Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 8, Issue, 01, pp.25829-25834, January, 2016

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

RESEARCH ARTICLE

AN EMPIRICAL STUDY ON RELATIONSHIP BETWEEN LEVERAGE AND PROFITABILITY IN BHARTI AIRTEL

*,[1]Mohan Kumar, M. S., [2]Dr. Aswatha Narayana, T. and [1]Vijo Jose Vellakottil

[1]Department of Commerce, St. Claret College, Bengaluru -560013, India
[2]Department of Commerce, GFGC K R Puram, Bengaluru, India

ARTICLE INFO

Article History:
Received 29th October, 2015
Received in revised form
22nd November, 2015
Accepted 18th December, 2015
Published online 31st January, 2016

Key words:

ROCE,
Leverage,
Profitability.

Abbreviations:

CR: Current Ratio
DOL: Degree of Operating Leverage
DFL: Degree of Financial Leverage
DCL: Degree of Combined Leverage
DER: Debt Equity ratio
EBIT: Earnings before Interest & Tax
EPS: Earning Per Share
QR: Quick Ratio
ROCE: Return on Capital Employed
ROLTF: Return on long term funds
TATR: Total assets turnover ratio

ABSTRACT

The Indian telecommunication industry is one of the fastest growing in the world. In Wireless market Bharti Airtel is the market leader with a 22.7% share of total subscription. The study examines the relationship between leverage and profitability in Bharti Airtel. The study based on secondary data during the period from 2005-06 to 2014-15. The data was collected from the published sources like books, annual reports of companies and website of money control.com. The collected data will be analyzed by using profitability ratios, leverages, Average, Standard deviation, coefficient of variance and correlation was used for verify the relationship between leverages and profitability. The study reveals liquidity position of the Bharti Airtel is not up to the standard norm, but Profitability ratios are shown in the positive trend during the study period. The relation between profitability and leverage of Bharti Airtel varies. The correlation of coefficient of DOL was negative with ROCE. But DFL and DCL were positively correlated with ROCE. The DOL and DFL were statistically significant but DCL was statistically not significant. We can observe that the company was unable to use its resources in optimal level. It can improve its performance in future.

Citation: **Mohan Kumar, M.S., Dr. Aswatha Narayana, T. and Vijo Jose Vellakottil, 2016.** "An Empirical Study on Relationship between Leverage and Profitability in Bharti Airtel", *International Journal of Current Research,* 8, (01), 25829-25834.

INTRODUCTION

The Indian telecommunication industry is one of the fastest growing in the world. India will emerge as a leading player in the virtual world by having 700 million internet users of the 47 billion global users by 2025. Government policies and regulation have provided a conductive environment for service providers. This has made the sector more competitive. The Indian telephone subscribers are reached to 962.63 million at the end of October 2014. They are showing a monthly growth rate of 0.52%. The total wireless subscribers are 935.35 million at the end of October 2014. According to GSMA the broad band service user base in India is expected to grow to 250 million connecting by 2017. The IMF forecasts income expands at a CAGR of 57% to US$ 1869.3 during 2013-18. Wireless market share in terms of total subscribers in India Bharti Airtel is the market leader with a 22.7% share of total subscription followed by Vodafone 18.4% share (Telecom sector, 2015). Leverage refers to the extent to which company make use of their debt financing to increase profitability. The firms borrow more debt from outsiders, than company end up with high leverage and high risk vice-versa with the low leverage. The financing and capital structure decision is of tremendous significance for the management, since its influences the debt-equity mix of the company, which

Corresponding author: Mohan Kumar, M.S.,
Department of Commerce, St. Claret College, Bengaluru -560013, India.

ultimately affects shareholders return and risk. The study helps in examining the Bharti Airtel Company's all this aspect.

Concept of leverage

The use of source of finance with a fixed cost such as debt and preference share capital, to finance the assets of the company is known as financial leverage or trading on equity. If the assets financed by debt yield a return greater than the costs of the debt, the earnings per share will increase without an increase in the owners' investment.

