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A Study on Leverage Analysis of Selected Infrastructure Companies in India

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Abstract:

The present study is analytical in nature. To measure and compare the leverage, data of operating leverage, financial leverage, combined leverage, degree of operating leverage, degree of financial leverage, degree of combined leverage are collected. The secondary data have been collected from various web sites and annual financial statements of the selected companies. The reference period of the study is of ten years which is from the financial year 2005-06 to 2014-15. Population of the study is all the Infrastructure Companies in India which are registered at NSE/BSE. In these study ten companies of Infrastructure Companies has been taken as a sample by using convenient sampling technique. The sample companies are Larsen & Tourbro, Jaiprakash Associates, Reliance Infrastructure Limited, GMR Infrastructure, Hindustan Construction Company, Gammon India, GVK Power & Infrastructure Limited 8 IRB Infrastructure, Gayatri Projects Limited And Consolidated Construction Consortium Limited. the operating leverage of the research period for the industry during was good enough but the year 2012-13 was showing lower operating ratio for the industry. The highest degree of combined leverage was of GMR company at 3.92 while the lowest was shown by the same company at 0.13 during the research period.

Key words: operating leverage, financial leverage and combined leverage

Introduction

It is very important for every firm to determine its capital structure. The proper mix of debt and equity always give economic benefit to the company. The capital structure mix affects the decision making of the firm. When the management decides to finance increments of assets with debt involving fixed cost , it is said that the company has introduced financial leverage in its financial structure. Thus financial leverage may be expressed in terms of ratio of debt to total fund. Leverage is used in a company as an instrument by calculating the cost on it as well as the benefit supposed to be earn by the stockholders. The management employs this technique more often, to increase the company‘s return on equity capital and more so when it is impossible to improve operating efficiency of the company and increasing the return on total investment. Rate of interest being payable on debt is less than the earning on borrowings, total earning of the firm would tend to improve and residual stock holders would tend to be magnified. In financial terms we can also say that the use of borrowing capital to gather gain for residual owner is termed as trading on equity. In other terms it is also seen that the creditors are also ready to lend money on strength of equity supplied by the owners. When the amount of debt is relatively large in relation to capital stock , a company is said to be trading on equity on equity.

Meaning of Leverages

The meaning of leverage refers to ―an increase means for accomplishing some purpose‖. For
example leverage helps us to in lifting heavy objects, which may not be otherwise possible. However in the area of finance , the term leverage has a special meaning. It is used to describe the firm's ability to use fixed cost assets or funds to magnify the return to its owner. James Horns has defined leverage as ― Employment of assets or funds for which the firm pays a fixed cost or fixed return. Thus according to this definition it is said , Leverage results as a result of the firm employing an assets or source of funds which has a fixed cost. The former may be termed as fixed operating cost while the later may be termed as fixed financial cost. It is to be noted here that the fixed cost or return is the fulcrum of leverage. If a firm is not required to pay fixed cost or fixed return , there will be no leverage. Since the fixed cost or return has to be paid or incurred irrespective of the volume of output or sales , the size of such cost or return has considerable influence over the amount of profits available for the shareholders. When the volume of sales changes , leverage helps in qualifying such influence. It may therefore be defined as relative change in profit due to change in sales. A high degree of leverage implies that there will be a large change in profit due to a relatively small changes in sales and vice versa.

Types Of Leverages

There are generally three types of leverage calculated for financial performance measurement…….

1. Operating Leverage
2. Financial Leverage
3. Combined Leverage

Operating Leverage

For to define this type of leverage it is required to see the tendency of operating profit changed disproportionately with sales. It is said to exist when the firm has to pay fixed cost regardless of volume of output or sales. If the firm employs a greater amount of fixed cost and small amount of variable cost it is said to have a have a high degree of operating leverage. In Vice a versa if the firm will have low operating leverage when it employs a greater amount of variable cost and smaller amount of fixed costs. Thus the degree of operating leverage depends upon the amount of fixed element in the cost structure. There are main three functions which is in operating leverage.

