL
2012-13	5.75	5.8	3.73	7.54	-11.08	-0.99	9.07
2013-14	8.67	10.25	2.98	6.06	6.72	1.73	10.13
2014-15	12.08	21.4	9.83	8.03	8.95	6.37	6.18
2015-16	11.59	17.38	15.2	12.74	4.33	6.93	5.87
2016-17	12.48	30.98	11.79	9.03	10.54	4.12	2.07
2017-18	14.02	41.82	15.42	9.16	4.63	4.36	3.99
2018-19	22.27	62.2	17.57	3.15	5.27	1.19	3.16
2019-20	22.08	54.84	11.49	4.55	4.71	3	2.22
2020-21	23.74	53.6	9.97	3.05	4.07	3.39	1.32
2021-22	23.42	44.68	8.06	0.12	3.92	5.37	1.22
<b>Mean</b>	<b>15.61</b>	<b>34.30</b>	<b>10.60</b>	<b>6.34</b>	<b>4.21</b>	<b>3.55</b>	<b>4.52</b>
<b>CV</b>	<b>2.47</b>	<b>1.81</b>	<b>2.33</b>	<b>1.81</b>	<b>0.76</b>	<b>1.53</b>	<b>1.50</b>
<b>CAGR</b>	<b>16.89</b>	<b>25.46</b>	<b>8.94</b>	<b>-36.88</b>	<b>-189.10</b>	<b>-220.67</b>	<b>-19.98</b>

Source: Annual Reports

The Gross Profit Ratio of Hindalco Ind was shown fluctuating ranged from 5.75 per cent in the year 2012-2013 and ended up with 23.42 per cent in the year 2021-2022 during the study period which is statistically significant. The CV value further indicated highly fluctuation 2.47 in this ratio with Compound Annual Growth Rate 16.89 during the study period.

The above table above states the Gross Profit Ratio for National Aluminium, a select company, which has its ratio contents 5.8 per cent to 44.68 per cent during the study period 2012-2013 to 2021-2022. The ratio was highly fluctuating as either increasing or decreasing during the same. The Mean Value 34.30 and further the CV value were 1.81 with the Compound Annual Growth Rate of 25.46.

The table above for Gross Profit Ratio shows the Gross Profit progress of Century Extrusions. The values are ranging from 3.73 per cent to 8.06 per cent during the study period. The ratio value was high during 2008-2009 as 17.57 per cent and at its low on 2013-2014 as 2.98 per cent. There were slight fluctuations all through the period. The Mean Value was 10.60 with CV value 2.33 with a mild Compound Annual Growth Rate of 8.94.

The Gross Profit Ratio of Sudal Ind., has been stated by the above table. It is evident from the table, the Gross Profit Ratio of the company was is ranging from 7.54 per cent during 2012-2013 to 0.12 per cent during 2001-2012. The ratio was either increasing or decreasing all through the study period, not at major level. The fluctuations are effected in the Mean Value and CV value as 6.34 and 1.81 respectively. The Compound Annual Growth Rate for the company during the study period 2012-2013 to 2021-2022 was negative as (-36.88).

The Bhoruka Ltd, with its Gross Profit Ratio has been clearly depicted by the table. The value for the company started with negativity during 2012-2013 with (-11.08) per cent and ended up with 3.92 per cent during 2021-2022. The values were kept fluctuating all through the study period. The Mean Value was 4.21 and CV value was 0.76 with Compound Annual Growth Rate of 189.10 during the study period.

The table above represents the Gross Profit Ratio of P.G. Folis Ltd. The Value of the company started with (-0.99) per cent in 2012-2013 to 5.37 per cent in 2021-2022. The value is its high at 6.93 per cent during 2005-2006 and low at (-0.99) per cent during 2012-2013. The Mean and CV values were 3.55 and



1.53 respectively. The Compound Annual Growth Rate for the company during the study period 2012-2013 to 2021-2022 was negative as (-220.67).