Degree of Operating Leverage (DOL)

Operating leverage may be defined as the firm's ability to use operating costs to magnify the effects of changes in sales on earnings before interest and taxes. Operating leverage is associated with investment activities.
Operating leverage results from the present of fixed operating expenses with firm's income stream. The degree of operating leverage may be defined as the change in the percentage of operating leverage at any level of output is arrived at by dividing the percentage change in EBIT with percentage change in sales.

Operating leverage = contribution / operating profit

Degree of operating leverage = percentage change in EBIT / Percentage change in sales

Degree of Financial Leverage (DFL)

The use of fixed charges sources of funds such as debt and preference share capital along with the equity share capital in capital structure is described as financial leverage. The financial leverage employed by a company is intended to earn more on the fixed charges funds their costs. The surplus or deficit will increase or decrease the return on the owner equity. The rate of return on the owner's equity is levered above or below the rate of return on total cost. The degree of financial leverage is defined as the percentage change in earning per share due to given percentage change in earnings before interest and taxes. Financial leverage is computed by the following formula:

Financial Leverage = EBIT/EBT

Degree of Financial Leverage = Percentage change in EPS / Percentage change in EBIT

Degree of Combined Leverage (DCL)

Operating and financial leverage together cause wide variation in EPS for a given change in sales and operating costs. It can be calculated by multiplying the operating leverage and financial leverage. The operating leverage affects the EBIT and financial leverage affects the EPS, Return on equity and return on Investment. The management needs to manage the true combination of the operating and financial leverage. The degree of combined leverage can be calculated as Degree of Combined Leverage = Degree of Operating leverage X Degree of Financial leverage

Review of literature

Khalid Alkhatib (2012) studied "The Determinants of Leverage of Listed Companies" The study reveals that for both industrial and services sectors; there were no statistical significant relationship. When the two sectors were separated, the results for the industrial sector revealed that liquidity and tangibly have significant relationship with leverage, whereas the results for the services sector revealed that the growth rate, liquidity, and tangibility have significant relationship with leverage. Nicoleta Barbuta-Misu (2013) studied "the effect of leverage on profitability of pharmaceutical Companies" the study examine the influence of financial leverage effects on company profitability.

The results show that leverage effects is an important factor that influences the return on equity in function of degree of debts, but not entirely. Dr. Sukhdev Singh and Rajni Luthra (2013) studied "Impact of Leverage on the Capital Structure Practices of Selected Telecommunication Companies". The study investigates the relationship between leverage and Earning per share and also describes the relationship between debt equity ratio and Earning per share. The result reveals leverage and profitability and growth are related and leverage is having an impact on the capital structure practice of the firm. Khushbakht Tayyaba (2013) studied "Leverage - an Analysis and Its Impact On Profitability With Reference To Selected Oil And Gas Companies.

The study examines the effect of leverage on profitability or not. The result shows that degree of financial leverage and return on assets have positive relationship, while degree of operating leverage and return on assets have inverse relationship. Syed Shah Fasih Ur Rehman (2013) studied "Relationship between Financial Leverage and Financial Performance: Empirical Evidence of Listed Sugar Companies of Pakistan" the study investigate whether financial leverage has an effect on financial performance. The result reveals the positive relationship of debt equity ratio with return on asset and sales growth, and negative relationship of debt equity ratio with earning per share, net profit margin and return on equity.

Dr. Vijayalakshmi and Dr. Padmaja Manoharan (2014) studied "Corporate Leverage and its Impact on Profitability" the study examine the impact of leverage on profitability of diversified sector. The results show that the leverage has a significant influence on profitability. Dr. Patel (2014) studied "impact of leverage on profitability a study of Sabar dairy". The study examines the relationship between return on capital employed, return on equity, return on assets and earnings per share with operating leverage, financial leverage and total leverage. The results reveals DOL, DFC, DTL and ROCE, ROE, EPS have positive relationship and DOL and ROA, DTL and ROA also positive relationship while DEL and ROA have inverse relationship. Kalpana (2014) studied "Leverage Analyses and its Impact on Profitability of Select Steel Companies Traded in BSE". The study analyses the impact of leverage on profitability i.e.

