



TREND OF CAPITAL STRUCTURE IN METAL AND PHARMASUTICALINDUSTRY – AN INDIAN CASE

KEYWORDS

Capital structure, Debt equity ratio, Trend of Financial pattern and Leverage

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ABSTRACT Proportion of debt capital and share capital constitute capital structure of any business organisation. This paper studied the existing pattern or composition of capital structure and debt equity ratio of Metal and Pharma industry which is based on eleven companies engaged in such industry. After comparative analysis followed by ratio analysis it is found and concluded that companies are using both debt and equity financing as a part of its capital structure. The average debt equity ratio in case of Pharma Industry is lower as compared to Metal Industry. The Pharm Industry should pay more attention to debt financing to maximise the value of the share price. Both the industries are advice to maintain a trade-off between debt and equity so as to achieve the objective of optimal capital structure.

INTRODUCTION AND OVERVIEW OF CAPITAL STRUCTURE

The finance manager of a company is concerned with solution of three major decisions relating to financing, investment of funds and finally the distribution of surplus. At the time of financial difficulties or adverse financial conditions the management of the concern company should be capable to take managerial as well as financial decisions so that they can be able to cope up with such situations. An ideal composition of capital structure which consists of debt and equity, will minimise the cost of capital and maximise the firm's value. Therefore, it is important for the firm's manager to understand the theory of capital structure. (Siti Rahmi Utami)(2012). The mixture of debt and equity is known as capital structure. The term capital may be defined as the aggregating of items appearing on the left hand side of the balance sheet minus current liabilities.

Capital = Total Assets – Current Liabilities

Equity = Equity Share capital + Preference share capital + Reserve and surplus

Debt = Aggregate of long term loans from Government, semi Government, Statutory financial corporation and other agencies, term loan from banks and financial institutions etc. and debentures.

CAPITAL STRUCTURE PATTERN

The pattern of capital structure is a significant decision taken by a finance manager of any company. This decision is a continuous process. Capital structure pattern consists:

- Capital structure with equity shares only.
- Capital structure with equity and debt
- Capital structure with equity shares and preference shares
- Capital structure with equity shares, preference shares and debentures
- The decision about the proportion of debt and equity and the extent to which internal as well as external funds can be used to finance the operations of the company has been taken by the finance manager of the company. Patterns of capital structure are peculiar to specific industry in India.

LITERATURE REVIEW

Chandra Sekhar Mishra, (2011),

concluded in his study on Determinants of Capital Structure – A Study of Manufacturing Sector PSUs in India that in confirmation with theory more specifically, pecking order hypothesis, the leverage is found to be negatively related to profitability, i.e. the PSUs use the internal accruals first for the needs of expansion. The tangibility measured by the ratio of net fixed assets to total assets is found to be positively related to leverage. In contrast with theory, the tax rate is negatively related to the leverage.

Dr. Anurag Pahuja and Arun Sahi (2012)

in their study confirmed that independent variables i.e. growth and liquidity indicates positive and significant relationship with debt equity ratio in consistency with pecking order theory of capital structure.

Dr. Khalid Ashraf Chisti and Dr. Khursheed ALI, (2013)

undertake a study and the findings of the study put forth the impact of capital structure on the profitability of a firm. This study is focused on automobile industry and ten companies are taken as sample. The reference period of the study is five years and is completely based on secondary data which has been collected through various sources. In order to achieve the objectives of the study, the researchers have employed the analysis of various ratios. The findings of the study have put forth that capital structure do have statistically significant impact on the profitability of firms.

Keshar J. Baral, (2004),

in his study analyse the determinants of capital structure of the companies listed to Nepal stock exchange ltd. and finds that the corporate size, growth rate, and profitability play a major role in determination of the financial leverage in financial institutions; and business risk, dividend payout ratio, debt service capacity, and degree of operating leverage do a dismal role.

Paul Kofi Oppong-Boakye et al.(2013),

confirmed in their study on the determinants of capital structure using dataset from 33 listed and non-listed companies during the period 2003 – 2007 in Ghana. that long-term debt to be irrelevant component of capital structure

of large unquoted and quoted firms in Ghana as there is a greater reliance on equity. Furthermore, profitability, size, business risk and tangible assets have positive correlation with level of gearing of companies in Ghana. On the other hand, growth, and tax indicate a negative correlation with the level of gearing.

