Financial Leverage and Firm Value: An Empirical Analysis of Hindalco Industries Limited

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Abstract

The Aluminium industry is an essential metal industry which supplements many developmental activities of a country. Since the new millennium era, the Aluminium industry has witnessed a paradigm change in its functioning as the demand for Aluminium is increasing at a swift rate and many industrial production activities are dependent on Aluminium. The per capita Aluminium consumption has shown an upward trend during the last decade, the demand for Aluminium in automobile, consumer durable industry, tools & machine manufacturing, fabrication sector, etc. grew at an accelerating rate to support the growth and augment the Indian GDP. This change amplified the demand for capital investment by firms' to enhance the Aluminium production facilities to support the growth of manufacturing. Generally Aluminium producing firms' are capital intensive and require substantial commitment of capital resources in order to function efficiently. The purpose of this article was to determine the influence of financial leverage on firm value with special reference to Hindalco. This research paper has used secondary data sourced from the official websites of the company for the period 2011-2015. The correlation and regression tests were applied to prove the postulated hypothesis using SPSS to ascertain the influence of leverage on firm value. Overall findings indicate that there is significant negative influence of leverage on firm value with reference to Hindalco Industries Limited.

Keywords: Leverage, Aluminium, Regression, Capital, Firm Value, Statistics, Correlation

JEL Classification: G30, G31, G32, G39

Introduction

A company uses fixed-income securities such as debt and preferred equity to the degree. The more debt financing a company uses, the higher its financial leverage. A high degree of financial leverage means high interest payments, which negatively affect the company's bottom-line earnings per share. Financial risk is the risk to the stockholders that is caused by an increase in debt and preferred equities in a company's capital structure. As a company increases debt and preferred equities, interest payments increase, reducing EPS. As a result, risk to stockholder return is increased. A company should keep its optimal capital structure in mind when making financing decisions to ensure any increases in debt and preferred equity increase the value of the company. Financial leverage simply means the presence of debt in the capital structure of a firm. In other words, we can also call it existence

of fixed-charge bearing capital which may include preference shares along with debentures, term loans etc. The objective of introducing leverage to the capital is to achieve maximization of wealth of the shareholders.

Financial leverage deals with the profit magnification in general. It is also well known as gearing or 'trading on equity'. The concept of financial leverage is not just relevant to businesses but it is equally true for individuals. Debt is an integral part of financial planning of anybody whether it is an individual, firm or a company. We will try to understand it from the business point of view. In a business, a debt is acquired not only on the grounds of 'need for capital' but it is also taken to enlarge the profits accruing to the shareholders. Introduction of debt in the capital structure will not have impact on the sales, operating profits etc. but it will increase the share of the equity shareholders, the ROE % (Return on Equity).

A high debt/equity ratio generally means that a company has been aggressive in financing its growth with debt. This can result in volatile earnings as a result of the additional interest expense. If a lot of debt is used to finance increased operations (high debt to equity), the company could potentially generate more earnings than it would have without this outside financing. If this financing increases earnings by a greater amount than the debt cost (interest), then the shareholders benefit as more earnings are being spread among the same amount of shareholders. However, the cost of this debt financing may outweigh the return that the company generates on the debt through investment and business activities and become too much for the company to handle. Insufficient returns can lead to bankruptcy and leave shareholders with nothing. The debt/equity ratio also depends on the industry in which the company operates. For example, capital-intensive industries such as auto manufacturing tend to have a debt/equity ratio above 2, while personal computer companies tend to have a debt/equity ratio of under 0.5. A company can change its capital structure by issuing debt to buy back outstanding equities or by issuing new stock and using the proceeds to repay debt. Issuing new debt increases the debt-to-equity ratio; issuing new equity lowers the debt-to-equity ratio.

The article consists of following sections. Section I provides a brief review of relevant literature. Section II discusses the overview of Aluminium industry. Section III describes the company profile Section IV deals with research methodology. Section V represents the data description. Section VI contains the empirical hypothesis testing and section VII completes the paper with findings & conclusion.

Literature Review

Ang (1922) argued that the relationship between size and leverage is rather complex, and enough reasons can be found to justify either lower or higher leverage in small firms when compared with larger firm. Indeed, empirical evidence does not provide support for a clear and monotone relationship between size and leverage, although small firms generally show higher leverage ratios and make greater use of short-term financing than the large firm.