Earnings per share of selected steel companies traded in BSE. The result shows that that there is a negative correlation between degree of operating leverage and Earning per share, degree of financial leverage and Earning per share, and degree of combined leverage and Earning per share. The use of debt and fixed cost expenses would reduce the profitability of the firms. Dr. Vijayakumar and Karunaiathal (2014) studied "Impact of Corporate Leverage on Profitability - Evidence from Indian Paper Industry". The study examines the relationship between the leverage and profitability. The results reveals there is a positive and significant impact of leverage measured in terms of total debt to total capital with the return on equity of both the Indian paper industry and the large scale sector. Dr. M Ramana Kumar (2014) studied "an empirical study on relationship between Leverage and Profitability in Bata India Limited". The result shows that Degree of operating leverage positive correlation with the Return on investment and degree of financial leverage is positively correlated with return on investment.

Objectives of the study

- To analyze the financial performance of Bharti Airtel company
- To examine the leverage analysis in Bharti Airtel company
- To study the relationship between leverage and profitability in Bharti Airtel company

Hypotheses

H_1: There is significant positive correlation between DOL and profitability of Bharti Airtel Company
H_2: There is significant positive correlation between DFL and profitability of Bharti Airtel Company
H_3: There is significant positive correlation between DOL and profitability of Bharti Airtel Company

MATERIALS AND METHODS

Sources of Data

The study based on secondary data during the period from 2005-06 to 2014-15. The data was collected from the published sources like books, annual reports of companies and website of money control.com.

Research Technique

In this study exploratory research technique is adopted which explores information, analyzed and interpret results in meaningful way.

Tools for data analysis

The collected data will be analyzed by using profitability ratios, leverages, Average, Standard deviation, coefficient of variance and correlation was used for verify the relationship between leverages and profitability

Data analysis and interpretation

The table 01 reveals the degree of operating leverage during the year 2004-05 to 2013-14. The average of leverage ratio maintained by the Bharti Airtel is 1.04. The highest degree of operating leverage is 1.31 during the year 2012-13 and lowest degree of operating leverage is 0.84 during the year 2006-07. It shows that company is efficiently operating activities with less cost because the results reveals percentage of change in EBIT is more than the percentage changes in sales during the study period. The table 02 reveals the degree financial leverage of company was in mixed trend during the year 2004-05 to 2013-14. The average degree of financial leverage ratio maintained by Bharti Airtel is 0.98.

Table 1. Degree of Operating Leverage

Year	Sales (Rs in Cr)	Operating profit (Rs in Cr)	% Change in EBIT	% Change in Sales	DOL
2004-05	8142.44	2997.67	-	-	-
2005-06	11259.12	4038.57	38.28	34.72	1.10
2006-07	17851.61	7260.54	119.24	142.21	0.84
2007-08	25761.11	10662.41	216.38	255.69	0.85
2008-09	34048.32	13215.68	318.16	340.87	0.93
2009-10	35609.54	13966.34	337.33	365.91	0.92
2010-11	38017.70	13340.30	366.91	345.02	1.06
2011-12	41603.80	13643.70	410.95	355.14	1.16
2012-13	45350.90	13470.70	456.97	349.37	1.31
2013-14	49918.50	16298.80	513.07	443.72	1.16

Source: Calculated from the annual reports of the Bharti Airtel

Table 2. Degree of Financial Leverage

Year	EPS(Rs)	Operating profit (Rs in Cr)	% change in EPS	% change in EBIT	DFL
2004-05	6.53	2997.67	-	-	-
2005-06	10.62	4038.57	62.63	34.72	1.80
2006-07	21.27	7260.54	225.73	142.21	1.59
2007-08	32.9	10662.41	403.83	255.69	1.58
2008-09	40.79	13215.68	524.66	340.87	1.54
2009-10	24.82	13966.34	280.09	365.91	0.77
2010-11	20.32	13340.30	211.18	345.02	0.61
2011-12	15.09	13643.70	131.09	355.14	0.37
2012-13	13.42	13470.70	105.51	349.37	0.30
2013-14	16.51	16298.80	152.83	443.72	0.34

Source: Calculated from the annual reports of the Bharti Airtel

The highest degree of financial leverage in the year 2005-06 was 1.80 and lowest degree of financial leverage in the year 2012-13 was 0.30. It shows that the company is not maintaining optimum financial leverage. A moderate financial leverage is good for the firm to maximize the profitability of the company. The Table 03 reveals the degree Combined leverage of company was in mixed trend during the year 2004-05 to 2013-14. The average degree of combined leverage ratio maintained by Bharti Airtel is 0.96. The highest degree of combined leverage in the year 2005-06 was 1.99 and lowest degree of financial leverage in the year 2012-13 and 2013-14 was 0.40. It shows that the company is not maintaining optimum combined leverage. A moderate combined leverage is good for the firm to maximize the overall profitability of the company.

