

Financial Leverage and its Impact on Earning Per Share

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Abstract:

Leverage analysis is an important tool in the hands of business firms. Leverage is thus a benefit to the effective utilization of the funds with low cost of resources yielding a relatively high amount of returns. There are financial as well as operating leverages for a firm that can be considered for analyzing the financial position of the organization. This is a case study measuring the financial performance with its leverage. Data is retrieved from the financial statements of the concern for five years and accordingly the current status of financial leverage is analyzed and its impact on return on asset, return to equity and earning per share is concluded. During the period of study the financial leverage does not influence the profitability. It is noteworthy that the sign of financial leverage is positive meaning that more leveraged firms had more profits on average even though it was not statistically significant.

Keywords: *Leverage, Financial leverage, Operating leverage, Financial performance, Return on asset, Return on equity, Earnings per share.*

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I. Introduction

In this era an investment is essentially an asset that is created with the intention of allowing money to grow. Financial planning is deciding financial actions and activities that are to be followed in the future course of business. Every day every moment all the activities of an organization are connected with finance. The manufacturing sector should be very cautious in operating their finance. Financial manager is relating to the financing mix of an organization. It is concerned with the borrowing and allocation of funds required for the investment decision. There it is maintain an optimum capital structure that a proper mix of debt and equity to share the trade-off between the risk and return to the shareholders. The management of debt finance is the major area where the management should be doubly exact as it affects the financial position of the firm in the short run as well as in the long run.

Capital structure is the mix or proportion of a firm's permanent long term financing represented by debt, preferred stock and common stock equity. The financial decision set by management is very important in determining the optimal capital structure. Leverage is the act of borrowing of funds to purchase the assets of a company. Literally means the effect of a lever. When the lever pulls up the firm gets the advantage and when it comes down the firm is at an increased cost. However firms have a different level of leverage and managers try to achieve the best set to attain an optimal capital structure.

A sound or ideal capital structure should have the essential qualities as like-(i) Maximizes the worth or value of the concern. (ii) Shall be flexible and operated with minimum costs. (iii) Maximizes the benefits to the shareholders, by giving best earning per share and maximum market price of the share in the long run. (iv) Shall offer less risk with good or comfortable returns. (v) Shall be easy to operate and with minimum management interference. (vi) Shall be compatible with meeting the obligations of the firm such as interest charges and loan payments.

II. Literature Review

In respect to the literatures regarding to the empirical study many researchers have already engaged in the financial markets of different countries. In this section after summarizing the theoretical background and empirical studies are reviewed.

2.2 Theoretical Background

Leverage – The ability of a firm to use fixed cost assets or fund to magnify the returns is termed as leverage. The higher leverage obviously implies higher outside borrowings and hence it is riskier if the firms earning capacity is reduced. In other words, only when the Return on Investment is higher than the cost of outside

borrowing, the effect of leverage will be favorable. There are two types of leverage. (a) Operating Leverage. (b) Financial leverage.

Operating leverage: It is one of the techniques to measure the impact of changes in sales which lead for change in the profits of the company. If any changes in the sale it will lead to corresponding changes in profit. It helps to identify the position of fixed cost and variable cost. The DOL is defined as the percentage change in the EBIT relative to a given percentage change in sales. EBIT depends on sales. A change in sales will affect EBIT. The variability in EBIT due to a change in sales is affected by the composition of fixed and variable costs. $DOL = \frac{\text{Percentage change in EBIT}}{\text{Percentage change in sales}}$.

Financial leverage: Financial leverage measures firm's exposure to the financial risk. The use of the fixed-charge sources of funds, such as debt and preference capital along with the owners' equity in the capital structure, is described as financial leverage, gearing, or trading on equity. The financial leverage employed by a company is intended to earn more return on the fixed-charge funds than their costs. The surplus (or deficit) will increase (or decrease) the return on the owners' equity. The rate of return on the owners' equity is levered above or below the rate of return on total assets. The percentage change in EPS occurring due to a given percentage change in EBIT is referred to as the DFL. $DFL = \frac{\text{Percentage changes in EPS}}{\text{Percentage changes in EBIT}}$.

