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Impact of Financial Leverage on Profitability-An Empirical Analysis on FMCG Companies in India

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Abstract

Financial leverage is the degree to which a company uses fixed-income securities such as debt and preferred equity. A high degree of financial leverage means high interest payments, which negatively affect the company's bottom-line earnings per share. However, if the company can purchase assets that are expected to earn more than the interest on the debt, earnings in excess of the interest expense on the new debt will increase the earnings of the corporation's common stockholders. In essence, corporate management utilizes financial leverage primarily to enhance the company's earnings. Thus, an endeavour has been made in this article to analyze the impact of leverage on profitability of Indian Companies so as to show the relationship between leverage and profitability. The study encompasses 4 FMCG companies that are listed in NSE and are constituents of NSE FMCG. Thereafter, linear regression is run taking two parameters into consideration viz. Total Debt/Total Assets and Return on Assets. The regression analysis results show that there exists a significant positive relationship between leverage and profitability. As indicated in the theory that increase in the debt increases the earning capacity of the business holds good as far as the sample of the study is concerned. Thus, accordingly it can be stated that highly leveraged firms tend to have higher profitability and vice versa.

Keywords: Leverage, Profitability, FMCG, Return on Assets, Total Debt to Total Assets
JEL Classification Code: M41

1. Introduction

Financial leverage is the degree to which a company uses fixed-income securities such as debt and preferred equity. If the company uses more debt financing then the financial leverage of such a company is higher. A high degree of financial leverage means high interest payments, which negatively affect the company's bottom-line earnings per share. However, if the company can purchase assets that are expected to earn more than the interest on the debt, earnings in excess of the interest expense on the new debt will increase the earnings of the corporation's common stockholders. It is the balance between the cost of

financing operations with equity or debt and the income earned from the operations. The increase in earnings indicates that the corporation was successful in trading on equity. Accordingly, a company should keep its optimal capital structure in mind when making financing decisions to ensure that an increase in debt and preferred equity, in turn, increases the value of the company.

When companies use debt to provide additional capital for their business operations, equity owners get to keep any extra profits generated by the debt capital, after any interest payments. Given the same amount of equity investments, equity investors have a higher return on equity because of the additional profits provided by the debt capital. As long as using debt does not threaten the financial soundness of a company in times of difficulties, equity owners welcome certain debt uses to help enhance their investment returns. Using debt helps lower a company's taxes because of allowable interest deductions. Tax rules permit interest payments as expense deductions against revenues to arrive at taxable income. The lower the taxable income, the less will be the tax to be paid by the company. On the other hand, dividends paid to equity shareholders are not tax-deductible and considered after-tax income computation. Therefore, tax savings help to further reduce a company's debt financing cost, which is an advantage that equity financing lacks. In other words, funding a company through debt, rather than selling company stock to attract capital, avoids diluting the stockholders' ownership percentage in the company.

In essence, corporate management utilizes financial leverage primarily to increase the company's earnings capacity. However, these advantages are also coupled with the possibility of increased earnings variability and the potential for an increase in the risk of financial distress, perhaps even bankruptcy. With this in mind, the management of a company should take into account the business risk of the company, the company's tax position, the financial flexibility of the company's capital structure, and the company's degree of managerial aggressiveness when determining the optimal capital structure.

2. Literature Review

Muzzammil Hussain, Hassan Shahid and Muhammad Akmal (2016) in their study concentrated on the effect of profitability and financial leverage on capital structure in Pakistan textile firms. This study is based on selected 10 listed KSE textile firms relating to the period 2009 to 2014. A regression model was fitted to the data and correlation between the financial leverage and profitability on capital structure was determined. According to their findings, there is a negative relationship between the capital structure and profitability and positive relationship between capital structure and financial leverage.