Benjamin, (1985), infers that the effectiveness of either bond covenants or implicit capital market monitoring is reduced specially in weak form of market efficiency. Since the market cannot effectively monitor investment decisions, it instead limits the amount of debt. Because high-growth firms cannot be effectively monitored, they will have lower financial leverage.

De Wet (2006) proves that a significant increase in value can be achieved in moving closer to the optimal level of gearing.

Fama and French (2002) conclude that there should be a positive relation between debt ratio and firm profitability.

Firer et al, 2004, and Erhard and Brigham, (2003) says an optimal debt/equity ratio is achieved when the value of a firm is maximized while the cost of capital is minimized.

Hyde (2007) states that changes in interest rates will alter a firm's financing costs, affecting the amount of loan interest and principle payments and ultimately impact a firm's cash flows.

John (1993) presented evidence for firm level determinants of cash holdings, indicating that firms with higher costs of financial distress and higher cash flow volatility hold significantly more cash, while firms with higher leverage, higher growth rates, a longer cash conversion cycle, and more tangible assets holds less cash.

Lasher (2003) asserts that increased levels of debt finance can result in increased Earning Per Share and Return On Equity.

Mandelkar, et al, (1984) states when a firm employs a high level of operating and financial leverage, even a small change in the level of sales, will have dramatic effect on EPS.

Modigliani and Miller (1958), who derived the leverage irrelevance theorem, concluding that capital structure does not impact firm value in an ideal environment.

Modigliani and Miller (1963) issued a correction in their earlier theory and still argue that a change in the debt/equity ratio does not impact on firm value; however when taxes and other transaction costs are considered it results into lowering a firm's WACC as debt increases.

Myers, (1977) recognized that the underinvestment problem by noting that shareholders of firms with risky debt will invest only when or up to the point at which, the expected return on investment is at least as great as the promised payment to bondholders. When the expected return is less

than the promised payment, shareholders fail to exercise the investment option or invest less than the optimal amount, which reduces firm value. It is this decline in firm value which limits the amount of debt a given firm can issue.

Myers (1984) holds that the various capital structure theories do not explain actual financing behavior and it is therefore presumptuous to advise firms on optimal capital structure.

Myers (2001) postulates that debt offers firm a tax shield and firms therefore pursue higher levels of debts in order to gain the maximum tax benefit and ultimately enhance profitability. However, high levels of debt increases the possibility of bankruptcy.

Sharma (2006) concludes that there is a direct correlation between leverage and firm value.

Rajan and Zingales (1995) find a negative relationship between debt and profitability.

Ross (1977) posits that firm managers possess more information about the future prospects of the firm than the market. Increasing leverage would signal to the market that a firm's managers are confident about servicing the interest charges. Therefore an increase in leverage would increase the value of the firm since investors would deem this to be a positive signal of the size and stability of future cash flows.

Schwartz and Aronson's (1967) research concludes that the capital structures of firms in different industries are different

Whited (1992) found that firm with higher leverage display a higher sensitivity of investment to cash flow.

Industry Profile

In 1808 the Aluminium industry was established. After almost 46 years the production was commercially viable. After a long research works of several years the extracting of aluminium from ore was succeeded. Aluminium is third most available in the earth consisting mostly 7.3% by mass. At present aluminium is also the second most used metal in the world after steel.

- The first aluminum companies was founded in the year 1888 in Switzerland, USA and France.
- And in the year 1889 Karl Joseph Bayer son of the founder of the Bayer chemical company, created the Bayer Process for the production of alumina in large-scale from bauxite
- The Aluminium industry in India comprises two main segments
- Primary producers manufacture Primary Aluminium Metal in the form of Ingots and slabs.
- Secondary producers manufacture semi-fabricated items like rolled products, extrusions, rods & foils from the primary metals.