Table 3. Degree of Combined Leverage

Year	DOL	DFL	DCL = DOL*DFL
2004-05		-	-
2005-06	1.10	1.80	1.99
2006-07	0.84	1.59	1.33
2007-08	0.85	1.58	1.34
2008-09	0.93	1.54	1.44
2009-10	0.92	0.77	0.71
2010-11	1.06	0.61	0.65
2011-12	1.16	0.37	0.43
2012-13	1.31	0.30	0.40
2013-14	1.16	0.34	0.40

Source: Calculated from the annual reports of the Bharti Airtel

Table 4. Current Ratio, Quick Ratio and Debt Equity Ratio

Year	CR	QR	DER
2004-05	0.47	0.49	1.10
2005-06	0.44	0.45	0.65
2006-07	0.47	0.47	0.47
2007-08	0.57	0.55	0.33
2008-09	0.69	0.65	0.28
2009-10	0.70	0.67	0.14
2010-11	0.63	0.73	0.23
2011-12	1.02	1.37	0.29
2012-13	0.65	0.75	0.24
2013-14	0.93	0.98	0.13
AVG	0.66	0.71	0.39
SD	0.19	0.28	0.29
CV	29.3	39.6	76.4

Source: Calculated from the annual reports of the Bharti Airtel

The Table 04 reveals the current ratio, quick ratio and debt equity ratio of Bharti Airtel during the period 2004-05 to 2013-14. The average current ratio is 0.66 which is less than standard norm of 2:1. The maximum level of current ratio was 1.02 during the year 2011-12 and minimum level of current ratio was 0.44 during the year 2005-06. The CR was various 29.3% during the study period. It shows that liquidity position of the Bharti Airtel is not satisfactory. So the company cannot meet its short term obligation effectively. The average quick ratio is 0.71 which is less than standard norm of 1:1. The maximum level of quick ratio was 1.37during the year 2011-12 and minimum level of quick ratio was 0.45 during the year 2005-06. The QR was various 39.6% during the study period. It reveals once again liquidity position of the Bharti Airtel is not satisfactory so the company cannot meet its short term obligation effectively. The average debt equity ratio is 0.39 which is less than the standard norm of 2:1. It was various76.4% during the study period. It shows that company is not possible to get the benefits of leverage. It is suggested to the company to revise the capital structure to get maximize the wealth of shareholders.

Table 5. Total assets turnover Ratio, Return on long term funds Ratio and Return on capital employed Ratio

Year	TATR	ROLTF	ROCE
2004-05	1.13	20.41	19.27
2005-06	1.15	21.28	20.74
2006-07	1.27	29.83	29.06
2007-08	1.09	28.52	27.95
2008-09	1.06	29.01	28.40
2009-10	0.93	24.36	23.86
2010-11	0.92	17.54	16.65
2011-12	0.84	14.48	13.14
2012-13	0.90	12.67	12.07
2013-14	0.84	13.40	13.18
AVG	1.01	21.15	20.43
SD	0.15	6.60	6.65
CV	14.52	31.20	32.53

Source: Calculated from the annual reports of the Bharti Airtel

Table 6. Correlation Coefficient between DOL and ROCE

	Variables	DOL	ROCE
DOL	Pearson Correlation	1	-0.934**
	Sig (2-tailed)		0.000
	N	10	10
ROCE	Pearson Correlation	-0.934**	1
	Sig (2-tailed)	0.000	
	N	10	10

Source: Calculated from the annual reports of the Bharti Airtel
** Correlation is significant at the 0.01 level (2 tailed)