Financial Leverage:

The financial leverage shows the tendency of residual net income to vary disproportionately with operating profit. In financial leverage we can see the change in operating income with the change in taxable income. It signifies the existence of fixed interest or fixed dividend bearing securities in the total capital structure of the company. The use of fixed interest bearing securities such as debt and preference capital along with owners' equity in the total capital structure of the company is known as financial leverage. In capital structure the higher the fixed interest bearing capital the leverage is said to be larger.

Combined Leverage / Composite Leverage

Operating leverage measures percentage change in operating profit due to percentage change in sales. It explains the degree of operating risk. Financial leverage measures percentage change in taxable profit on account of percentage change in operating profit. Thus it explain the degree of financial risk. Both these leverages are closely concerned with the firm's capacity to meet its fixed costs. In case both the leverage are combined , the result obtained will disclosed the effect of change in sales over change in taxable profit. In short, composite leverage express the relationship between revenue on account of sales and the taxable income. It helps in finding out the resulting percentage change in taxable income on account of change in sales.

❖ review of literature

❖ Singh Sukhdev, Luthra Rajni (2012)

The main objective of this paper has been to analyse and understand the impact of leverage on the capital structure practices via profitability of selected telecommunication companies in India. This paper investigates the relationship between leverage and earning per share and it also descry be how the earning capacity of the firm is influenced by fixed operating costs and fixed financial charges. This study has also described the relationship between debt equity ratio and earning per share and how effectively the firm uses debt financing. In this paper, selected telecommunication companies have been taken for analysis and one-way annova and t-test have been used to test the hypothesis. Skewness and Kurtosis have also been used to check "Lack of Symmetry "to understand the distribution of data and flatness or peakedness. The results of the study suggested that leverage and profitability and growth are related and leverage is having an impact on the capital structure practices of the firm.

❖ Doron Nissim , Stephen H. Penman (2003)

This paper presents a financial statement analysis that distinguishes leverage that arises in financing activities from leverage that arises in operations. The analysis yields two leveraging equations, one for borrowing to finance operations and one for borrowing in the course of operations. These leveraging equations describe how the two types of leverage affect book rates of return on equity. An empirical analysis shows that the financial statement analysis explains cross-sectional differences in current and future rates of return as well as price-to-book ratios, which are based on expected rates of return on equity. The paper therefore concludes that balance sheet line items for operating liabilities are priced differently than those dealing with financing liabilities. Accordingly, financial statement analysis that distinguishes the two types of liabilities informs on future profitability and aids in the evaluation of appropriate price-to-book ratios.

❖ Nicoleta Barbuta –Misu (2013)

The capital structure problem is important and because of the influence of leverage effect on return on equity. This paper aims to study the influence of financial leverage effect on company profitability, using financial data of three large companies from Romania, acting in pharmaceutical sector, in entire production-distribution chain. To carry out this study have been completed three stages: analyses of the profitability of the companies, analyses of the indebtedness and then the effect of leverage on return on equity, using data from 2008- 2012 period. The conclusion that emerges in this study is that leverage effect is an important factor that influences the return on equity in function of degree of debts, but not entirely.

❖ Research Methodology

The present study is analytical in nature. To measure and compare the leverage, data of operating leverage, financial leverage, combined leverage, degree of operating leverage, degree of financial leverage, degree of combined leverage are collected. The secondary data have been collected from various web sites and annual financial statements of the selected companies. The reference period of the study is of ten years which is from the financial year 2005-06 to 2014-15. Population of the study is all the Infrastructure Companies in India which are registered at NSE/BSE. In these study ten companies of Infrastructure Companies has been taken as a sample by using convenient sampling technique. The sample companies are Larsen & Tourbro, Jaiprakash Associates, Reliance Infrastructure Limited, GMR Infrastructure, Hindustan Construction Company, Gammon India, GVK Power & Infrastructure Limited 8 IRB Infrastructure, Gayatri Projects Limited And Consolidated Construction Consortium Limited.

Objectives Of The Study:

1. To study the Theoretical aspects of Leverage
2. To study Operating Leverage, Financial Leverage and Combine Leverage of selected Infrastructural Companies in India.