Entry barriers to the industry are high because of the large capital costs of an integrated plant. Also, the industry uses high power and technology, intensive and the need for a capital power facility increases the capital costs. Production costs and product mix are the basis of competition in the industry. Companies that have highly integrated production facilities including captive mines and power plants as well As product mix that leans towards value added and semi-fabricated products have an advantage over other manufacturers. In fact, integrated aluminium manufacturers who use aluminium Ingots produced in house to manufacture value. Added products derive the maximum benefits from forward integration since they can take advantage of variations prices. High levels of operating efficiencies and capacity utilization coupled with captive power Sources are the key determinants of profitability. Thus these factors have helped make India one of the lowest cost aluminium producers in the world.

Company Profile

Hindalco Industries Limited, a flagship company of the Aditya Birla Group, is structured into two strategic businesses Aluminium and copper and the industry leader in both segments. A non-ferrous metals powerhouse, close to global scale, it ranks among India's top 10 companies in terms of market capitalization. Hindalco commenced its operations in 1962 with an aluminium facility at Renukoot in eastern Uttar Pradesh. Over the years, it grew into the largest integrated aluminium manufacturer in the country. With an eye to build size and scale, Hindalco acquired in financial year 2000 a majority stake in Indian Aluminium Company Limited (INDAL) - having a major presence in downstream aluminium products and a leader in special alumina from Alcan of Canada. In August 2004, the boards of Hindalco and INDAL approved a Scheme of Arrangement wherein all the assets of INDAL other than the foil unit at Kollur in Andhra Pradesh were to be demerged into Hindalco. This has come into effect retrospectively from 1 April 2004.

Hindalco is Asia's largest primary producer of aluminium, and among the most cost-efficient producers globally. In India, Hindalco enjoys a leadership position in primary aluminium and downstream products. Smelters are located at Hirakud, Orissa, with a captive power plant and coal mines, and at Alupuram, Kerala. Rolled product manufacturing facilities are located at Belur and Taloja and an extrusions plant at Alupuram. The company's R&D centers are located at Belgaum, Renukoot and Taloja. The government of India's Department of Scientific and Industrial Research (DSIR) has recognized these.

Hindalco's units are ISO 9001 and 14001 Certified, while several have also attained the OHSAS 18001 - the

occupational health and safety certification. On the export front, the company has been accorded a 'Trading House' status by the Indian government. As a member of the Aditya Birla Group, Indal is a part of a $6 billion corporation, with a market cap of $5 billion. The Group's multi-cultural, multi-lingual workforce of 72,000 employees belongs to 20 different nationalities and its products and services reach across more than 100 countries. Its flagship companies include Hindalco, Grasim, Indian Rayon and Indo Gulf.

Objectives

1. To ascertain the nature of association between the firms's financial leverage and the select firm value proxies with special reference to the Hindalco Industry Limited.
2. To assess the influence of financial leverage on firm value with special reference to the Hindalco Industry Limited.

Research Methodology

This article tested influence of capital structure & leverage on the value of a firm by considering financial ratios for the Hindalco Industry Limited. The proxies for firm value are EPS, ROCE, ROA, RONW, OPM, ROLTF, & NPM. The research methodology employed was causal research. An endeavor was made to discover cause & effect relationships between leverage & firm value. The authors have followed quantitative analysis of secondary data. Information relating to the firm's financial performance & capital structure provided in the companies' AGM reports was sourced from the official website of the company.

Sample Size & Selection

Non-probability convenience sampling techniques has been employed to select the sample unit for the study. Such a selection is undertaken as the unit represents the sample in a better way and reflects better relationship with the other variable of the study.

Data Collection

The authors have used secondary data which was obtained the official website of the company. All data standardization has been carried out by the authors before performing the financial data analysis. Therefore the information provided is both comprehensive & accurate.

Data Analysis Tools

The study was carried out by quantitative analysis of financial information using appropriate statistical techniques. The technique utilized in this study was correlation and regression analysis. Regression analysis was used to determine the relationship between the variation in firm value and financial leverage. Regression analysis is a statistical technique that is used to determine the value relationship between a dependent and an independent variable. Regression analysis is one of the most pervasive of all statistical analysis methods due to its generality and applicability although it does not account for cause- and-effect relationships in depth. The financial performance of the firm has been analyzed using the technique of ratio analysis and descriptive statistics. The data has been analyzed with the help of SPSS and MS-Excel.