The Gross Profit Ratio of the company Gujarat Folis Ltd., has been represented by the above table. The table stands as the evident for the Gross Profit values for the company during the study period 2012-2013

to 2021-2022. The values of the company were ranging from 9.07 per cent during 2012-2013 to 1.22 per cent during 2021-2022. The values are shown fluctuating during the period. The Mean Value is 4.52 and CV value is 1.50. The Compound Annual Growth Rate of the company during the study period was negative as (-19.98).

### ANOVA

**H<sub>0</sub>**- There is no significant difference in Gross Profit Ratio between the companies and between years.

**H<sub>a</sub>** - There is a significant difference in Gross Profit Ratio between the companies and between years.

#### ANOVA - GROSS PROFIT RATIO

<b>Source of Variation</b>	<b>SS</b>	<b>Df</b>	<b>MS</b>	<b>F</b>	<b>P-value</b>	<b>F crit</b>
Between						
Companies	1021.3	9	113.4778	1.634	0.128924	2.05852
Between Years	7287.639	6	1214.606	17.48948	4.03E-11	2.271989
Error	3750.182	54	69.44782			
Total	12059.12	69				

It is evident from the Table above that the differences between Gross Profit Ratio in between the companies are not so significant because the calculated value of 'F'(1.63) is less than the table value of 'F'(2.05) at 5 per cent level of significance. Hence, the null hypothesis is accepted. Further, the difference between years are significant because calculated value of 'F'(17.48) is higher than the table value of 'F'(2.27) at 5 per cent value of significance and the null hypothesis is rejected.

### RETURN ON CAPITAL EMPLOYED

The profitability ratio in view of financial management that shows the relationship of Net profit with Net Capital Employed is the Return on Capital Employed. The Return on Capital Employed reflects the field of profit earned in view of Capital Employed in business. A high Return on capital employed is the sign of efficiency. There is no standard norm for ratio and it may vary from business. The Return on Capital Employed Ratio for the select Aluminium industries during the study period presented in the following table.



### RETURN ON CAPITAL EMPLOYED

Year	HIL	NACL	CEL	SIL	BAL	PGFL	GJFL
2012-13	4.27	7.64	4	18.28	-15.15	3.56	12.76
2013-14	6.15	10.41	3.18	18.29	7.59	9.23	10.68
2014-15	8.9	14.3	10.16	27.08	16.78	10.33	8.02
2015-16	7.46	11.55	17.65	44.26	7.16	10.45	6.53
2016-17	9	20.51	14.9	57.57	36.08	8.79	5.97
2017-18	12.44	29.08	21.12	60.03	28.46	16.4	16.93
2018-19	19.07	47.95	20.61	79.02	29.61	4.02	18.85
2019-20	15.37	41.37	11.78	67.63	29.19	4.34	15.9
2020-21	17.53	41.27	10.13	-340.51	22.96	4.13	7.28
2021-22	14.05	26.31	6.16	-44.6	27.71	6.36	8.33
<b>Mean</b>	<b>11.42</b>	<b>25.04</b>	<b>11.97</b>	<b>-1.30</b>	<b>19.04</b>	<b>7.76</b>	<b>11.13</b>
<b>CV</b>	<b>2.40</b>	<b>1.81</b>	<b>1.94</b>	<b>-0.01</b>	<b>1.30</b>	<b>2.00</b>	<b>2.49</b>
<b>CAGR</b>	<b>14.15</b>	<b>14.73</b>	<b>4.91</b>	<b>-210.42</b>	<b>-206.94</b>	<b>6.66</b>	<b>-4.63</b>

Source: Annual Reports

The Return on Capital Employed of Hindalco Ind was shown fluctuating ranged from 4.27 per cent in the year 2012-2013 and ended up with 14.05 per cent in the year 2021-2022 during the study period which is statistically significant. The CV value further indicated highly fluctuation 2.40 in this ratio with Compound Annual Growth Rate 15.15 during the study period.