Rajan,R.G.and Zingales,Luigi(1995) in

investigate the determinants of capital structure choice by analyzing the financing decisions of public firms in the major industrialized countries. At an aggregate level, firm leverage is fairly similar across the G-7 countries.

Raj S Dhankar and Ajit S Boora, (1996),

after study reached to the conclusion that No significant relationship was found between change in capital structure and the value of a firm.. This is because of the fact that the value of a firm is affected by a multiplicity of factors and capital structure is just one of them. Many of these factors like the reputation of promoters, management of the company, economic and political conditions, role of bulls and bears, government policies, etc., are not measurable as they are qualitative in nature. Because of this problem, their effect cannot be segregated, and hence, an exact relationship between change in capital structure and value of a firm could not be established. In general, change in capital structure and cost of capital were found to be negatively related, but the results were not statistically significant. These results suggest that though cost of capital decreases when leverage increases, this decrease is very moderate and not proportional to debt level. The relationship between change in capital structure and dividend policy was not found definite and statistically significant. Further, it was also found that Indian companies do not employ a specific model for computing the cost of capital and have no scientific model for determining their target capital structure.

Riyazahmed K (2012),

In his study an attempt has been made to examine the determinants of capital structure i.e. size, business risk, profitability, dividend payout, debt service capacity ratio and degree of operating leverage of the companies listed in Automotive index of the National Stock Exchange. Multi regression model has been used to evaluate the impact of explanatory variables on capital structure and concluded that dividend payout, debt service capacity, degree of operating leverage and business risk are statistically significant determinants of financial leverage. The other variable like size and profitability are statistically insignificant determinants of financial leverage.

Sayeed (2011),

to find out determinants of capital structure of Bangladeshi listed companies two prominent theory static trade off theory and pecking order theory of capital structure used. Total debt to market value and long term debt to market value of the company was used as the leverage ratio. The result show that agency costs are negatively affecting the total debt ratios, Tax rate is having positive impact only for long term debt and non-debt tax shields such as depreciation are negatively impact on total debt ratio. Bankruptcy costs and profitability are irrelevant in determining leverage ratios, while size of the firm has positive impact in determining both total and long term debt ratios. Collateral value of assets positively influenced only total debt ratio and number of years in operation does not have very significant impact on the capital structure determination.

Sorana Vatavu (2012),

in his research paper "Determinants of capital structure: Evidence from Romanian manufacturing companies" concluded that although size was the only variable found significant for debt in manufacturing companies listed in Romania, tangible and business risk were also found important for short term debt. Considering the capital structure theories, the positive relationship between size and debt the relationship between debt and risk, taking into account that manufacturing industry has low systematic risk.

Sukhdev Singh and Rajni Luthra (2013)

concluded that the corporate finance pattern is of vital important financial decision for financial wellbeing of companies .The choice of appropriate source of fund for capital structure is one of the major policy decisions taken by a firm .The combination of debt & equity is known as capital structure of the firm. In this paper an attempt has been made to study the emerging trends/practices in financing pattern of capital structure pattern of metal and refinery industry in India to understand the importance of financing pattern in capital structure decisions. To achieve the objective of analyzing the trend in financing pattern of selected industries, the trend analysis of debt-equity mix as well as debt- equity ratio of 13 refinery companies and 11 metal companies has been chosen as sample size from top 100 manufacturing companies for 10 years The data of these companies have been collected from financial statements of the companies published in their annual reports as well as from capita line database. It has been observed from the study that metal industry is more using debt financing in its capital structure pattern as compared to refinery industry.

Tarek I. Eidomiaty (2007),

in his paper "Determinants of corporate capital structure: evidence from an emerging economy" investigated that the companies use both long term and short term debt to adjust the leverage with a relative dependence on long term debt, the trade-off related determinants of capital structure are taxes, debt/equity ratio and bankruptcy risk, the pecking order related determinants of capital structure are growth and profitability.

OBJECTIVES

The objectives of this study is to analyse the pattern or trend of capital structure, proportion of debt and equity and the importance of capital structure pattern.

SCOPE

For this study major companies of Indian,Metal and Pharmaceutical Industry has been chosen as sample size.