Limitations Of The Study

1. The article has focused only on Hindalco Industry Limited and do not consider other industries or companies operating in Indian capital market.
2. The article has ignored the impact of possible differences in the accounting methods adopted by firm over the period of the study.
3. The article has not used any control groups for comparison.
4. The article was developed using the financial data of the select firm for the past five years (2010-2015).

Data Analysis

The application of statistical analysis has become increasingly significant. Statistical techniques are now considered an effective support in solving management problems. Financial leverage [debt-equity ratio] was the independent variable and all the profitability & growth ratios, as well as the earnings per share were dependent variables i.e. firm value proxies. The financial performance of the firm has been analyzed using the technique of ratio analysis. The study was carried out by quantitative analysis of financial information using suitable statistical tools. The tools utilized in this study were regression & correlation analysis. Regression analysis was used to determine the relationship between the variation in firm value & financial leverage. The debt to equity ratio was used as a proxy for financial leverage (independent variable) and the firm value: ROCE, ROLTF, RONW, ROA, EPS, GPM, OPM, & NPM (dependent variables).

The various tests were conducted with 95% confidence interval. The confidence interval is the set of acceptable hypothesis or the level of probability associated with an interval estimate (Zikmund, 2003). The data has been analyzed with the help of SPSS and MS-Excel and the results are as follows.

Hypothesis Testing

Hypotheses 1

To test the significant relationship between the firm's financial leverage and firm's value, the following null and alternative hypotheses are proposed.

HO: There is no association between financial leverage and

firm value proxies with special reference to Hindalco Industry Limited.

H1: There is an association between financial leverage and firm value proxies with special reference to Hindalco Industry Limited.

The hypothesis is evaluated by applying Karl Pearson Correlation Matrix Analysis at 0.05 level of significance and the results are shown in the following table

Table 1 - Correlation Analysis

Capital Structure Proxy Variable	Firm Va lue Proxy Variable	Pearson Correlation	Significance Value "p"	Null Hypothesis Result
DEBT/EQUITY (D/E)	ROA	-0.881*	0.048	Significant
	ROCE	-0.930*	0.022	Significant
	RONW	-0.642	0.243	Insignificant
	ROLTF	-0.920*	0.027	Significant
	OPM	-0.941*	0.017	Significant
	GPM	-0.901*	0.037	Significant
	NPM	-0.593	0.292	Insignificant
	EPS	-0.635	0.250	Insignificant
*Correlation is significant at the 0.05 level (2-tailed)				

Source: compilation by authors

- D/E and ROA: referring to the correlation analysis at 0.05 level of significance, there is a negative association between the debt-equity ratio and return on assets i.e. R = -0.881. An increase in debt equity ratio leads to decrease in the return on assets. Further the relationship is statistically significant as revealed by probability value, p = 0.048 for 2-tailed test. It is evident that as the leverage goes up beyond the threshold level, the ROA decreases indicating a strong inverse relationship between the select two variables.

- D/E and ROCE: with reference to the correlation analysis at 0.05 level of significance, there is a negative association between the debt-equity ratio and return on capital employed i.e. R= -0.930. The relationship is statistically significant as revealed by probability value, p = 0.022 for 2-tailed test. It is apparent that as the leverage increase, the fixed financial obligations tend to surge subsequently decreasing the ROCE to equity holders.

- D/E and RONW: referring to the correlation analysis at 0.05 level of significance, there is a negative correlation between the debt-equity ratio and return on net worth i.e. R= -0.642. Additionally, the relationship is statistically insignificant as revealed by probability value, p = 0.243for 2-tailed test. Thus, it is observed that as the leverage level changes, the ROWN also changes but both moves in the opposite direction illustrating an inverse trend between the select variables.

- D/E and ROLTF: There is a negative correlation between the debt-equity ratio and return on long term fund i.e. R= -0.920. The relationship is statistically significant as revealed by probability value, p = 0.027 for 2-tailed test. Therefore, it is witnessed that as the leverage is changed, the ROLTF also deviates in the opposite direction demonstrating an inverse relationship between the select two variables.

- D/E and OPM: referring to the correlation analysis at 0.05 level of significance, there is a negative correlation between the debt-equity ratio and operating profit margin i.e. R= -0.941. Further the relationship is statistically significant as revealed by probability value, p = 0.017for 2-tailed test. It is observed that as the leverage level changes, the OPM also deviates in the opposite direction representing an inverse relationship between the select variables. The OPM declines due to obligation of rising financial charges as the level of leverage increases it results in higher interest payment and tax shield benefits are nullified.