The above table states the Return on Capital Employed for National Aluminium, a select company, which has its ratio contents 7.64 per cent to 26.31 per cent during the study period 2012-2013 to 2021-2022. The ratio was highly fluctuating as either increasing or decreasing during the same. The Mean Value 25.04 and further the CV value were 1.81 with the Compound Annual Growth Rate of 14.73.

The table above for Return on Capital Employed shows the gross profit progress of Century Extrusions. The values are ranging from 4 per cent to 6.16 per cent during the study period. The ratio value was high during 2007-2008 as 21.12 per cent and at its low on 2013-2014 as 3.18 per cent. There were slight fluctuations all through the period. The Mean Value was 11.97 with CV value 1.94 with a mild Compound Annual Growth Rate of 4.91.

The Return on Capital Employed of Sudal Ind., has been stated by the above table. It is evident from the table, the Return on Capital Employed of the company was ranging from 18.28 per cent during 2012-2013 to (-44.6) per cent during 2001-2012. The ratio was either increasing or decreasing all through the study period, not at major level. The fluctuations are effected in the Mean Value and CV value was negative as (-1.30) and (-0.01) respectively. The Compound Annual Growth Rate for the company during the study period 2012-2013 to 2021-2022 was negative as (-210.42).

The Boruka Ltd, with its Return on Capital Employed has been clearly depicted by the table. The value for the company started with negativity during 2012-2013 with (-15.15) per cent and ended up with 27.71 per cent during 2021-2022. The values were kept fluctuating all through the study period. The Mean Value was 19.04 and CV value was 1.30 with negative Compound Annual Growth Rate of (-206.94) during the study period.

The table above represents the Return on Capital Employed of P.G. Folis Ltd. The Value of the company started with 3.56 per cent in 2012-2013 to 6.36 per cent in 2021-2022. The value is its high at 16.4 per cent during 2007-2008 and low at 3.56 per



cent during 2012-2013. The Mean and CV values were 7.76 and 2.00 respectively. The Compound Annual Growth Rate for the company during the study period 2012-2013 to 200-2012 was 6.66.

The Return on Capital Employed of the company Gujarat Folis Ltd., has been represented by the above table. The table stands as the evident for the gross profit

values for the company during the study period 2012-2013 to 2021-2022. The values of the company were ranging from 12.76 per cent during 2012-2013 to 8.33 per cent during 2021-2022. The values are shown fluctuating during the period. The Mean Value is 11.13 and CV value is 2.49. The Compound Annual Growth Rate of the company during the study period was negative as (-4.63).

### ANOVA

**H<sub>0</sub>**- There is no significant difference in Return on Capital Employed between the companies and between years.

**H<sub>a</sub>** - There is a significant difference in Return on Capital Employed between the companies and between years.

#### ANOVA - RETURN ON CAPITAL EMPLOYED

<i>Source of Variation</i>	<i>SS</i>	<i>Df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between						
Companies	1021.3	9	113.4778	1.634	0.128924	2.05852
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Error	3750.182	54	69.44782			
Total	12059.12	69				

It is evident from the Table above that the differences between Return on Capital Employed in between the companies are not significant because the calculated value of 'F'(1.63) is less than the table value of 'F'(2.05) at 5 per cent level of significance. Hence, the null hypothesis is accepted. Further, the difference between years are significant because calculated value of 'F'(17.48) is higher than the table value of 'F'(2.27) at 5 per cent value of significance and the null hypothesis is rejected.

### CONCLUSION

The study is focused on, the comparative financial statements analysis of the Hindalco Industry Ltd, National Aluminium Company Limited, Century Extrusions Limited, Sudal Industry Limited, Boruka Aluminium Limited, PG Folis Limited and Gujarat Folis Limited. The profitability analysis of the SIL, BAL and PGFL reveals inefficiently in utilizing their resources to improve profitability for increasing the sales revenue and to reduce the cost.





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