RESERCH METHODOLOGY

Secondary data has been based used for this study. The requisite data has been taken from published Annual Report of the eleven companies belonging to Indian Metal and eleven companies belonging to Indian Pharmaceutical Industry. This study covers a period of ten years from financial Year 2003-2004 to financial year 2012-2013. To fulfilment of the objectives of this study, trend analysis of capital structure mix and debt equity ratio for eleven years has been considered for study.

DATA ANALYSIS AND INTERPRETATION

(A) TREND OF FINANCIAL PATTERN IN METAL INDUSTRY

To analysis the trend of financial pattern exist in Metal

Industry the composition of capital structure of eleven companies i.e.Hindalco Industries Ltd. (HIL), National Aluminium Company (Nalco), Tata Steel Ltd.(TISCO), Jsw Steel Ltd. (JSW), Uttam Galva Steels Ltd. (UGS), Jai Corp Ltd. (JCL), Steel Authority of India (SAIL), Technocraft Industries (India) Ltd. (TIL), Hindustan Zinc Limited Ltd.(HZL), Jindal

Steel and Power Ltd.(JSPL) and APL Apollo Tubes Ltd(ATL) has been analysed from FY 2004 to FY 2013. The table given below shows the trend in debt and equity calculated from the composition of capital structure of these companies

Table 1-Trends in financial pattern of Metal Industry (In Percentage)

Financial Year	2004		2005		2006		2007		2008		2009		2010		2011		2012		2013	
	Trend in Debt	Trend in Equity	Trend in Debt	Trend in Equity	Trend in Debt	Trend in Equity	Trend in Debt	Trend in Equity	Trend in Debt	Trend in Equity	Trend in Debt	Trend in Equity	Trend in Debt	Trend in Equity	Trend in Debt	Trend in Equity	Trend in Debt	Trend in Equity	Trend in Debt	Trend in Equity
HIL	100	100	148	112	191	140	287	181	325	252	325	346	248	407	284	433	604	459	978	487
NALCO	100	100	-	125	-	157	-	205	-	236	-	260	1	277	2	297	-	312	-	318
TISCO	100	100	81	156	75	216	286	312	534	483	799	547	748	818	839	1,036	776	1,165	815	1,223
JSW	100	100	75	235	86	334	87	436	158	606	235	629	242	773	250	1,345	333	1,493	374	1,611
UGS	100	100	126	371	214	487	246	785	262	1,019	353	1,183	511	1,290	533	1,360	504	1,472	510	1,791
JCL	100	100	536	103	600	106	1,720	134	1,944	1,015	1,017	1,025	788	1,049	539	1,084	250	877	256	821
SAIL	100	100	66	205	49	250	48	344	35	458	87	555	190	661	232	736	185	790	247	814
TIL	100	100	100	111	85	98	198	156	331	167	269	168	363	180	435	192	232	200	247	225
HZL	100	100	94	138	92	228	0	506	0	786	1	953	10	1,203	0	1,495	0	1,784	0	2,142
JSPL	100	100	146	154	268	216	342	292	377	439	484	630	817	786	1,181	1,016	1,532	1,268	1,995	1,444
ATL	100	100	196	202	256	240	430	415	642	1,796	1,302	4,912	1,016	5,246	1,639	5,798	1,826	6,904	2,828	7,935
Total	1,100	1,100	1,569	1,913	1,915	2,472	3,645	3,765	4,608	7,258	4,872	11,210	4,934	12,689	5,933	14,793	6,242	16,725	8,251	8,811
Average	100	100	143	174	174	225	331	342	419	660	443	1,019	449	1,154	539	1,345	567	1,520	750	1,710

The above Table-1 indicates the financial pattern i.e proportion between debt and equity of the Metal industry in India.

There is a fluctuating trend of debt in case of Hindalco, Nalco, Uttam galva, Jai Corp, SAIL, Technocraft, The debt trend is rising in case of JSW steel, Jindal Steel and Power and APL Apollo Tubes Ltd and in case of SAIL it is decreasing. In case of equity trend in financial pattern it is clear from above table that except Jai Corp Ltd and Technocraft Industries (India) Ltd. where it is fluctuating, such trend is increasing during the year under study.(B)

TREND OF FINANCIAL PATTERN IN PHARMA INDUSTRY

To study the trend exist in financial pattern of Pharmaceutical Industry i.e. composition of capital structure of eleven companies i.e Cipla Ltd. (Cipla), [Dr.Reddy's Laboratories Ltd](#) (DRL), Lupin Ltd. (Lupin), [Ranbaxy Laboratories Limited](#) (Ranbaxy), [Sun Pharmaceutical Industries Ltd](#) (Sun Pharma), Aurobindo Pharma Limited (APL), Biocon Ltd., Cadila Healthcare Ltd (Cadila), Glenmark Pharmaceuticals Ltd (GPL), Ipca Laboratories Ltd.(ILL) and Wockhardt Ltd.