Combine leverage: Operating and financial leverages together cause wide fluctuation in EPS for a given change in sales. It can be done by multiplying the operating leverage and financial leverage. The operating leverage affects the EBIT and the financial leverage affects the EPS. The management has to devise a right combination of the operating and financial leverage. A company whose sales fluctuate widely and erratically should avoid use of high leverage since it will be exposed to a very high degree of risk.

Effect of high degree of leverage: High degree of leverage helps the firms to increase the revenues in the short run and also helps in increasing the share holders' wealth in the long run. However, it is more risky for a company to have a high ratio of financial leverage as the commitment towards the payment of interest and other debt charges may create a financial crunch for the organization. This in-turn also affects the credit rating of the firm in the market.

Effect of low degree of leverage: It is less risky for a company to have a low ratio of financial leverage. With a low leverage company can meet its debt obligations and there is an opportunity for it to find new lenders in the future, however, the operating income may also be less with low degree of leverage. Another advantage is that the firm may have good credit rating in the market and hence can find the financiers easily.

Financial performance with leverage: Financial performance simply can be defined as the performance of the organization in meeting its long term and short term financial objectives of the firm. The financial objectives are said to be met if the firm is able to comply with all financial needs of the short term and long term effectively without any friction or risk. It is the general well-being of the firm in terms of finances. The financial performance is measured through Return on Investment (ROI), Return of Equity (ROE) and Earnings per Share (EPS) etc.

2.2 Literature Review

Modigliani & Miller stated that a firm's value is independent of its capital structure decision, by assuming unrealistic assumptions of the real world; such as no corporate taxes, no transaction cost, and a perfect capital market (Modigliani & Miller, 1958). Later, in 1963, they reviewed their earlier position by incorporating tax benefit (tax-shield) as a determinant of capital structure. They proposed that firms should use the highest amount of debt capital to maximize their value (Modigliani & Miller, 1963).

Mandelkar, & Rhee, (1984) point out that the DOL and DFL combine to magnify a given percentage change in sales to a potentially much greater percentage in EBIT. Operating and financial leverages together cause wide fluctuation in EPS for a given change in sales. If a company employs a high level of operating and financial leverage, even a small change in the level of sales, will have dramatic effect on EPS.

According to the static trade-off theory, there is an optimal capital structure that derives from matching the benefits of tax by using debt against the costs associated with debt, such as bankruptcy or financial distress. This theory assumes a positive relationship between financial leverage and financial performance (Myers, 1984).

Yoon and Jang examine the effect of financial leverage on profitability and risk of restaurant firms. They find that financial leverage does not influence the restaurant firms' profitability. It is noteworthy that the sign of financial leverage is positive meaning that more leveraged firms had more profits on average even though it was not statistically significant.

Gleason et al. in their study of European countries, found a significant negative relationship between the financial leverage and Return on Assets and profit margin.

III. Objectives Of The Study

The objectives of the study are:

- To study the effect of degree of financial leverage on the Return on Investment.
- To study the impact of financial leverage on Return on Assets and Return on Equity and earnings.
- To estimate the effect of changes in earnings due to financial leverage of the company.

IV. Data Selection And Methodology

The study involved the collection of primary data through interaction with industry officials and secondary data collected and analyzed through the annual reports of the company for five consecutive financial years 2012-13, 13-14, 14-15, 15-16 and 16-17. The data collected is tabulated and used for finding various factors that have a bearing on the select parameters of the study. Also trends are plotted for debt to shareholder's funds, debt to total funds, debt equity ratio, Return on Investment, Return on Equity, degree of financial leverage etc.

V. Data Analysis

The data analysis is done through measurement of percentages and ratios applicable and plotting of trend lines wherever necessary.

