MEASURING THE CAPITAL STRUCTURE, PROFITABILITY AND EVA: WITH REFERENCE TO SELECTED AVIATION FIRMS IN INDIA

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ABSTRACT

Purpose: Capital structure decision is the vital one since the profitability of an enterprise is directly affected by such decision. The successful selection and use of capital is one of the key elements of the firms' financial strategy. Hence, proper care and attention need to be given while determining capital structure decision. The purpose of this study is to investigate the relationship between capital structure and profitability of Company and to measure its impact on EVA. **Design/methodology/approach:** Different conditional theories of capital structure are reviewed (the trade-off theory, pecking order theory, agency theory, and theory of free cash flow) in order to formulate testable propositions concerning the determinants of capital structure of select Indian Aviation firms. The investigation is performed using the secondary data collected from the reputed database for the purpose of analysis and interpretation. With regard to the sample size, we have taken top five Aviation firms from the Indian context. **Findings:** The results suggest that profitability, liquidity, earnings volatility, and tangibility (asset structure) are related negatively to the debt ratio, whereas firm size is positively linked to the debt ratio. Non-debt tax shields and growth opportunities do not appear to be significantly related to the debt ratio. The data has been analysed by using descriptive statistics and **Originality/value:** To the authors' knowledge, research ideas were the initial source for formulating this model. The authors have gone through various literature scrutinizations to past theories for identification of those variables which are more promising for the determination of capital structure

Key Words: Aviation firm, Debt-Equity, Model frame work, Optimal capital structure and Profitability

INTRODUCTION

The Indian Aviation Industry has been going through a confused phase over the past five years facing multiple problems and these firms are not able to form effective strategy – high oil prices and limited pricing power contributed by industry wide over capacity and periods of subdued demand growth and these firms are exposed to borrow in huge sum from the financial institutions and from the general public. Over the near term the challenges facing the airline operators are related to high debt burden and liquidity constraints - most operators need significant inflow of funds were as these firms can provide relief to cash strapped by the firm instead of fresh capital to effect a meaningful improvement in balance sheet. Improved financial profile would also allow these players to focus on steps to improve long term viability and brand building through differentiated customer service. Over the long term the operators need to focus on improving cost structure, through rationalization of equity and debt. Economic value added shows that firm value depends directly on the performance of management. Failure to use of appropriate metrics to measure the performance and the value of shares of a company may cause the value not to lead to the actual value resulting in damage to a group of buyers taking advantage of the stocks and making profits by another group of buyers **Hejazi & Hosseini, 2013.** Some companies produce a final dividend without regarding their opportunity cost of capital estimate. Economic value added (EVA) and the Theory of the company's value are consistent only by selecting projects with positive net present value increase **Hejazi & Hosseini**, 2013. Most previous studies focused on the EVA, the company's profitability and profitability ratios and yield. However, empirical studies suggest that other factors such as type of industry leverage ratios, capital structure and working capital management on EVA are also important. This study seeks to find the relationship between capital structure and EVA.

REVIEW OF LITERATURE

The primary objective of management firms is to maximize firm’s value added, which yields to increase in the wealth of the shareholders **(Modigliani & Miller, 1963; Zaima et al., 2005).** In this regard, the financial management tasks fall into three categories: investment decisions, financing and division of shares. Financing decisions that ultimately determine the company's financial structure or texture is quite important because such decisions will lead to the achievement of the firm's optimal capital structure **(Nikbakht & Peikani, 2010).**Several studies have examined capital structures of companies on the basis of

especially the pecking order theory and the trade-off theory, so the topic and research method are not new. However, most studies so far have focused on US companies **(Titman & Wessels, 1988; Fischer, et al., 1989; Shyam-Sunder & Myers, 1999),** cross-country **(Rajan & Zingales, 1995; Jong et. al., 2008; Alves & Ferreira, 2011),** Swiss companies (Gaud et. al, 2005) etc. Two of the studies includes Danish companies **(Jong et. al., 2008; Alves & Ferreira, 2011),** but only as a part of a cross-country comparison and hence the samples were not large, nor covered in detail. Through the empirical studies conducted on the topic it has been established that a number of company characteristics consistently influence company capital structure. **Modigliani and Miller (1963)** argued that the capital structure of a firm should compose entirely of debt due to tax deductions on interest payments. However, Brigham and **Gapenski (1996)** said that, in theory, the **Modigliani-Miller (MM)** model is valid. But, in practice, bankruptcy costs exist and these costs are directly proportional to the debt level of the firm. Recently, **Baker and Wurgler (2002)** have suggested a new theory of capital structure: the "market timing theory of capital structure". This theory states that the current capital structure is the cumulative outcome of past attempts to time the equity market. **Welch (2011)** challenges the use of only including financial debt and equity into the capital structure measure and advances instead a measure including total liabilities to total assets.