Table 7. Correlation Coefficient between DFL and ROCE

	Variables	DFL	ROCE
DFL	Pearson Correlation	1	0.846**
	Sig (2-tailed)		0.002
	N	10	10
ROCE	Pearson Correlation	0.846**	1
	Sig (2-tailed)	0.002	
	N	10	10

Source: Calculated from the annual reports of the Bharti Airtel
** Correlation is significant at the 0.01 level (2 tailed)

Table 8. Correlation Coefficient between DCL and ROCE

	Variables	DCL	ROCE
DCL	Pearson Correlation	1	0.715**
	Sig (2-tailed)		0.020
	N	10	10
ROCE	Pearson Correlation	0.715**	1
	Sig (2-tailed)	0.020	
	N	10	10

Source: Calculated from the annual reports of the Bharti Airtel
** Correlation is significant at the 0.01 level (2 tailed)

The Table 05 reveals the total assets turnover ratio, Return on long term funds ratio and return on capital employed ratio of Bharti Airtel during the year 2004-05 to 2013-14. The average total assets turnover ratio is 1.01, it various 14.52% during the study period. The maximum level and minimum level of assets turnover ratio was 1.27 during the year 2006-07 and 0.84 during the year 2013-14 and 2011-12 respectively. The average ROLTF is 21.15%. It various 31.20% during the study period.

The maximum level of ROLTF was 29.83 during the year 2006-07 and minimum level of ROLTF was 12.67 during the year 2012-13. The average ROCE is 20.43. It various 32.53% during the study period, the maximum level of ROCE was 29.06 during the year 2006-07 and minimum level of ROCE was 12.07 during the year 2012-13. It shows that the company did not utilize total assets efficiently in generating the sales of the company. The ROLTF and ROCE was various more during the study period it is not good for company to retain the goodwill and reputation of company in the mind of investors and Shareholders.

Relationship between Leverage and profitability

The Karl Pearson coefficient of correlation varies from -1 to +1. When two variables are negatively correlated then the correlation is called negative correlation and Karl parson correlation is negative. When two variables are positively correlated then the correlation is called negative correlation and Karl parson correlation is positive. When there are no correlation two variables then it is called zero correlation and the Karl Pearson coefficient is zero. If the correlation coefficient between two variables is -1 then there exists perfect negative correlation. If the correlation coefficient between two variables is +1 then there exists perfect positive correlation. The Table 6 reveals that the correlation coefficient between DOL and ROCE is -0.934 which is statistically significant at 0.01 level of significant as significant level (p value = 0.000) less than 0.01. Therefore, it is observed that degree of operating leverage is significant negatively correlated with ROCE.

It means that degree of operating leverage of Bharti Airtel was not good position. It is suggested to Bharti Airtel to improve the operating leverage in future. The Table 7 reveals that the correlation coefficient between DFL and ROCE is 0.846which is statistically significant at 0.01 level of significant as significant level (p value = 0.002) less than 0.01. Therefore, it is observed that degree of financial leverage is significant positively correlated with the ROCE. It means that degree of financial leverage of Bharati Airtel was at good position. It is suggested to Bharti Airtel to continue its present operating leverage practice in future also. The Table 8 reveals that the correlation coefficient between DCL and ROCE is 0.715 which is statistically not significant at 0.01 level of significant as significant level (p value = 0.020) more than 0.01. Therefore, it is observed that degree of combined leverage is positively correlated with ROCE but not significant statistically. It means that degree of combined leverage of Bharti Airtel was not at optimum level. It is suggested to Bharti Airtel to revise its capital structure so that it has positive impact on ROCE.

Findings

- The average of DOL ratio maintained by the Bharti Airtel was 1.04.
- The average of DFL ratio was 0.98 and the highest DFL during the year 2005-06 was 1.80
- The average DCL ratio maintained by Bharti Airtel was 0.96 and lowest DCL in the year 2012-13 and 2013-14 was 0.40
- The average CR was 0.66, which is less than standard norm of 2:1 and it varies to 29.3% during the study period
- The average QR was 0.71, which is also less than standard norm of 1:1 and it varies to 39.6% during the study period.
- The average debt equity ratio is 0.39, which is less than the standard norm of 2:1 and it varies to 76.4% during the study period.
- The average total assets turnover ratio was 1.01 and it varies to 14.52% during the study period.
- The average return on long term funds was 21.15% and it varies to 31.20% during the study period.
- The average return on capital employed was 20.43% and it varies to 32.53% during the study period
- The correlation coefficient of DOL is negatively correlated with ROCE and it is statistically significant.
- The correlation coefficient of DFL is positively correlated with ROCE and it is statistically significant.
- The correlation coefficient of DCL is positively correlated with ROCE and it is statistically not significant.