The table given below shows the trend in debt and equity calculated from the composition of capital structure of these companies

Table 2-Trends in financial pattern of Pharma Industry (In Percentage)

Company	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cipla	100	100	110	115	120	125	130	135	140	145
DRL	100	100	110	115	120	125	130	135	140	145
Lupin	100	100	110	115	120	125	130	135	140	145
Ranbaxy	100	100	110	115	120	125	130	135	140	145
Sun Pharma	100	100	110	115	120	125	130	135	140	145
APL	100	100	110	115	120	125	130	135	140	145
Biocon	100	100	110	115	120	125	130	135	140	145
Cadila	100	100	110	115	120	125	130	135	140	145
GPL	100	100	110	115	120	125	130	135	140	145
ILL	100	100	110	115	120	125	130	135	140	145
Wockhardt	100	100	110	115	120	125	130	135	140	145
Total	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Average	100	100	110	115	120	125	130	135	140	145

The above Table-2 indicates the financial pattern i.e proportion between debt and equity, of the Pharma industry in India. There is a fluctuating trend of debt in case of all

companies under study. In case of equity trend in financial pattern it is clear from above table that except Ranbaxy and Wockhardt Ltd where it is fluctuating, such trend is increasing during the year under study.

(C) DEBT EQUITY RATIO OF METAL INDUSTRY

Table: 3 - Debt Equity Ratio of Metal industry

Financial Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
HIL	0.37	0.50	0.51	0.59	0.48	0.35	0.23	0.24	0.49	0.75
NALCO	0.17	-	-	-	-	-	0.00	0.00	-	-
TISCO	0.75	0.39	0.26	0.68	0.83	1.09	0.68	0.61	0.50	0.50
JSWS	3.92	1.24	1.00	0.79	1.02	1.47	1.23	0.73	0.87	0.91
UGSL	5.75	1.95	2.53	1.80	1.48	1.71	2.28	2.25	1.97	1.64
JCL	0.02	0.09	0.09	0.21	0.03	0.02	0.01	0.01	0.00	0.01
SAIL	1.72	0.56	0.34	0.24	0.13	0.27	0.50	0.54	0.40	0.52
TIIL	0.17	0.15	0.15	0.22	0.34	0.27	0.34	0.38	0.20	0.19
HZL	0.40	0.27	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JSPL	1.20	1.13	1.49	1.40	1.03	0.92	1.25	1.39	1.45	1.66
ATL	2.82	2.74	3.01	2.92	1.01	0.75	0.55	0.80	0.75	1.00
Total	17.30	9.03	9.55	8.86	6.34	6.85	7.06	6.96	6.63	7.17
Average	1.57	0.82	0.87	0.81	0.58	0.62	0.64	0.63	0.60	0.65

The Table 3 shows that in FY 2004, the debt equity ratio is highest in Uttam Galva Steels Ltd. and lowest in Jai Corp Ltd. From FY 2005 to 2007, it is highest in APL Apollo Tubes Ltd and lowest in Nalco. From FY 2008 to 2012, it is highest in Uttam Galva Steels Ltd. and lowest in Nalco. In FY 2013 it is highest in Jindal Steel and Power and lowest in Nalco.

