

# IMPACT OF CHANGE CAPITAL STRUCTURE PATTERN ON COST OF CAPITAL: A STUDY OF PHARMACEUTICAL INDUSTRY IN INDIA

**Dr Sudesh Kumar**

Principal and Professor, Swami Satyanand College of Management & Technology, Amritsar

## ABSTRACT

Since, last two decades of Indian economy, there is a continue research on company financing activities, particularly aimed at understanding how companies finance their investments and what source they used to finance. In practice, it is observed that finance managers use different combinations of debt and equity to meet the various financial requirements of the company at least cost and risk and for the long term benefit of the company. Capital structure refers to the proportion in which various long-term financial sources are employed. Over the years, the decisions related to select the appropriate sources of fund are the most important decisions that a firm has to take. This is because the capital structure or the choice of selecting the appropriate sources of fund can affects the cost of capital, net profit, earning per share, and dividend payout ratio as well as the liquidity position of the firm. So, therefore a capital structure is a very important determinant for the value of a firm. This paper attempts to measure the effect of change in capital structures on the cost of capital of various pharmaceutical companies. Similarly, this study analyse the significance of cost of capital for the period 2007-2011. To analyse the set objectives, the paper include the trend analysis of detail financial information of three most reputed pharmaceutical companies i;e Auribindo Pharma Ltd, Cardila Health Care Ltd.

**Key Note** – Financing Decision, Borrowing, Capitalisation, Financial Structure, Capital Structure, Strategic Plan

## INTRODUCTION

Financing decisions are one of the most critical areas and the challenging job for the finance managers, because, It has direct impact on the financial performance and capital structure of the companies. Decision concerning capital structure is important for a firm because of the effective design of capital, the financial risk borne by shareholders, and the return on equity and its effect on the value of firm. Similarly, the choice of appropriate source of fund for capital structure is one of the major policy decisions taken by a business enterprise. Generally, the term ‘capital structure’ represents the proportionate relationship between the different forms of financing. However, sometimes a distinction is drawn between financial structure and capital structure. The term ‘financial structure’ refers to the entire capital and liability side of the balance sheet. On the other hand, the term ‘capital structure’ refers to the composition of the long- term funds, which consist of equity capital, preference capital,

reserves and surplus, debentures, borrowings from banks, financial institutions etc. Capital structure decisions have great impact on the firm's financial performance. Exactly how firms choose the amount of debt and equity in their capital structures remains an enigma. Generally, it consists of debt and equity used to finance the firm. The effective financing decision determines the optimal mix of debt and equity, with respect to the relative numbers of shareholders and debt holders, and the distribution of investment proceeds between dividends, interest and capital gains. To be specific, "capital structure decision is not only based on the internal environment of the company but also on external environment of the firm including corporate governance, legal framework and institutional environment of the countries in which the firm operates". Capital structure is the combination of debt and equity that finance the organization's strategic plan. The effective strategic management of capital structure ensures the availability of required fund to finance the future growth and enhance the financial performance.

The debt equity relationship is depends upon the nature of industries involved like company's line of business and its development. A company is said to be highly leveraged, if it includes the maximum debt source of finance in its capital structure, which results, the company find its freedom of action restricted by its creditors and may have its profitability affected with the payment of high interest costs. Similarly, one of the basic issues relating to the capital structure decision is whether change in the financing mix affects the valuation of a firm and cost of capital. Therefore, the cost of capital is considered as an important determinant of capital structure. The cost of capital helps the management of an organization move towards its target capital structure, provided there exists relationship between the two. In making up its capital structure over a period of time, a firm will adopt that line of financing during a given time which involves minimum cost to the firm.

### **PHARMACEUTICAL INDUSTRY OF INDIA**

The first pharmaceutical company are Bengal Chemicals and Pharmaceutical Works established in 1903 at Calcutta, which still exists today as one of 5<sup>th</sup> government-owned drug manufacturers. The Indian pharmaceutical industry is the world's second-largest industry by volume and is likely to lead the manufacturing sector of India. For the next 60 years, most of the drugs in India were imported by multinationals either in fully formulated or bulk form. The government started to encourage the growth of drug manufacturing by domestic companies in the early 1960s, and the Patents Act in 1970 enabled the Indian industry to become what, it is today. Both the Indian central and state governments have recognized

research and development as an important driver in the growth of their pharma businesses and conferred tax deductions for expenses related to same. They have granted other concessions and other financial assistance like reduced interest rates for export financing and a cut in the number of drugs under price control. Due to the de-licensing policy, most of the drugs and pharmaceutical products got exemption. Manufacturers are free to produce any drug duly approved by the Drug Control Authority. Totally self-reliant and technologically strong, the pharmaceutical industry in India has low costs of production, innovative scientific manpower, low R&D costs, strength of national laboratories and an increasing balance of trade.