Formulation Of Hypothesis:

1. H_0 : there is no significant difference in the Operating leverage share of selected infrastructure companies.
2. H_0 :there is no significant difference in the Financial leverage of selected infrastructure companies.
3. H_0 :there is no significant difference in the Combined leverage of selected infrastructure companies.
4. H_1: there is significance difference in the Degree of operating leverage selected infrastructure companies
5. H_1 :there is significance difference in the Degree of financial leverage of selected infrastructure companies
6. H_1 :there is significance difference in the Degree of Combined leverage ratio of selected infrastructure companies.

❖ DATA ANALYSIS:

Hypothesis testing

ANOVA

Ratio		Sum of Square	Df	Mean square	F	Sig.
OL	Between Groups	8.606	9	.956	16.445	.000
	Within Groups	5.233	90	.058		
	Total	13.840	99			
FL	Between Groups	45.015	9	5.002	6.132	.000
	Within Groups	73.412	90	.816		
	Total	118.427	99			
CL	Between Groups	60.145	9	6.683	9.473	.000
	Within Groups	63.489	90	.705		
	Total	123.634	99			
DOL	Between Groups	2.953	9	.328	1.370	.213
	Within Groups	21.545	90	.239		
	Total	24.498	99			
DFL	Between Groups	1.773	9	.197	.848	.575
	Within Groups	20.922	90	.232		
	Total	22.695	99			
DCL	Between Groups	4.322	9	.480	1.255	.272
	Within Groups	34.438	90	.383		
	Total	38.760	99			

Inference: As P Value is less than 0.05 for OL, FL and CL so we cannot accept the null hypothesis. It means there is significant difference in OL, FL and CL of selected Infrastructure Company during the study period. But for DOL, DFL and DCL p value is greater than 0.05 so we cannot reject the null hypothesis it means there is no significant difference in DOL, DFL and DCL for selected infra companies during the study period.

Findings

It was also found that during the research period the GVK company shows the lowest operating leverage at 0.10 while the company named GMR shows highest at 2.17. All other company shows their data between this two. It was also found that during the research period the company named GMR was showing the highest financial leverage at 6.38 while the lowest financial leverage was shown by CCC company at 0.08. As the combined leverage is the multiplication of operating leverage and financial leverage the researcher found that the company named GPL was showing the highest combined leverage at 5.85 during the research period while the lowest was shown by GVK company at 0.10. During the research period it was found that the highest degree of operating leverage was shown by L & T company at 3.22 while the lowest degree of operating leverage was shown by GVK company at 0.25.It was also found that the highest degree of financial leverage of research period was of GMR company at 3.14 while the lowest was shown by the same company at 0.19 during the whole research period for all company. The researcher also found the degree of combined leverage of all company for the research period. The highest degree of combined leverage was of GMR company at 3.92 while the lowest was shown by the same company at 0.13 during the research period. As P Value is less than 0.05 for OL, FL and CL so we cannot accept the null hypothesis. It means there is significant difference in OL, FL and CL of selected Infrastructure Company during the study period. But for DOL, DFL and DCL p value is greater than 0.05 so we cannot reject the null hypothesis it means there is no significant difference in DOL, DFL and DCL for selected infra companies during the study period

Suggestions

It is also suggested that the operating leverage of the research period for the industry during was good enough but the year 2012-13 was showing lower operating ratio for the industry. So in future year the overall industry should change its performance. It is also suggested that the financial leverage of the industry during the year 2009-10 and 2006-07 was showing god performance compare to another year performance so it should be improved in future also. It is suggested that the combined leverage in 2013-14 was lower for the industry during the research period so it should be improved positively in future. The degree of operating leverage of the industry during 2007-08, 2011-12 and 2012-13 was lower so it is to be improved. While during the other period of research it was positive. The degree of financial leverage during 2010-11, 2011-12 and 2014-15 was lower so it should be suggested to improve it. The degree of combined leverage of the industry in 2013-14 was showing the lower which should improve in future year.

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