REVIEWS ON CAPITAL STRUCTURE AND PROFITABILITY

The relationship between capital structure and profitability is one that received considerable attention in the finance literature. The study regarding the effects of capital structure on profitability will help us to know the potential problems in performance and capital structure. The modern industrial firm must conduct its business in a highly complex and competitive business environment. Therefore, these types of research findings will be benefited in selecting the capital structure to achieve the optimum level of firm's profitability. This study shows the statistical analysis carried out seeking to discover is there any relationship between capital structure and profitability in aviation firms. Most studies found a negative relationship between profitability and leverage. Within this framework, **Titman & Wessels (1988) and Kester (1986)** found a significantly negative relation between profitability and debt/asset ratios. **Rajan & Zingalas (1995)** also confirmed a significantly negative correlation between profitability and leverage in their work. **Abor (2005)** also found a significantly positive relationship between total debt and profitability. From the foregoing discussions based on the available empirical literature, it is crystal clear that results from

investigations into the relationship between capital structure and profitability are inconclusive and requires more empirical work. An important question facing.

NEED AND IMPORTANCE OF THE STUDY

The value of the firm depends upon its expected earnings stream and the rate used to discount this stream. The rate used to discount earnings stream it's the firm's required rate of return or the cost of capital. Thus, the capital structure decision can affect the value of the firm either by changing the expected earnings of the firm, but it can affect the reside earnings of the shareholders. The effect of leverage on the cost of capital is not very clear. Conflicting opinions have been expressed on this issue. In fact, this issue is one of the most continuous areas in the theory of finance, and perhaps more theoretical and empirical work has been done on this subject than any other. Hence, the study concentrated on capital structure management which is one of the essential areas of concern of every which make upon liabilities and stockholders' equity, especially the ratio of debt to equity and mixture of short and long maturities. **Dr Amaravathi and Anand Shankar Raja M (2014),** say that The concept of capital structure is extremely important because it can influence not only the return a company earns for its shareholders, but whether or not a firm survives in a recession. Maximizing shareholder's wealth has become the new corporate paradigm. The thrust area for today's management is to find means to create value for the owners. Many traditional models are present which may not measure the actual value created for its shareholders. Thus, it is necessary for the usage of modern tool EVA to determine whether the wealth had been made use of or been destroyed. The firms can even plan optimum capital structure to increase their value. **Dr R Angayarkanni and Anand Shankar Raja** say that, Shareholders' value creation is the prime aim of any organization for existing in the market and the thrust area for today's management is to find means to create value for the owners. Maximizing shareholder's wealth has become the new corporate paradigm. The study area covers in determining the capital structure of the firm and measuring its impact using Economic Value Added Model. The capital structure is how a firm finances its overall operations and growth by using different sources of funds which includes a mix of a company's long–term and short term debt, common equity and preferred equity. Though there are many traditional models to measure the shareholders' value, the modern tools EVA is used in this study which helps to Measure Company's financial performance based on the residual wealth which intern helps to plan optimum capital structure to increase the value of the firms.

STATEMENT OF PROBLEM

EVA is the amount of economic value added for the owners by management. The thrust area for today's management is to find means to create value for the owners. It is now established that the accounting profit in no cases represents the real value created for the owners. But, it may originate the calculation. EVA is the dependent variable indicating the difference between net operating profit after tax (NOPAT) and capital costs. Therefore, it is different from traditional means, such as EPS, for evaluating accounting profit since it takes into consideration the total price of financing **(Xiang, 2009).** EVA represents the value added to the shareholders by generating operating profits over and above the cost of capital employed in business. Thus in a twofold, EVA has an impact on the profitability position and the capital structure of the firm. Moreover EVA is a modern financial management tool that discloses the impact of both strategic as well as operational decisions of the management. Thus for firms to take strong strategic decisions should know the importance of Economic Value Added. The scope of the study extends to three key areas known as profitability, Economic Value Added and Market Value added. The scope of the study also helps the management to concentrate in strategic areas such as measuring business success, guiding managerial decisions etc. Thus the study will be a useful source for the top management.

OBJECTIVES

- The main objective of the study is to determine the factors for an optimal capital structure for aviation firms and to suggest the same idea for other firms functioning.

RESEARCH METHODS

The present study used secondary data for the analysis. Secondary data is data that have been previously collected for some other project rather than the one at hand but found useful by the researcher. The financial statements which are made up of income statements and balance sheets of Panasonic Energy were the main sources of data for this study. These were obtained from the Hand book of listed firm from the open data base (Money control) and the annual report. Further, scholarly articles from academic journals, relevant text books on the subject and the internet search engines were also used. Specifically, the financial statements of the banks in the sample were collected for the period 2012-2016.

RESULTS AND DISCUSSION

Modern financial management emphasizes that a firm must seek to maximize shareholder value. Shareholder wealth creation normally be represented by the market value of the firms' shares. It is the shareholders' appraisal of the firms' efficiency in employing their capital. The capital contributed by shareholders is reflected by the book value of the firms' shares. Market Value added also known as shareholder value creation is the excess of market value over book value.

