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DETERMINANTS OF PROFITABILITY OF THE SELECT
ALUMINIUM COMPANIES IN INDIA

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ABSTRACT

India was the second largest consumer of aluminium in Asia during the year 2012, with the electrical sector being the main driver of demand. As the largest producer of aluminium in India, the Indian aluminium industry was well positioned to cater to its growing demand for aluminium. The paper presents some company performance analysis models, which highlight the influencing factors. The models are based on regression analysis, and the obtained results emphasize the strong connection between the profitability of the analyzed company expresses through Return on assets and the management of available resources

KEYWORDS : Aluminium, Determinants of Profitability, Return on assets, trend co-efficient .

INTRODUCTION

India was the second largest consumer of aluminium in Asia during the year 2012, with the electrical sector being the main driver of demand. As the largest producer of aluminium in India, the Indian aluminium industry was well positioned to cater to its growing demand for aluminium. In addition to the electrical sector, the automotive and construction sectors also contribute a major share for the aluminium market in India. As per forecast, the primary aluminium demand in India is expected to reach 6 million tonnes in the year 2025, which equates to about 4.1kg of per capita aluminium consumption in 2025. It has been projected that the Aluminium Demand in the country may touch around 5 million ton by 2015 and 10 million ton by 2020 which can generate employment to nearly 7 million people in the country in 2020. Besides employment generation, the Industry can contribute nearly Rs. 33000 crore annually to exchequer. With the expectation of moderation in growth in India's industrial production and real gross domestic product (GDP), demand for aluminium is likely to increase at an annual average growth rate of 6 per cent during 2012-2014.

OBJECTIVES OF THE STUDY

1. To assess the determinant of profitability of the select aluminium companies in India.
2. To examine the trend of the select aluminium companies in India

REVIEW OF LITERATURE

Dr. Shishir Pandey and Vikas Kumar Jaiswal(2014) in their paper "Comparative Study of Profitability analysis of Indian Aluminium Industry between Public and Private sector". The main objective of this research paper is to analyze the profitability position of the selected aluminium companies for five years (2008-2014). The study is based on secondary data. Profitability position is analyzed by using different profitability ratios and regression analysis of selected aluminium companies. Through Regression Analysis has shown favourable result in case of HINDALCO but not the same for NALCO. Hence, it may be said that aluminium industry in India shows satisfactory performance in concerned with profitability.

Dr.P.B.Banudevi, et al.(2014) in their research paper "An Exploratory Study on Efficiency & Solvency Position of Aluminum Industry (With Special Reference to Bharat Aluminum Company Ltd), the aim of this paper is to study the nature and Association between Solvency and Efficiency. They analyze how well an Industry uses its assets and liabilities internally whereas solvency aspect is used to measure long term obligations of the company. It has been proven statistically by correlation analysis. Concluded that the relatively high Inventory observed in firms is important to increasing the solvency, and hence the increased working capital requirements associated with long-term debt have not impaired the ability of firm to remain efficient and solvent.

RESEARCH METHODOLOGY

• **Sources of data**

The financial data for the study are drawn from the secondary sources. The Prowess corporate databases developed by Centre for Monitoring Indian Economy and Capital Line have been used as principal sources.

• **Sample Design**

The present study has drawn a sample of ten companies, whose securities should be traded in Indian Stock Markets.