Debt to Shareholder's Funds Ratio

This is calculated to understand the amount of debt and equity invested by the firm over the period of five years selected for the study and is calculated through the formula (Table 1):

$$\text{Debt to Shareholders funds ratio} = \text{Debt} / \text{Shareholders funds}^{[1]}$$

Debt to Total Funds Ratio

This is calculated to understand how much proportion of debt is involved in the total funds or investments of the organization over the five years period selected for the study (Table 2). It is calculated through the formula:

$$\text{Debt to total funds ratio} = \text{Debt} / \text{total funds}^{[2]}$$

Rate of Return on Investment

This is calculated to understand how much return is yielded on the funds employed through equity as well as debt (Table 3). Formula

$$\text{Rate of ROI} = (\text{Earnings after taxes} / \text{total funds}) * 100^{[3]}$$

Return on Equity (ROE)

Return on Equity indicates the return on the investment made by the shareholders. Contrary to the value of Earnings per Share which indicates the wealth maximization of the share-holders funds ROE indicates the returns through annual operations of the firm (Table 4). It is calculated through the formula

$$\text{ROE} = \text{Net profit} / \text{share capital}^{[4]}$$

Return on Assets (ROA)

The Return on Assets (ROA) is also a measure of assessing the financial performance of the firm (Table 5; Figure 5). It is calculated through the formula

$$\text{ROA} = \text{Operating Income} / \text{Total Assets}^{[5]}$$

Degree of Financial Leverage (DFL)

This is calculated to understand the effect of debt financing on the overall financial performance of the organization (Table 6). It is calculated through the formula

$$\text{DFL} = \text{EBIT} / \text{EBT}^{[6]}$$

Earnings Per Share (EPS)

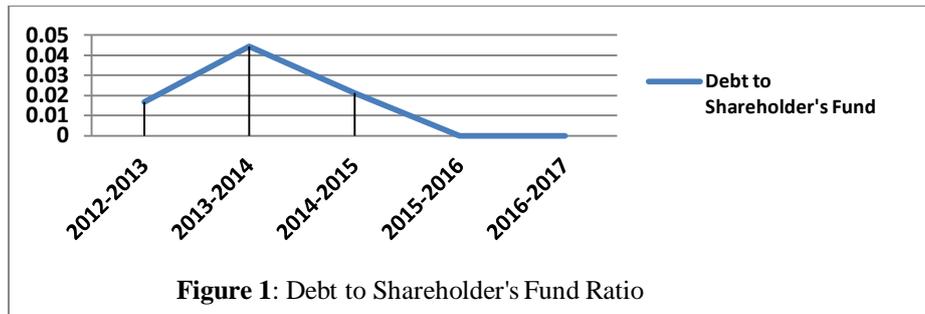
The share value of the firm indicates the increase in the share-holders funds for the firm. It also indicates the value of the increase in the investment put by the share-holders in the firm (Table 7). It is calculated through the formula

$$\text{EPS} = \text{Net profit} / \text{number of equity shares}^{[7]}$$

VI. Estimation And Result

Table 1: Calculation of Debt to Shareholder's Fund Ratio

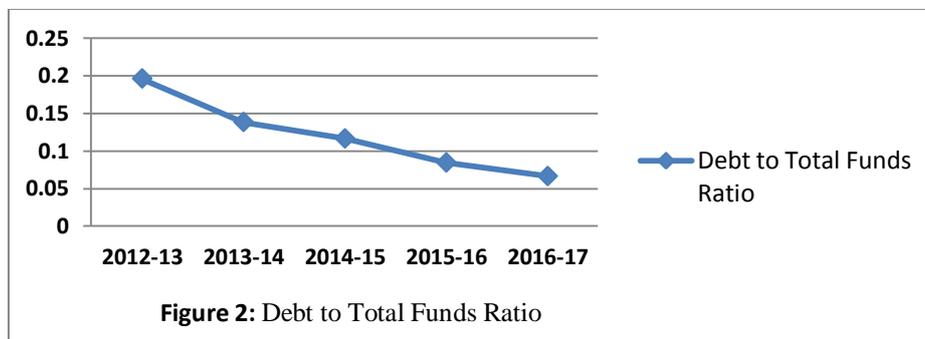
Years	Secured Loan	Shareholder's Fund	Debt to shareholder's fund ratio
2012-13	313421158	18844746184	0.0166
2013-14	1183627923	26739581929	0.0443
2014-15	659147818	31093302284	0.0212
2015-16	-	40557494698	-
2016-17	-	49027700210	-



The results are plotted through a trend line in the graph by taking years on the X axis and amounts on the Y axis. The Figure 1 shows that there is a decrease in the debt to share-holders funds over the years indicating that the firm has used more debt in 2013-14 and gradually decreased the portion of debt in the capital structure.