Conclusion

The Bharti Airtel is the market leader with a 22.7% share of the total subscription of wireless market. The leverage analysis indicates the long term financial performance. The research study concentrates on relationship between leverage and profitability. The average DOL, DFL and DCL is 1.04, 0.98 and 0.96 respectively. The liquidity position of the Bharti Airtel is not up to the standard and can improve the liquidity position. The average debt equity ratio is also less than the standard norms. Profitability ratios are shown in the positive trend during the study period. The relation between profitability and leverage of Bharti Airtel varies. The correlation of coefficient of DOL was negative with ROCE. But DFL and DCL were positively correlated with ROCE. The DOL and DFL were statistically significant but DCL was statistically not significant. We can observe that the company was unable to use its resources in optimal level. It can improve its performance in future.

REFERENCES

A brief report on telecom sector in India January 2015

Dr. Maheshwari, S.N. 2003. *Fundamentals of financial Management*, Sulan Chand and Sons Education publication New Delhi, Second Edition 2003

Dr. Patel, J. B. 2014. *Impact of leverage on profitability: a study of Sabar dairy,* Research Hub- *International Multidisciplinary Research Journal,* Volume-1, Issue-3, October 2014, pp. 1-6

Dr. Ramana Kumar, M. 2014. *An empirical study on relationship between Leverage and Profitability in Bata India Limited, International Journal of Advance Research in Computer Science and Management Studies,* Volume 2, Issue 5, pp 1-9

Dr. Sukhdev Singh and Rajni Luthra 2013. *Impact of Leverage on the Capital Structure Practices of Selected Telecommunication Companies. Asian Journal of Research in Business Economics and Management*, Vol.3, No. 9, pp. 100-114

Dr. Vijayakumar, A. and Ms. Karunaiathal, A. 2014. *Impact of Corporate Leverage on Profitability - Evidence from Indian Paper Industry, Indian Journal of Applied Research,* Volume: 4, Issue: 11, pp 137-141

Dr. Vijayalakshmi, D. and Dr. Padmaja Manoharan, 2014. *Corporate Leverage and its Impact on Profitability, Indian Journal of Applied Research,* Volume 4, Issue 10, pp. 125-128

Kalpana, V. 2014. *A Study on Leverage Analyses and its Impact on Profitability of Select Steel Companies Traded in BSE*, *Indian Journal of Applied Research*, Volume: 4, Issue 10

Khalid Alkhatib, 2012. *The Determinants of Leverage of Listed Companies*, *International Journal of Business and Social Science,* Vol. 3 No. 24, Special Issue, pp 78-83

Khushbakht Tayyaba, 2013. "Leverage" – *An Analysis and Its Impact On Profitability With Reference To Selected Oil And Gas Companies*, *International Journal of Business and Management Invention*, Volume 2 Issue VII, pp.50-59.

Nicoleta Barbuta-Misu, 2013. *The effect of leverage on profitability of pharmaceutical Companies,* Annals of "Dunarea de Jos" University of Galati Fascicle I. Economics and Applied Informatics Years XIX – No 1.

Ramachandra, K., Chandrashekara, B. and Prathima, D.S. *Financial Management*, Himalaya Publishing House Pvt Ltd. First edition 2011

Sudarsana Reddy, G. 2010. *Essentials of Financial Management*, Himalaya Publishing House, Third Edition 2010.

Syed Shah Fasih Ur Rehman, 2013. *Relationship between Financial Leverage and Financial Performance: Empirical Evidence of Listed Sugar Companies of Pakistan*, *Global Journal of Management and Business Research Finance,* Volume 13 Issue 8 Version 1.0

www.money control.com

****