• **Selection of Period for the Study**

The period for this study was covered ten years from 2004-05 to 2013-14

• **Tools used for analysis**

Trend Analysis, Multiple Regression Analysis, ANOVA

TABLE –1
ESTIMATES OF TREND CO-EFFICIENTS FOR TOTAL SALES OF THE SELECT ALUMINIUM COMPANIES IN INDIA

Companies	$P = \alpha + \beta t + e$				p-value
	α	βt	R^2	F-value	
Alicon Castalloy Ltd.	87.0753	42.2038*t	73.9%	26.54	0.001**
Century Extrusions Ltd.	58.8173	16.1292*t	88.8%	72.70	0.000**
Gujarat Foils Ltd.	71.8873	37.0043*t	84.3%	49.37	0.000**
Hind Aluminium Industries Ltd.	10128.6	2090.56*t	90.4%	86.05	0.000**
Hindalco Industries Ltd.	4748.21	251.158*t	63.5%	16.65	0.004**
National Aluminium Co. Ltd.	97.844	12.4215*t	67.1%	19.35	0.002**
Pg Foils Ltd.	11.17	5.83073*t	96.3%	234.36	0.000**
Sacheta Metals Ltd.	49.0293	6.56594*t	53.3%	11.27	0.010**
Sudal Industries Ltd.	-0.979333	1.72861*t	95.0%	171.62	0.000**
Synthiko Foils Ltd.	-39.908	41.5502*t	83.2%	45.52	0.000**

** $P<0.01$ * $P<0.05$

The results of estimate of trend co-efficient for sales of the select aluminium companies are presented in the table 1. It has been clear that, the p-value was less than 0.01 and 0.05; hence, the null hypothesis "There is no significant difference between actual value and the trend value of sales among different years of the select companies" have rejected at 1 percent and 5 percent level of significance as there was significant difference between actual value and the trend value of the sales among selected companies for different years.

TABLE – 2
PROJECTIONS FOR SALES OF THE SELECT ALUMINIUM COMPANIES IN INDIA

Year	Alicon Castalloy Ltd.	Century Extrusions Ltd.	Gujarat Foils Ltd.	Hind Aluminium Industries Ltd.	Hindalco Industries Ltd.	National Aluminium Co. Ltd.	Pg Foils Ltd.	Sacheta Metals Ltd.	Sudal Industries Ltd.	Synthiko Foils Ltd.
Mar-15	551.317	236.239	478.935	33124.7	7510.95	234.480	75.308	121.255	18.0353	417.144
Mar-16	593.520	252.368	515.939	35215.3	7762.11	246.901	81.139	127.821	19.7639	458.694
Mar-17	635.724	268.497	552.943	37305.9	8013.27	259.323	86.969	134.387	21.4925	500.244
Mar-18	677.928	284.626	589.948	39396.4	8264.43	271.744	92.800	140.952	23.2212	541.795
Mar-19	720.132	300.756	626.952	41487.0	8515.59	284.166	98.631	147.518	24.9498	583.345
Mar- 20	762.335	316.885	663.956	43577.5	8766.75	296.587	104.462	154.084	26.6784	624.895

Source : Computed (Rs in Million)

The projections obtained for the select aluminium companies by linear growth models listed in the Table 2 shows that the select companies have been growing marginally. The trend movement of the select companies for the year 2020 revealed that the sales units has been highest in the Hind Aluminium Industries Ltd. followed by Hindalco Industries Ltd. with the trend value of 43577.5 and 8766.75 respectively. It has been the lowest in Sudal Industries Ltd. with the trend value of 26.6784.

TABLE 3
MULTIPLE REGRESSION ANALYSIS OF THE SELECT VARIABLES WITH THE SELECT ALUMINIUM COMPANIES IN INDIA

Ratio's	ACL	CEL	GFL	HAIL	HIL	NALCO	PGFL	SML	SIL	SFL
	p-value									
Quick Ratio	.690	.318	.723	.769	.796	.490	.366	.628	.792	.701
Current Ratio	.835	.194	.295	.796	.703	.172	.181	.039*	.259	.270
Interest Coverage Ratio	.000**	.850	.002**	.559	.194	.958	.001**	1.000	.059	.461
Debt Equity Ratio	.818	.005**	.834	.629	.652	.745	.675	.588	.111	.802
Fixed Asset To Net Worth Ratio	.753	.801	.461	.545	.886	.330	.698	.512	.020*	.025*
Inventory Turnover Ratio	.603	.139	.213	.974	.319	.000**	.471	.261	.097	.069
Debtor Turnover Ratio	.762	.182	.277	.658	.283	.525	.698	.324	.895	.539
Total Asset Turnover Ratio	.787	.847	.933	.630	.681	.111	.670	.590	.102	.803
Working Capital Turnover Ratio	.125	.325	.139	.000**	.954	.197	.617	.490	.178	.877
Growth Rate	.610	.920	.054	.332	.107	.113	.632	.152	.137	.256
Firm Size	.229	.712	.456	.111	.000**	.007**	.192	.004**	.026*	.113
R value	.923	.808	.855	.904	.923	.970	.879	.658	.695	.698
R^2 value	.851	.652	.731	.817	.851	.941	.773	.433	.482	.488
Adjusted R^2 value	.833	.609	.697	.794	.832	.933	.744	.362	.418	.423
F –value	45.825	14.999	21.725	.904	45.730	126.793	27.188	6.108	7.457	7.611
Sig.	.000**	.005**	.002**	.000	.000	.000	.001**	.039*	.026*	.025*
S/NS	S	S	S	S	S	S	S	S	S	S