Ishuza Witness Edson (2015) investigated the relationship between the financial leverage and commercial bank's profitability in Tanzania. Secondary data from audited financial statements of listed commercial banks at Dar es Salaam Stock Exchange (DSE) since 2007 to 2013 was used. Descriptive statistics was

used as a tool to determine the bank's profitability and debt statuses while the relationship between dependent variables measured by Return on Average Asset (ROA) and Return on Average Equity (ROE) with independent variable measured by Debt Ratio (DR) was determined by regression analysis. The findings are that the public commercial banks in Tanzania is an emerging sector in the economy which is making good profit for their stockholders but with poor performance in utilization of available resources. It also has been found that the profit made to stockholder is not in effect with the level of debt of the bank but the level of the debt decreases the performance measured by ROA and ROE. In other words, according to the study, financial leverage measured by debt ratio (DR) has no impact on the profitability measured by ROE and ROA.

Lydiah Kabare Kunga (2015) in his study sought to establish the relationship between financial leverage and profitability of firms listed at the Nairobi Securities Exchange. To achieve this objective a descriptive research design was used. The study considered firms that have been listed on the Nairobi Securities Exchange for the past five years and utilized secondary data obtained from the period 2010-2015. Data was collected from 47 listed firms which represented a response rate of 73 percent. From the results obtained he concluded that financial leverage does not contribute to profitability of the firm. This is because when a firm borrows more from its creditors then the firm has to pay more amount of cost of debt to the creditor which is the interest rate. This leads to reduced net income for the firm and hence lower profitability.

Nawaz Ahmed, Atif Salman and Aamir Firoz Shamsi (2015) attempted to establish a stochastic relationship between financial leverage and profitability of cement sector operating in Pakistan. For this purpose 18 cement manufacturers out of 21 are incorporated in the study and six years annual data from 2005 to 2010 regarding financial leverage and profitability of the said firms were taken into consideration. The study finds that financial leverage has a statistically significant inverse impact on profitability at 99% confidence interval.

Joshua Abor (2005) investigated the relationship between capital structure and profitability of listed firms on the Ghana Stock Exchange (GSE) during a five□year period. The author used regression analysis in the estimation of functions relating to the return on equity (ROE) with measures of capital structure. The results reveal a significantly positive relation between the ratio of short□term debt to total assets and ROE. However, a negative relationship between the ratio of long□term debt to total assets and ROE was found. With regard to the relationship between total debt and return rates, the results show a significantly positive association between the ratio of total debt to total assets and return on equity.

Eunju Yoon and SooCheong Jang (2005) in his study presented an empirical insight into the relationship between return on equity (ROE), financial leverage and size of firms in the restaurant industry for the period 1998 to 2003 using OLS regressions. Research results suggest that at least during the test period, firm size had a more dominant effect on ROE of restaurant firms than debt usage. In other words, larger firms are earning significantly higher equity returns. Results also suggest that regardless of having lower financial leverage, smaller restaurant firms were significantly more risky than larger firms. As such, the dominance of size effect in the ROE-financial leverage relationship within the restaurant industry is better understood.

When the above articles are deeply studied and observed, it is apparent that there is a contradictory viewpoint in respect to the results of different researchers as far as the relationship of leverage and profitability is concerned. Theory suggests that use of debt, in turn, increases the profit available to the equity shareholders by way of the mechanism of trading on equity. The financial leverage/trading on equity increases the debt cost of the firm which ultimately reduces the tax expenses and thereby increases the profit. This, in turn, increases the profit available to the equity shareholders. Being highly leveraged means that there is a significant amount of debt in use. Theory suggests that while debts, used to generate revenue, can boost revenue and profit over time, however, unproductive or excessive debt can inhibit profitability. Thus, the burden of fixed amount of interest sometimes reduces the profitability. Thus, in case of some researches the data has shown negative relationship between leverage and profitability. In some studies again the data has shown no relationship between leverage and profitability. Thus, optimum usage of debt is important to keep a balance between profitability and interest cost. As per theory the ideal debt-equity ratio should be 2:1. This paper tries to analyse the leverage of certain selected Indian companies and ascertain their effect on the profitability of those companies. The basic motive behind this paper is to examine the theoretical approach towards leverage and thereafter determining how far the theory is being followed in practice on the basis of data available on some selected Indian companies. Thereby, understanding the optimum usage of leverage is very essential in enhancing the profit earning capacity of the company. Thus, this paper aims to fill the gap between theory and practice and conclude on the actual impact of leverage on the profit of a few Indian companies. Thus, an endeavour has been made in this article to analyze the impact of leverage on profitability of Indian Companies so as to show the relationship between leverage and profitability. The remainder of the paper is organized as follows. *Section 3* narrates the objectives of the present study. *Section 4* deals with sample selection and research methodology. The findings of the case study are discussed in *Section 5*. Finally, summary and conclusion is given in *Section 6*.