- D/E and GPM: with reference to the correlation analysis at 0.05 level of significance, there is a negative correlation between the debt-equity ratio and gross profit margin i.e. R= -0.901. Further the association is statistically significant as shown by probability value, p = 0.037 for 2-tailed test. It is witnessed that, change in D/E reduces the GPM signifying an inverse relationship between the select variables.

- D/E and NPM: referring to the correlation analysis at 0.05 level of significance, there is a negative correlation between the debt-equity ratio and net profit margin i.e. R= -0.593. The relationship is statistically insignificant

as exposed by probability value, p = 0.292 for 2-tailed test. There are other quantitative & qualitative factors which nullifies the effects of leverage on net profit margin and therefore the association is not significant.

- D/E and EPS: There is a negative correlation between the debt-equity ratio and earnings per share i.e. R= -0.635. The relationship is statistically not significant as revealed by probability value, p = 0.250 for 2-tailed test. The influence of capital providers varies as the level of debt-equity changes in the firm's capital structure. When financial leverage increases, the equity providers base there valuation after accounting for all financial obligations and they tend to project their returns on residual earnings

Table 1 discloses that there is a negative association between financial leverage proxy variable with select firm value proxy variables as Correlation V alue "R" is negative in all the cases and the Significance V alue "p" is less than the assumed level of significance (0.05) except for RONW, NPM & EPS which indicates that capital structure holds an inverse relationship with firm value proxy variables. Thus the null hypothesis, 'There is no association between financial leverage and firm value proxies with special reference to Hindalco Industry Limited' is rejected and the alternative hypothesis, 'There is an association between financial leverage and firm value proxies with special reference to Hindalco Industry Limited' is accepted based on the Karl Pearson correlation analysis.

Hypotheses 2

HO: Financial leverage do not influence firm value with special reference to Hindalco Industry Limited.

H1: Financial leverage do influence firm value with special reference to Hindalco Industry Limited

The independent variable represented by the debt-equity ratio was found to be correlated with the dependent variable represented by the select ratios like: ROA, ROCE, RONW, ROLTF, OPM, GPM, NPM & EPS. Regression analysis was conducted taking into consideration data over five year period to determine a cause - effect analysis between independent and dependent variables. The regression model summary parameters were used in order to determine the influence of financial leverage on firm value. R2 shows the extent or percentage of the output variable's variance as explained by the input variables i.e. dependent and independent variables. In other words, R2 explains the influence of select independent variable on dependent variable in terms of percentage. The adjusted R2 shows that by putting an additional new independent variable in the regression equation along with the existing independent variable, chances of improvement in the R2 parameter. .

Table 3 - Regression Analysis

Independent Variable	Depended Variable	R Square	Adjusted R Square	F	Sig.	B	Sig.	Null Hypothesis Result
DEBT/EQUITY (D/E)	ROA	0.777	0.702	10.443	.048	97.967	0.028	Significant
						53.81	0.048	
	ROCE	0.864	0.819	19.061	.022	15.232	0.004	Significant
						-5.507	0.022	
	RONW	0.412	0.216	2.104	.243	17.71	0.097	Insignificant
						-7.321	0.243	
	ROLTF	0.846	0.794	16.424	.027	15.894	0.004	Significant
						-5.534	0.027	
	OPM	0.885	0.847	23.158	.017	13.877	0.001	Significant
						-2.831	0.017	
	GPM	0.812	0.749	12.938	.037	9.787	0.003	Significant
						-2.553	0.037	
	NPM	0.352	0.136	1.628	.292	6.854	0.116	Insignificant
						-2.708	0.292	
	EPS	0.403	0.204	2.025	.250	34.325	0.12	Insignificant
						-15.398	0.25	

Source: compilation by authors

- D/E and ROA: There exists an inverse relationship between the select variables. An increase in financial leverage influences gradual decrease in return on assets. From table 3, 77.7% of the value of return on assets can be explained by the debt-equity ratio and the remaining 23.3% of value is credited to other variables which influences return on assets in Hindalco industries Limited. Whereas adjusted R2 stands at 0.702, which shows that putting the new variable in the regression equation, chances of improvement in the overall model is high but not superseding the direct influence of D/E on ROA. Calculated F value is 10.443 which is more than critical f table value of 4.01 & calculated significant value 0.028 is less than assumed level of significance value (0.05). Therefore based on the regression analysis it has been observed that the model is significant and we can reject the proposed null hypothesis.