Table 2: Calculation of Debt to Total Funds Ratio

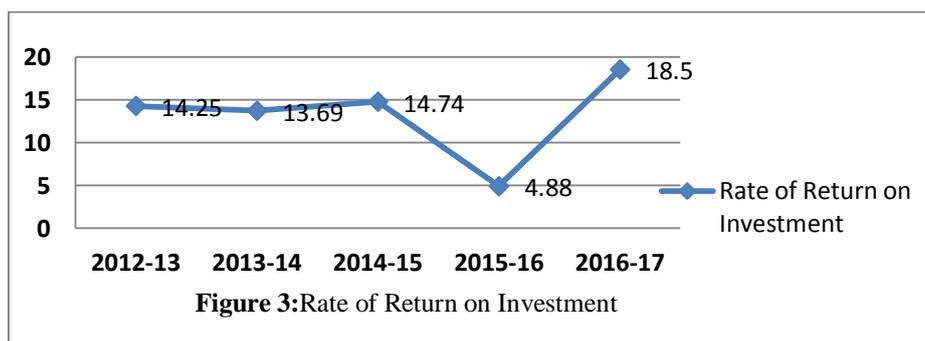
Years	Total Debt	Total Funds	Debt to Total FundsRatio
2012-2013	4602899322	23,447,645,506	0.1963
2013-2014	4297122799	31,046,074,531	0.1384
2014-2015	4099523843	35,191,156,263	0.1165
2015-2016	3745680916	44,303,769,450	0.0845
2016-2017	3490677898	52,531,052,249	0.0664



The trend line indicates that over the period of five years the debt to total funds decreased indicating that the firm is decreasing the proportion of debt in the total funds gradually (Figure 2).

Table 3: Calculation of Rate of Return on Investment

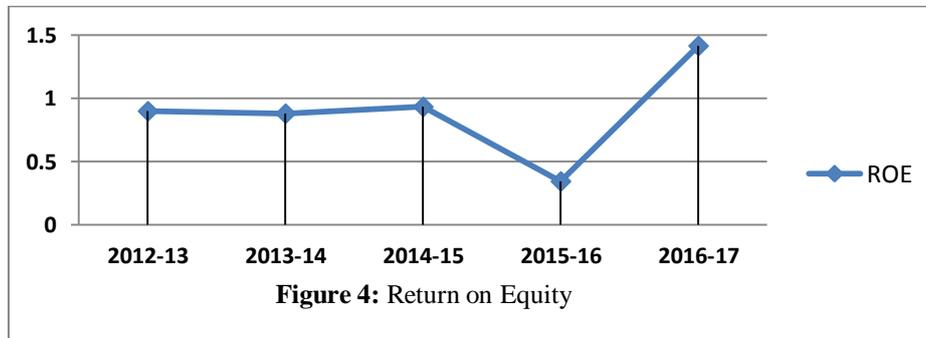
Year	EAT	Total Funds	Rate of Return on Investment
2012-2013	3,341,424,783	23,447,645,506	14.25
2013-2014	4,250,580,863	31,046,074,531	13.69
2014-2015	5,186,436,869	35,191,156,263	14.74
2015-2016	2,160,366,558	44,303,769,450	4.88
2016-2017	9,719,176,205	52,531,052,249	18.50



The rate of return is stable over the years by reducing the investment on debt funds and 2015-2016 indicating that the decreasing the proportion of income.