MVA has been used as the dependent variable whereas EVA, OL, FL, TL and Debt-Equity ratio have been used as independent variables. In order to avoid multi collinearity and auto correlation issues, explanatory variables have been tested. in four models rather than being tested in a single model. Based on the variables used in the study, the following regression models can be developed. With the help of multiple linear regression we can determine to what extent a part of the total variation of the dependent variable is influenced by the variation of the independent variables.

TABLE NO : 1

Variables	**Spice Jet**	**Indigo**	**Jet Airways**
Economic Value Added (EVA)	878.45	678.98	960.4
	Economic value added (EVA) is a measure of a company's financial performance based on the residual wealth calculated by deducting its cost of capital from its operating profit, adjusted for taxes on a cash basis.		
NOPAT	1567.34	1789.54	1506.21
Current Assets + NIBCL'S + TA + ITA + Other assets + Tangible assets + Intangible assets + other assets			
WACC	10.74%	19.52%	11.98%
	The weighted average cost of capital (WACC) is the rate that a company is expected to pay on average to all its security holders to finance its assets. The WACC is commonly referred to as the firm's cost of capital. Importantly, it is dictated by the external market and not by management.		
Operational Leverage (OL)	The degree of operating leverage (DOL) is a leverage ratio that summarizes the effect a particular amount of operating leverage has on a company's earnings before interest and taxes (EBIT) over a period of time. Operating leverage involves using a large proportion of fixed costs to variable costs in the operations of the company.		
Operating Leverage = Gross Income/EBIT	546.772	1962.008	1506.194
Market Value Added (MVA)			
	Market capitalization refers the total dollar market value of a company's outstanding shares. Commonly referred to as "market cap,"		

	it is calculated by multiplying a company's shares outstanding by the current market price of one share.		
Stock price (e)	137.90	1096.00	475.80
	A share price is the price of a single share of a number of saleable stocks of a company, derivative or other financial asset. In layman's terms, the stock price is the highest amount someone is willing to pay for the stock, or the lowest amount that it can be bought for.		
Capital Employed (f) = Total assets – Current liabilities	Capital employed, also known as funds employed, is the total amount of capital used for the acquisition of profits. It is the value of all the assets employed in a business and can be calculated by adding fixed assets to working capital or subtracting current liabilities from total assets.		
Total Assets	2657.24	4840.12	5019.97
Current Liabilities	2083.00	3289.53	7486.64
(e) – (f) = MVA	574.24	1550.59	2466.67

FINDINGS AND SUGGESTIONS

From the above table Invested Capital of the firm has been given importance as it is one of the important components for the calculation of EVA. Invested capital equals the sum of all cash that has been invested in a company over its life without regard to financing form or accounting name. It is the total of investments in the business from which operating revenue is derived. The investment of all the three firms are high, but with regard to Weighted Average Capital, Indigo is quite high when compared to the other two aviation firm. If the WACC is higher it implies that, the firm is associated with higher risk. The firm should give importance to the source of finance and make an optimal capital structure strategy. Multiple funding sources can be utilized. Importance to WACC will help the firm to determine a flexible capital structure strategy which will also help the investors to determine the risk and expected return. Thus in order to facilitate the investors WACC has to be given importance. First of all, the price of a company's shares is often used as an indication of the overall strength and health of a company. In general, if a company's share price has continued to climb over time, the company and its management are considered to be doing a good job. Thus the stock price of Jet Airways is increasing and this indicates that the firm is doing well. Businesses with higher operating leverage do not proportionately increase expenses as they increase sales, those companies may bring in more revenue than other companies. However, businesses with high operating leverage are also more affected by poor corporate decisions and other factors that may result in revenue decreases. The firm which has higher operating leverage has to take strong management decisions to make sure it deals effectively with all the expenses. A company’s MVA is an indication of its capacity to increase shareholder

value over time. A high MVA is evidence of effective management and strong operational capabilities. Jet Airways has a higher MVA value which means the firm has an effective management.

CONCLUSION

When regarding to a firm's capital structure, the Modigliani-Miller theorem opened a literature on the fundamental nature of debt versus equity. The capital structure of a firm is the result of the transactions with various suppliers of finance. In the perfect capital markets world of Modigliani and Miller, the costs of different forms of financing do not vary independently and therefore there is no extra gain from opportunistically choosing among them.

SCOPE FOR FURTHER RESEARCH

The current research is restricted only to the top three aviation firms with regard to Indian context. Furthermore, this research was mainly conducted based on the secondary data collection. The other data collection methods had not been considered. As a result they may not be 100% accurate. In addition to these data representing the period of 2011 to 2015 were used for the study. There is clearly enormous scope for more research that can inform an understanding of how the capital is structured, how it connects with the profitability and what elements of capital structure make the firms optimize a better debt-equity strategy.

Future researchers could explore various industries and connect capital structure influence on various other modern financial metrics like MVA & SVA.

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