3. Objectives

Each organisation will have its own level of leverage or, in other words, debt-equity composition. The percentage of debt in the total capital raised in case of any company is one of the determinants which influence profit. It has been claimed by many finance researchers that financial leverage is the top most factor among the other factors that can affect the firm's profitability. It comprises the capital structure management concepts. The choice of making the capital structure of a company debt intensive or equity intensive that aids in the financing of the company assets, leads to the concept of capital structure formulation. It has been observed that most of the time managers of the company use some extent of debt and some extent of equity to finance their assets. Therefore right choice of the combination of debt and equity is very important for the capital structure of company. Theory has certain suggestions relating to such combination however, effort has been made to discern the debt-equity mix followed by the Indian companies and their impact on profit.

Thus, an attempt has been made in this paper to form an idea on the leverage of the sample companies. Accordingly, the trend of leverage ratios and profitability ratios of the sample companies would be considered and thereafter, the level of impact of leverage on profitability would be analyzed. For this purpose, this particular research primarily focussed on testing the following hypothesis:

H_0: There is no significant influence of leverage on profitability

H_1: There is significant influence of leverage on profitability

4. Sample Selection and Research Methodology

For the purpose of testing the above-mentioned hypothesis two variables have been taken to measure the parameters. For measuring profitability, Return on Assets (ROA) has been selected and for measuring leverage, Total Debt/Total Assets has been considered. The null hypothesis has been examined with the help of the following linear regression equation-

$$\mathbf{Y=\beta_0 + \beta_1 X + \epsilon}$$

where,

Y=Return on Assets (Dependent Variable)

X=Total Debt/Total Assets (Explanatory Variable)

β_0=Intercept (the value of Y when the value of X is zero)

β_1=Slope of the regression line (measures the rate of change of Y as X changes)

ϵ=Random Error Component

Simple linear regression analysis technique has been used to test the developed hypothesis. The data required for testing the above hypothesis has been collected from secondary sources (*CMIE Prowess*

database as has been mentioned in the bibliography). The case analysis has been conducted taking into consideration a ten year period commencing from 1st April 2007 to 31st March 2017. The study encompasses 4 FMCG companies that are listed in NSE and are constituents of NSE FMCG. The first 4 companies are selected on the basis of top constituents by weightage as indicated by NSE in its official website as on 28th March, 2018 [*Source: http://www.nseindia.com/content/indices/ind_nifty_FMCG.pdf*]. The reason behind considering weightage is that those are the companies which are the top performers. Accordingly, such companies report high profit and profit is a key factor that is often tracked by market experts to find out in which direction a company is moving. Rise in profit has been captured by computing the ratio of Return on Assets (ROA) of a company. This ratio is considered to be an indicator of how effectively a company is using its assets to generate earnings before contractual obligations must be paid. The total debt to assets ratio of the sample companies has been analyzed to find out the level of impact that leverage has on such profitability (ROA). Accordingly, the leverage position of all the companies are studied and related with their profit position so that the association between leverage and profitability can be evaluated. The 4 companies of the sample include *ITC Ltd., Hindustan Unilever Ltd., Godrej Consumer Products Ltd. and Dabur India Ltd.* This would enable a proper analysis to be made on the influence of leverage on the profit of the sample companies within the above-stated time period.