It has observed from the above table that the multiple regression co-efficient values of the select aluminium companies, and the F value of ANOVA test .The p-value of ACL have significant for the variable when the other variables were kept constant namely, X_3- Interest Coverage Ratio (p- .000, p< 0.01) respectively. The p-value of CEL have significant for the variable when the other variables were kept constant namely, X_4- Debt Equity Ratio(p- .005, p< 0.01) respectively. The Sig (p) values of GFL gave a rough indication of the impact of each predictor variable like X_3 - Interest coverage ratio (p- 0.002, p< 0.01), suggested that a predictor variable was having a large impact on the profitability of the company. The p-values of HAIL for this variable when the other variables kept constant namely X_9 - Working Capital Turnover Ratio (p- .000, p<0.01). The p-value of HIL was significant for the variable when the other variables were kept constant namely, X_{11}- Firm Size(p .000, p<0.01). The Sig (p) values of NALCO gave a rough indication of the impact of each predictor variable like X_6 - Inventory turnover ratio (p- 0.000, p< 0.01) &X_{11}–Firm Size (p- .007, p< 0.01) suggested that a predictor variable was having a large impact on the profitability of the company. The p-value of PGFL for these variables when the other variables kept constant namely were X_3–Interest Coverage Ratio (p- .001, p<0.01). The p-value of SML was significant for the following variables when the other variables were kept constant namely X_2 - Current ratio p- 0.039, p< 0.01 and X_{11} – Firm size p-0..004, p< 0.01 respectively. The Sig (p) values of SIL gave a rough indication of the impact of each predictor variable like X_5- Fixed Asset To Net Worth Ratio (p- 0.020, p< 0.05) & X_{11}–Firm Size (p- .026, p< 0.05) suggested that a predictor variable was having a large impact on the profitability of the company. The p-value of SFL was significant for the following variables when the other variables were kept constant namely X_5 - Fixed Asset To Net Worth Ratio (t- 2.759, p- 0.025, p< 0.05) respectively.

As per the results of ANOVA, the p-value is less than 0.05 (p<0.05). Hence, the model has statistically significant for all the select aluminium companies in India.

CONCLUSION

The results of the study show a strong dependent relationship between company performance

and how the available resources are managed. For performance indicator Return on assets were identified some influence factors that through their common action can contribute to increasing or lowering of the profitability of the analyzed company. From the analysis of various determinants of profitability, it is clear that the firms having big SIZE are earning good return on total assets. As the SIZE of the firm is the strongest factor in determining the profitability, it is therefore suggested that the management should concentrate on increasing the size because the firms having big size have access to capital market and enjoy benefit of low cost of sales and hence they earn good return on total assets.

ABBREVIATION

ACL	ALICON CASTALLOY LTD.
CEL	CENTURY EXTRUSIONS LTD.
GFL	GUJARAT FOILS LTD.
HAIL	HIND ALUMINIUM INDUSTRIES LTD.
HIL	HINDALCO INDUSTRIES LTD
NALCO	NATIONAL ALUMINIUM CO.LTD.
PGFL	PG FOILS LTD.
SML	SACHETA METALS LTD.
SIL	SUDAL INDUSTRIES LTD
SFL	SYNTHIKO FOILS LTD.

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