Similarly, India's pharmaceutical industry is now ranked as the third largest industry in the world in terms of volume. The Indian pharmaceutical industry meets around 70% of the domestic demand for bulk drugs, drug intermediates, and pharmaceutical formulations. There are about 250 large units and about 8000 Small Scale Units, which form the major empire of pharmaceutical industry in India (including 5 Central Public Sector Units). These units produce the large range of pharmaceutical formulations, like medicines ready for consumption by patients and about 350 bulk drugs, including chemicals having therapeutic value and used for production of pharmaceutical formulations. The domestic market was worth US\$ 12.26 billion.

In the wake of economic liberalization, many overseas players returned or contemplated returning to India. These include Ivox Corp (USA), Taro Pharmaceuticals (Israel) and Merck (USA). These are out either to set shop or looking for acquisitions in India. Hexal AG of Germany has established a liaison office in India. MILLIONCs like Rocha, Bayer, Aventis and Chiron are making India a regional hub for bulk drugs. The Export Import Bank of India (Exim Bank) had doubled its corpus for the pharmaceutical industry to Rs 2 billion as a result of increased activity in the industry, especially in the external sector.

### **REVIEW OF LITERATURE**

**Toy (1974)** reported that companies having higher operating risk showed higher the debt ratio. They found that there was positive relationship between debt ratios and growth related to growth typically measured as sales growth and return on investment was negatively related to debt ratio. **Bhatt (1980)** in his paper concludes that the leverage ratio is very much influenced by business risks measured in term of variability in earnings, profitability, debt service capacity, and dividend payout ratio. **I. M. Pandey (1984)** in his study found that

during 1973-81 about 80% of the assets of the companies sampled were financed by external debt and current liabilities. Large sized companies were more levered though a large number of small firms also courted more debt capital. Leverage did not exhibit a definite relationship with growth and profitability, although all the three variables moved in the same direction. He also found that a majority of the profitability and growth oriented companies were within the narrow bands of leverage. **Carelton and Siberman (1997)** concluded that, if lower the degree of financial leverage adopted then higher will be the variability in rate of return on invested capital. Hence, the ultimate determinant of leverage would be the variance, not the rate of return. **Bhaduri (2002)** study the capital structure choice in a sample of 363 Indian firms between 1989 and 1995 by employing the factor analytic approach. His results suggested that the financial mix of the firm is influenced by firm size, growth, and uniqueness. **Jackling and Johl (2009)** the ownership of family firms were frequently associated with pyramiding, family trusts and cross holding. These structures increased the divergence of control and cash flow rights presenting special agency problems associated with corporate governance.

### **RESEARCH METHODOLOGY**

Research is a process of systematically obtaining accurate answers to significant and pertinent questions by the use of scientific method of gathering and interpreting information. This study is based on the secondary data i.e financial information from the company's annual reports. The study defines the role of cost of capital in making the effective choice of various sources of funds. Therefore, to achieve the set objectives of the study the financial analysis technique is applied i.e Trend Analysis of the company's financial statements for the period of 2007-2011. The sample size of the study is consist of two most growing pharmaceutical companies that are Cadila Health Care Ltd, Aurobindo Pharma Ltd.

### **OBJECTIVE OF THE STUDY**

- To analyze the change in capital structure pattern of the companies for the period under study i.e 2007-2011.
- To determine the effect of change in capital structure of the companies over the period of time on its cost of capital.
- To study the intra company's capital structure analysis and recognize the importance of cost of capital for capital structure decisions.

**ANALYSIS OF THE STUDY**

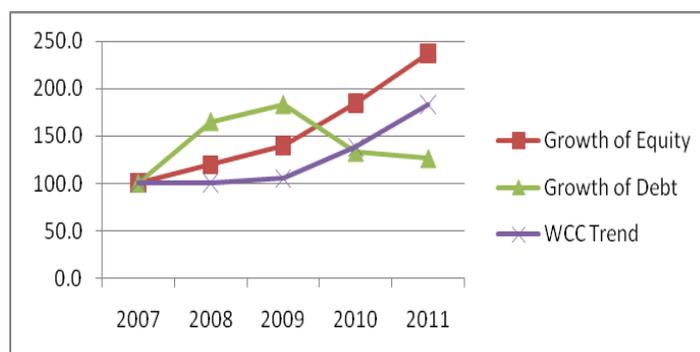
**Cardila Health Care**

Zydus Cadila is an innovative global pharmaceutical company that discovers, develops, manufactures and markets a broad range of healthcare products. The cadila produce a wide range of product including API to formulations, animal health products and cosmeceuticals. The company’s headquartered is situated in the city of Ahmedabad in India, the company has global operations in four continents spread across USA, Europe, Japan, Brazil, South Africa and 25 other emerging markets.