5. Findings

The objectives and the research methodology ultimately lead us to the summarized information that is indispensable in order to deduce the ultimate conclusion. The data of the sample companies have been processed through *SPSS (Version 16)*. The following table lists the summary observation of the results of the regression equation.

Table-1 Model Summary

R	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
.810	.656	.647	.0313911

Source: Author's Calculation

From the above table it is apparent that R Square is 0.656 which signifies that 65.6% of the variability of ROA (dependent variable) has been explained by the total debt to total assets ratio (explanatory variable). In other words, 65.6% of the data points fall within the line of regression equation. Standard Error is 3.14% which is another statistic of goodness-of-fit of the regression model. It measures the degree of deviation of sample mean from the actual mean of the population. The lower it is, the better is the fitness of the regression model. Thus, the estimate of standard error in the above table indicates lower variability of prediction in the regression.

Table-2 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.071	1	.071	72.522	.000[a]
	Residual	.037	38	.001		
	Total	.109	39			

Source: Author's Calculation

ANOVA tests whether the regression model is valid or not. The F Value or F ratio is the test statistic used to decide whether the model as a whole has statistically significant predictive capability. As can be seen from the *table-2* the F-value is 72.522 and the $p < .05$. In simple terms, there is a significant relationship between profitability and leverage and that the regression model is statistically significant.

Table-3 Coefficients

Model	Un-standardized		Standardized	t	Sig.
	B	Std. Error	Beta		
(Constant)	.108	.014		7.905	.000
Total Debt/	.233	.027	.810	8.516	.000

Source: Author's Calculation

The above table apparently indicates the regression coefficients which represent the mean change in the response variable for one unit of change in the predictor variable while holding other predictors in the model constant. The un-standardized beta values (i.e. the beta values computed on the basis of the original data points) are taken into consideration. As the response and explanatory variables are expressed in similar units (ratio) so un-standardized beta coefficient is considered and the regression equation is re-written as-

$$Y=.108+.233X$$

The above equation indicates that if 'X' increases by one unit then 'Y' would increase by 0.233. Thus, there is a positive relationship between X and Y i.e. profitability and leverage. Standard error depicts the distance between estimated and actual values. The standard error of the estimate is a measure of the accuracy of predictions and as per the calculated figures standard error is much lower. The t-test statistics measures the statistical significance of the regression coefficient. As laid down in the table $p < .05$ which implies that the coefficient value is statistically significant and the predictor variable is making significant contribution in the model. Thus, from the above-mentioned tabular information it can be stated that the null hypothesis is rejected.

6. Summary and Conclusion

The regression analysis results show that there exists a significant positive relationship between leverage and profitability. As indicated in the theory that increase in the debt increases the earning capacity of the business holds good as far as the sample of the study is concerned. Thus, accordingly it can be stated that highly leveraged firms tend to have higher profitability and vice versa. The findings are consistent with the previous study conducted by *Joshua Abor (2005)* where he conducted his study on listed firms on the Ghana Stock Exchange during a 5 year period. In most of the remaining studies in the literature review a negative relationship has emerged between leverage and profitability. The probable reason behind it can be the cost of debt. Thus, if the cost of debt is greater than the cost of equity then the leverage effect will not be felt on the profit position. Thus, the businesses should take into account the cost of both debt and equity and thereafter, consider the impact of leverage on the business as a whole.

The study encompassed 4 FMCG companies for a period of 10 years. The study would have been more comprehensive if the sample size could have been increased. Furthermore, in this respect it may be mentioned that the study period also could have been expanded. A sample comprising of different companies from different sectors would make the analysis more wide-ranging. Only Return on Assets and Total Debt to Total Assets ratios were taken as parameters. Other ratios relating to leverage and profitability can increase the impact of the study.

Thus, it may be specified that debt has a positive impact on the bottom line of the firm. However, the businesses should maintain a balance in application of debt component in the capital structure so that the beneficial effect of leverage can be perceived in the profit figures.

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