- D/E and ROCE: The regression analysis exhibits a negative relationship between the select variables. An increase in financial Leverage influences gradual decrease in return on capital employed ratio. Referring to table 3, 86.4% value related to return on capital employed can be explained by the debt-equity ratio and the remaining 13.6% of value is attributed by other variables which influences return on capital employed in Hindalco industries Limited. Whereas adjusted R2 stands at 0.819, which shows that addition of new variable in the regression equation, chances of improvement in the R2 is adequate but do not surpass the original values. Calculated F value is 19.061 which is more than critical f table value of 4.01 & calculated significant value 0.004 is less than assumed significance level value of 0.05. Thus based on the regression analysis it is observed that the model is significant and we can reject the proposed null hypothesis.

- D/E and RONW: There exists an undesirable relationship between the select variables. An increase in financial leverage influences steady decrease in return on net worth ratio. 41.2% return on net worth can be explained by the debt-equity ratio and the remaining 58.8% of value is contributed by other variables which influences return on net worth ratio in Hindalco industries Limited. The adjusted R2 stands at 0.216, which illustrates that with putting the new variable in the regression equation, chances of improvement in the R2 is possible. Calculated F value 2.104 is less than critical f table value of 4.01 & calculated significant value 0.097 is more than assumed significance level value of 0.05. Thus based on the regression analysis it is observed that the model is insignificant and we cannot reject the proposed null hypothesis

- D/E and ROLTF: There is a negative relationship between the select variables. An increase in financial leverage influences slow decrease in return on long term funds ratio. 0.846% of the value of return on long term funds can be explained by the debt-equity ratio and the remaining 15.4% of value is contributed by other variables which influences return on long on long term funds in Hindalco industries Limited. Whereas adjusted R2 stands at 0.794, which shows that with putting the new variable in the regression equation, chances of improvement in the R2 is less as compared to the original equation. Calculated F value is 16.424 which is more than critical f table value of 4.01 & calculated significant value 0.004 is less than assumed significance level value of 0.05

- D/E and GPM: There is a negative association between the select variables. A rise in financial leverage influences gradual decrease in return on assets ratio. 81.2% of the value of return on assets can be explained by the debt-equity ratio and the remaining 18.8% of value is credited to other variables which influences return on assets in Hindalco industries Limited. Whereas adjusted R2 stands at 0.749, which shows that by putting the new variable in the regression equation, chances of improvement in the R2 is relatively high. Calculated F value is 12.938 that is more than critical f table value of 4.01 & calculated significant value 0.003 is less than assumed significance level value of 0.05. Therefore based on the regression analysis it is observed that the model is significant and we can reject the proposed null hypothesis

- D/E and OPM: There happens to be a negative relationship between the select variables. An increase in financial leverage influences steady decrease in operating profit margin ratio. 88.5% of the value of operating profit margin can be explained by the debt-equity ratio and the remaining 11.5% of value is credited to other variables, which influences operating profit margin in Hindalco industries Limited. Whereas adjusted R2 stands at 0.847, which shows that with putting the new variable in the regression equation, chances of improvement in the R2 is possible. Calculated F value 23.158 is more than critical f table value of 4.01 & calculated significant value 0.001 is less than assumed significance level value of 0.05. Thus based on the regression analysis it is observed that the model is significant and we can reject the proposed null hypothesis

- D/E and NPM: There exists a negative relationship between the select variables. An increase in financial leverage influences gradual decrease in return on assets ratio. 35.2% of the value of net profit margin can be explained by the debt-equity ratio and the remaining

64.8% of value is credited to other variables that influences net profit margin in the Hindalco industries limited. Whereas adjusted R2 stands at 0.136, which shows that with putting the new variable in the regression equation, chances of improvement in the R2 is more. Calculated F value 1.628 is less than critical f table value of 4.01 & calculated significant value 0.116 is more than assumed significance level value of 0.05. Thus based on the regression analysis it is observed that the model is insignificant and we cannot reject the proposed null hypothesis