In its mission to create healthier communities globally, Zydus Cadila delivers wide ranging healthcare solutions and value to its customers. With over 12,000 employees worldwide, a world-class research and development centre dedicated to discovery research and eight state-of-the-art manufacturing plants, the company is totally dedicated to improving people’s lives. Similarly the company is also performing well on its operational part and having the strong profitable and financial position. The company has a sound capital structure pattern over the period time with the considerable efforts to reduce the cost of capital. Therefore, the trend analysis of the companies is as follow for the years 2007-2011 to analyse the importance of cost of capital for making the choice of appropriate source of funds.

Year	Equity	Trend in Equity	Debt	Trend in Debt	WCC	Trend in WCC
2007	8823	100.0	4477	100.0	54.8	100
2008	10538	119.4	7389	165.0	54.8	100
2009	12328	139.7	8198	183.1	57.5	105
2010	16221	183.8	5941	132.7	75.4	138
2011	20899	236.9	5640	126.0	100.4	183

**Table - 1**



As per the above analysis, it is clear that company is seems to be risk averse over the period of time, because the company is no longer relying on the debt source of finance and increasing the equity fund in its capital structure. Similarly, the trend analysis of capital structure of the company for the period 2007-2011 states that there is somehow consistent

growth in the use of equity fund, still it gained more than 200% at the end of the period. On the other hand the growth rate of debt finance is variable. As the trend analysis states that there is an increase use of debt fund in the capital structure but after 2009 trend goes down. Therefore till the end of the period of study, growth rate is observed with very small increase as compare to the previous years i.e 126%. It states the sound financial policy used by the company over the period of time, which reflects the positive approach of the company to reduce the fixed cost burden on the company's profitability, financial risk and ultimately aims to increase the value of the firm. This all happen due to the increasing use equity finance as compare to debt funds over the period of time.

As the analysis of the study states that there is a large fluctuation in the use of debt and equity finance over the period of the study, the cost of capital is also affected with that. The trend analysis present that the cost of capital is somehow constant in the initial years but there is a sudden increase in the trend of cost of capital after 2009. The reasons behind this fluctuation in the cost is observed that as more as the equity finance is increase as compare to the debt fund the cost of capital start increasing, similarly, in the early state of the period under study, the debt finance was more than the equity finance used by the company in its capital structure, therefore the cost of capital was less than the later period. The main logic for the change in cost is change in debt equity mix that the debt source of finance is cheaper source of finance as compare to the equity source. The debt are fixed cost bearing source of finance, where as the return on equity is varying according to the availability of profit. Similarly, due to the sudden increase in equity source of finance, the growth rate of cost of capital is observed at 183% at the end of the period under study. Similarly, the above analyze prove the assumption of Net Income Approach of Capital structure theory, which defines that the cost of capital can be reduced by increasing the use of debt source of finance with equity in the capital structure of the company.

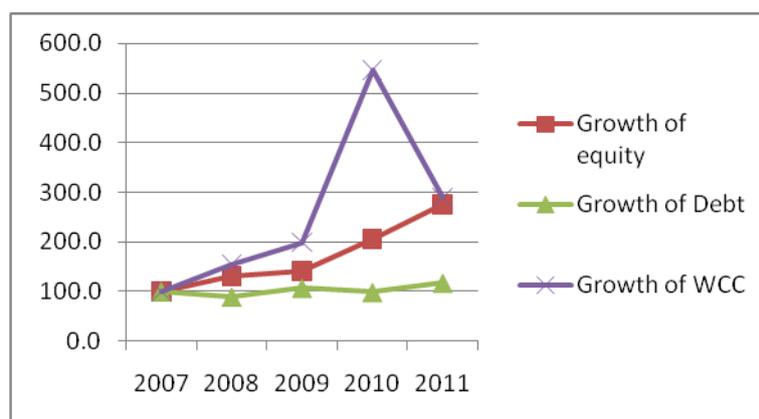
### **Aurobindo Pharma Ltd**

Aurobindo Pharma was born of a vision. Founded in 1986 by Mr. P.V.Ramaprasad Reddy, Mr. K.Nityananda Reddy and a small, highly committed group of professionals, the company became a public venture in 1992. Aurobindo Pharma had gone public in 1995 by listing its shares in various stock exchanges in the country. The company is a market leader in semi-synthetic penicillin drugs. Aurobindo has invested significant resources in building a mega infrastructure for APIs and formulations to emerge as a vertically integrated pharmaceutical company. Aurobindo's five units for APIs and four units for formulations are designed for the regulated markets.