Table 4: Calculation of Return on Equity

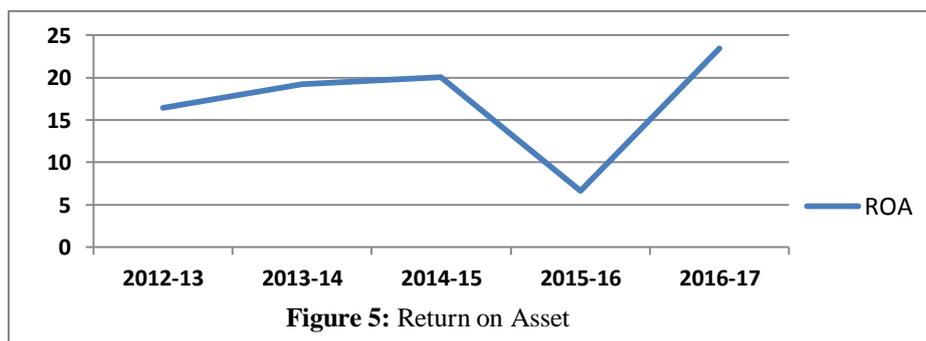
Year	Net Profit After Tax	Share Capital	ROE
2012-2013	3,341,424,783	3,707,686,640	0.9012
2013-2014	4,250,580,863	4,819,992,630	0.8819
2014-2015	5,186,436,869	5,542,991,520	0.9357
2015-2016	2,160,366,558	6,235,865,460	0.3464
2016-2017	9,719,176,205	6,859,452,000	1.4169



The trend line indicates that the return is stable over the three years but 2015-16 year is decreasing the proportion of income. The investment has not yielded good returns. The maximum return is noted in the year 2016-17.

Table 5: Calculation of Return on Asset

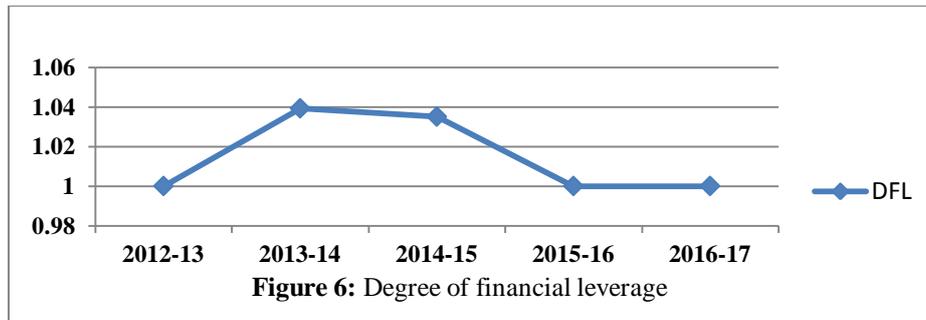
Year	Operating Profit	Total Asset	ROA
2012-2013	3,852,810,574	23,447,645,506	16.43
2013-2014	5,967,653,270	31,046,074,531	19.22
2014-2015	7,049,611,578	35,191,156,263	20.03
2015-2016	2,934,530,111	44,303,769,450	6.62
2016-2017	12,296,064,593	52,531,052,249	23.41



The trend line indicates that the return is stable over the three years but 2015-16 year is decreasing the proportion of income. The maximum return is noted in the year 2016-17.

Table 6: Calculation of Degree of Financial Leverage

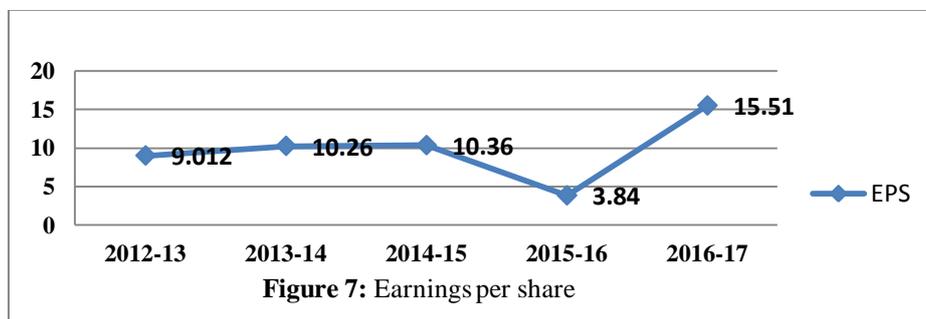
Year	EBIT	EBT	DFL=EBIT/EBT
2012-13	4,178,091,590	4,481,047,443	1
2013-14	6,144,784,666	5,912,348,302	1.0393
2014-15	7,208,225,885	6,963,547,022	1.0351
2015-16	2,934,616,293	2,982,555,065	1
2016-17	12296064593	12,743,062,576	1



In Figure 6, graph indicates that the degree of financial leverage is high during the year 2013-15 indicating that the wealth of shareholders is maximized with use of debt funds during the year.