- D/E and EPS: There is a negative relationship between the select variables. An increase in financial leverage influences slow decrease in earnings per share ratio. 40.3% of the value of earning per share can be explained by the debt-equity ratio and the remaining 59.7% of valueis contributed by other variables which influences earning per share in Hindalco industries Limited. Whereas adjusted R2 stands at .204, which shows that with putting the new variable in the regression equation, chances of improvement in the R2 is very less. Calculated F value 2.025 is more than critical f table value of 4.01 & calculated significant value 0.120 is more than assumed significance level value of 0.05. Thus based o the regression analysis it is observed that the model is insignificant and we cannot reject the proposed null hypothesis

The information in table 3 shows that all variables that were proxy for the firm value were correlated with debt-equity or financial leverage. Majority of the firm value proxy variables show significant regressed values and they are all statistically significant as indicated by significant probability value. The calculated F value for the ROA, ROCE, ROLTF, OPM & GPM is more than the critical table value at the given degree of freedom and level of significance value. In addition, the significant probability value is less than the assumed significance level (0.05) for the above said variables indicating statistical significance for rejection of proposed null hypothesis in majority of the observations. The RONW, NPM & EPS were found to be insignificant on the given regression parameters. Thus, the null hypothesis, 'Financial leverage do not influence firm value with special reference to Hindalco Industry Limited' is rejected and the alternative hypothesis, 'Financial leverage do influence firm value with special reference to Hindalco Industry Limited' is accepted. Though, the financial leverage affects the firm value but in majority of the cases it is not contributing a positive value rather it is leading to negative value creation. The classical idea of financial leverage to enhance the firm value is not completely fulfilled based on the data analysis.

Findings

- The results of this research paper shows that capital structure inversely influences firm value and are in line with the findings of Rajan and Zingales (1995) and Myers (1984).
- The underlying assumption for optimal financial leverage is that firm under investigation operate in an efficient market environment, in the context of the Hindalco industries Limited the assumption of efficient market might not be applicable to the full extent and this could therefore explain the negative influence of leverage on firm value.
- The negative influence of financial leverage on firm value can be attributed to the Hindalco for pursuing debt to reduce their tax burden, in line with trade off theory where Myers (2001) postulates that debt offers a firm tax shield.
- An exact optimal financial leverage is difficult to establish. A range exists wherein financial leverage could maximize firm value (De Wet, 2006). Therefore, managers should acknowledge this range as well as the fact that it is different for each industry or sector to arrive at.
- An additional issue that requires acknowledgment is that the data was stratified by industry or sectors resulting in the reduction of the sample size to single digit figure. The small sample size may have contributed to the results' failure to show a positive correlation & influence.
- Net profit margin has been affected by the exchange rate fluctuations as Hindalco industries limited is exposed to foreign currency risk during the period of the study.
- The results reveal significantly negative relation between debt and profitability, an increase in debt position is associated with a decrease in profitability, higher the debt lower the profitability of the firm.
- The financial ratios are calculated by using financial statements of the Hindalco industries Limited which are published annually, therefore there is only one result available per year.
- It is observed that, the factory cash flow is exposed to currency price volatility & the treasury department is not indulge in effective risk management

Conclusion

The purpose of this paper was first to determine whether or not a relationship exists between financial leverage and firm value. The findings show a correlation for Hindalco Industries Limited; however an inverse relationship exists between financial leverage and firm value proxy variables. The overall findings indicate that there is relative significant influence of financial leverage on firm value but the positive value creation principle was not able to be witnessed. The

article also concludes that there might be other non-quantitative factors which may lead to invalidate the influence of financial leverage on firm value, like recession, saturation of industry, competition and government policy. It is important to note that financial leverage is a speculative technique and there are special risks and costs involved with its application. Indeed, there can be no assurance that a financial leverage strategy will be successful during any period in which it is employed. This is evident from this article that the complex nature of financial leverage and its influence on firm value. The number of ratios as proxies for firm value added to the complexity too. Some of the ratios contained common elements which could cause the results to be non-conclusive.

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