Aurobindo is the second largest pharma company among its Indian peers in terms of portfolio. Aurobindo has been consistently investing in R&D (4% of the revenue) and currently marketing over 61 products in the US (16 in 2007), its US revenue has gone up from Rs2359 mn in 2008 to Rs9124 mn in 2010 (four time in 2 years). Despite being a late entrant in most of the products, Aurobindo has been able to garner respectable market share in many products because of its end to- end vertically integrated business model. 95% of its ANDAs are backed by its own DMFs and this has resulted in higher revenue accretion and margins improvement in the formulations segment. During 2007-10, ANDA filings have increased from 82 to 169. Aurobindo now has a total of 121 ANDA approvals (91 final approvals and 30 tentative approvals) from USFDA and is currently marketing 61 products in US. Its main products in the US include Valcyclovir, Amoxicillin, Cefpodoxime, Cefprozil, Carvedilol, Simvastatin, Metformin, Citalopram and Paroxetine. Similarly, the company is growing at a very fast pace with the optimal contribution of its stakeholder and investors. Therefore the trend analysis of the company’s capital structure with respect to the cost of capital is as under :

Year	Equity Fund	Trend in equity	Debt Fund	Trend in Debt	WCC	Trend in WCC
2007	9293.2	100.0	19763.4	100.0	18	100.0
2008	12206	131.3	17556	88.8	28	154.4
2009	13208.3	142.1	21148	107.0	37	199.3
2010	19143.6	206.0	19447.8	98.4	101	546.5
2011	25696.1	276.5	23177.2	117.3	53	289.7

**Table- 3**



The analysis of company’s capital structure states that the company is using the debt as well as equity sources of funds to finance its capital. The trend analysis states that the company is using maximum equity source of finance over the period of time, therefore the growth of increase in the equity capital is more than 250% in the last year of the study as compared to the

base year 2007. On the other hand the company has very less trust over raising the funds from debt sources, which present the fluctuating growth in use of debt source of funds by the company for the period under study. Similarly, the study states that the growth in using the debt source of finance is less than growth of equity finance by half time. The data analysed in the above table show the tremendous growth in use of equity source of finance since 2009, which become double than the given figure in 2011. But on the other hand there was a little variation in the debt financing pattern during the period from 2009-2011.

The cost analysis of the above study states that the cost of capital of the company somehow is growing at a consistent rate over the period of time. But, the overall trend analysis for the period under study conclude that the cost of capital is having the direct relationship with the equity source of finance and indirect relationship with debt source of finance, which mean, with the increase in equity source in the capital mix the cost of capital will increase and on the other hand with the increase in proportion of debt source of fund, the overall cost of capital decrease at the fast pase. Similarly it support the facts of Net Income Approach, whereas after 2010 the analysis prove the assumption of Traditional Theory of capital structure, which state that in spite of certain changes in the debt equity mix to reduce the cost of capital, after specific period the cost of capital become constant, it does not affected. This assumption is seen in the trend analysis after 2010, which reflects that increase in the proportion of debt and equity finance in capital the overall cost of capital still decreasing.

### **TO SUM UP**

The overall analysis of the study states that the capital structure of all the companies is consisting of equity funds and debt funds. As far as the equity capital is concern, Aureobindo Ltd and Cadila Ltd make the tremendous growth in the equity financing over the period of time under study. In both of these companies, the growth rate of equity financing in the end of the period under study is double than the growth rate of debt financing. In other words, it can also be said that the increasing trend of using the equity financing of both the companies is more than the debt financing during the whole period of the study.

Similarly, in case of debt financing pattern of the companies, there is great fluctuation over the period of time, but the trend in debt financing in overall is growing in all the companies for the period under study except the Cadila Health Ltd company, which decrease the use of debt financing in its capital structure in the later period under study. In case of

Aurbindo Ltd. there is an increasing trend in the debt financing over the period of time at the decreasing rate as compare to the equity financing.