Table 7: Calculation of Earnings per Share

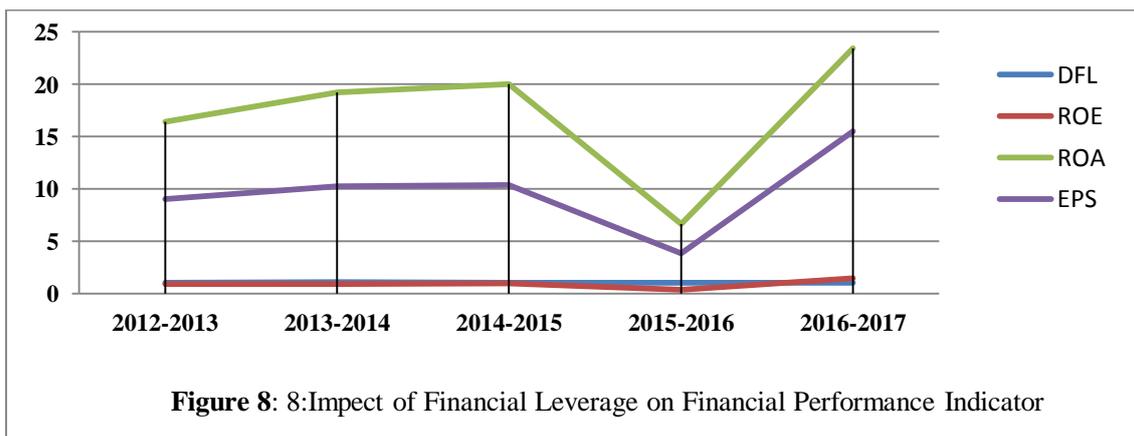
Year	Net Profit	No of Equity Share	EPS
2012-2013	3,341,424,783	370,768,664	9.012
2013-2014	4,946,205,162	481,999,263	10.26
2014-2015	5,743,623,832	554,299,152	10.36
2015-2016	2,394,583,329	623,586,546	3.84
2016-2017	10,637,215,898	685,945,200	15.51



The trend line indicates that the firms' EPS is maximized in the year 2016-17 indicating that the year has optimally utilized the debt funds to derive the maximum benefit (Figure 7).

Table 8: Impact of Financial Leverage on Financial Performance Indicators

Year	DFL	ROE	ROA	EPS
2012-2013	1	0.9012	16.43	9.012
2013-2014	1.0393	0.8819	19.22	10.26
2014-2015	1.0351	0.9357	20.03	10.36
2015-2016	1	0.3464	6.62	3.84
2016-2017	1	1.4169	23.41	15.51



Impact of financial leverage: The impact of financial leverage on various financial performance indicators like ROA, ROE and EPS are consolidated and presented the following table for the five years period selected for the study (Table 8).

The trend lines for all the parameters are indicated in Figure 8. As discussed earlier in various individual parameters, there is a steady upward trend in all the years, indicating the firm is optimally investing in equity and utilizing debt funds to maximize the shareholders wealth.

VII. Research Recommendations

- The amount of debt finance in the financial mix of the firm should be at the optimal level so as to ensure adequate utilization of the firms' assets.
- The management should monitor the interest charged on debt financing to avoid liquidation of the company.
- More often than not, it is rare for any firm to depend solely on equity finance, thus, management may seek other sources of funding which may not be in the interest of equity holders. Therefore, managers should employ financial leverage in a way that enhances value for their company owners' i.e. leading to an increase in returns to equity holders.

VIII. Conclusion

The deployment of funds in the firm is having a direct bearing on the financial performance of the organization. The financial performance is measured through Return on Assets (ROA), Return of Equity (ROE) and Earnings per Share (EPS). The effect of degree of financial leverage (DFL), of Square Pharmaceuticals Ltd in the past five years has shown the declining trend while the performance variables ROE, ROA, ROI and EPS showed an increasing trend. Thus it can be concluded that the low employment of debt resulted in the improvement of the financial performance of the company. It can be concluded that the amount saved through interest charges has resulted in the growth of earnings and thus reflected in increased earnings for the shareholders through growth in EPS. This study found a significant negative relationship between the financial leverage and Return on Assets and profit margin.

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