As far as the objective of the study to measure the impact of change in capital structure pattern on the Cost of capital is concern, the analysis of the study defines that, mostly all the companies are using the Net Income approach, which means they are using the financing policy in the early stage of the study to use the debt financing maximum as compare to equity with the aim to reduce the cost of capital. But it has also been proved from the analysis that with the passage of time the companies have become a risk conscious, therefore Aurebindo and Cardila health care start increasing the equity financing over the period of time in the later stage of the study, to protect itself from any kind of financial risk in future. Similarly the trend analysis of the company evident the same, which states the sudden decrease in the debt finance at maximum rate.

In the later stage of the study, analysis states that the financing decisions of the companies start shifting its approach to Traditional theory of the capital structure because, mostly every company increased the use of equity financing as compare to debt financing. It states that the management of the companies has understood that the change in the capital structure does not have any major effect on the cost of capital, as the benefit of decrease in cost of capital by using maximum debt financing is offset by increase in financial risk, which can ultimately results in a decreases in the value of firm. Therefore to reduce the financing risk the company start using more equity financing, which results, increase in the cost of capital.

## **CONCLUSION**

An optimal capital structure is usually defined as one that will maximizing shareholder's wealth by minimize the firm's cost of capital. Capital structure decisions have great impact on the firm's financial performance. In the recent time, financial manager always plans an optimum capital structure for his company to obtain the higher market value per share. Thus, the financing decisions have no affect on firm value, as it is the residue of the more important investment decisions. Therefore, firms, managers, and investors, devote more time and resources to making the financing decisions about dividends and capital structure. Similarly, the analysis of the study conclude that the capital structure decision of the pharmaceutical companies has very little effect on cost of capital, because companies are becoming the risk averse with passage of time, therefore the company is using maximum equity financing in the recent period as compared to previous period. In the initial period, the maximum interest of

the companies were to raise maximum debt fund and to reduce the cost of capital but the result was, financial risk of the company also start rising. Similarly the analysis of the study evident the implications of Traditional approach of capital structure in the later stage in the company's financial planning. At last it can be said that the cost of capital is an important factor to determine the optimal capital structure to have the maximum firm value.

## **REFERENCES**

Annual Report (2007- 2011) Auribindo Pharmceutical Ltd..

Annual Report (2007- 2011) Cadila Health Care Ltd.

Bhaduri, S. M. (2002). Determinants of Capital Structure Choice: A Study of the Indian Corporate Sector. *Applied Financial Economics*, 12, 655-665.

Bhat, Ramesh, and I. M. Pandey, (1994) Dividend decision: A Study of Managers' Perceptions, *Decision* 21, 67–86.

Carelton. W.T. and Siberman.I.H.(1977) "Joint Determination of rate of return and capital structure; An econometric analysis"; *Journal of Finance*; Vol.32; pp.811-821.

Jackling, B., & Johl, S. (2009). Board structure and firm performance: Evidence from India's top companies. *Corporate Governance: An International Review*, 17(4): 492-509.

Kim,Han E, Mc Conell, Jonn J. And Greenwood, Paul R; " Capital Structure Re-arrangement and Me- first Rule in an effiecient Capital Market: The Journal of Finance Vol-XXXII, June 1977,pp 87-89.

Kishore, Brij; Corporate Capitalisation in India,,: Himalya Publication House, Bombay – 1981. Pp-26.

Mohanty; (2002) "A Review of Research on the practices of Corporate finance"; south Asian Journal of Management; vol.9; No.4; pp.29

Myers, S. C. (1984). The Capital Structure Puzzle, *The Journal of Finance*, Vol-(3), 575-592.

Rajan, R. G. and Zingales, Luigi (1995). What Do We Know about Capital Structure? Some Evidence from International Data, *Journal of Finance*, 50, 5, 1421-1460.

Rajesh Kumar B, (2004) "*Effect of ESOP on Performance, Productivity and Risk*". IIMB Management Review,

Ramesh Kumar, Surender Gupta and Suriender Nagia,(2010)"*Post-Productivity Performance of Indian ESOP Pharmaceutical Corporate Sector,*" *International Journal of Research in Commerce & Management*. Volume no.-I, No.-6, pp 6-12.

Suman (1991) Capital Structure Analysis. A Study of Corporate Sector of India : Phd Thesis. Pp 4-10

Toy.N., Stonehill A., Rammers.L. and Beekhuisen.T.(1974) “A Comparative International Study of Growth, Profitability and Risk as determinants of corporate debt ratio in the manufacturing sector”; Journal of Financial and Quantitative Analysis”; Vol.9; pp.875-886.

<http://www.cardilacare.com/index.php>

<http://www.aurobindopharma.com/index.php>

<http://www.Indianpharma.com/index.php>