(D) DEBT EQUITY RATIO OF PHARMA INDUSTRY

Table: 4 - Debt Equity Ratio of Pharma industry

Financial Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cipla	0.17	0.13	0.24	0.04	0.15	0.22	0.00	0.07	0.00	0.11
DRL	0.03	0.13	0.41	0.08	0.10	0.12	0.10	0.24	0.23	0.20
Lupin	0.84	0.88	1.42	0.97	0.73	0.69	0.36	0.31	0.27	0.11
Ranbaxy	0.01	0.05	0.43	1.35	1.38	1.05	0.85	0.83	2.02	2.48
Sun Pharma	0.37	1.64	1.19	0.44	0.02	0.00	0.01	0.01	0.01	0.01

APL	0.78	1.01	1.33	2.13	1.44	1.60	1.02	0.90	0.98	0.94
Biocon Ltd.	0.12	0.11	0.13	0.11	0.11	0.12	0.12	0.09	0.07	0.05
Cadila	0.75	0.60	0.59	0.51	0.70	0.67	0.37	0.27	0.43	0.57
GPL	0.51	1.64	2.44	2.02	0.51	0.86	0.43	0.58	0.22	0.12
ILL	0.56	0.65	0.51	0.49	0.58	0.71	0.52	0.50	0.42	0.33
Wockhardt Ltd	0.64	1.32	1.01	0.74	0.79	2.69	-17.09	-25.73	8.02	0.21
Total	4.78	8.16	9.69	8.87	6.51	8.72	-13.33	-21.93	12.65	5.14
Average	0.43	0.74	0.88	0.81	0.59	0.79	-1.21	-1.99	1.15	0.47

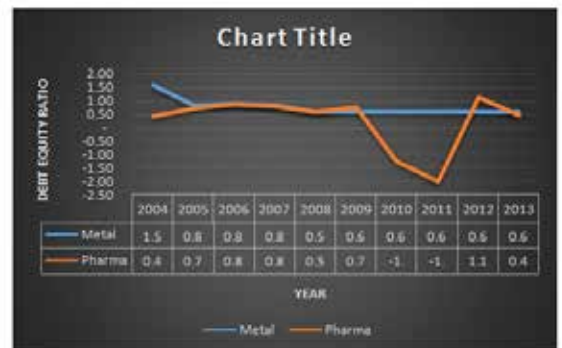
The Table 4 shows that in FY 2004, the debt equity ratio is highest in Lupin and lowest in Ranbaxy. In FY 2005, it is highest in Sun Pharma and lowest in Ranbaxy. In FY 2006, it is highest in Glenmark Pharmaceuticals Ltd and lowest in Biocon Ltd.. In FY 2008 it is highest in Aurobindo Pharma and lowest in Sun Pharma. In FY 2009 it is highest in Wockhaedt Ltd and lowest in Sun Pharmaa. In FY 2010& 2011 it is highest in Aurobindo Pharma and lowest in Wockhardt Ltd. In FY 2012 it is highest in Wockhardt Ltd and lowest in Cipla. In FY 2013 it is highest in Ranbaxy and lowest in Sun Pharma.

(E) DEBT EQUITY RATIO FOR METAL AND PHARMA INDUSTRIES (ANNUAL AVERAGES)

Table: 5- Debt Equity Ratio for Metal and Pharma Industries (Annual Averages)

Financial Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Metal	1.57	0.82	0.87	0.81	0.58	0.62	0.64	0.63	0.60	0.65
Pharma	0.43	0.74	0.88	0.81	0.59	0.79	-1.21	-1.99	1.15	0.47

The above table and chart shows that the Annual average of debt equity ratio for different companies is lower in the FY 2011 in case of Pharma Industry and higher in the FY 2012. In the case of Metal Industry it is higher in FY 2004 and lower in the FY 2008.



(F) Financial pattern trend in Metal and Pharma Industries (Annual Average)

Table:6 - TREND IN FINANCING PATTERN FOR DIFFER-

ENT INDUSTRIES (ANNUAL AVERAGES)

Pharma	Metal	Trend in Debt	Trend in Equity	Financial Year
100	100	Trend in Debt	Trend in Equity	2004
100	100	Trend in Debt	Trend in Equity	2005
254	143	Trend in Debt	Trend in Equity	2006
118	174	Trend in Debt	Trend in Equity	2007
647	174	Trend in Debt	Trend in Equity	2008
139	225	Trend in Debt	Trend in Equity	2009
1,114	331	Trend in Debt	Trend in Equity	2010
190	342	Trend in Debt	Trend in Equity	2011
1,203	419	Trend in Debt	Trend in Equity	2012
266	660	Trend in Debt	Trend in Equity	2013
1,391	443	Trend in Debt	Trend in Equity	2014
295	1,019	Trend in Debt	Trend in Equity	2015
1,215	449	Trend in Debt	Trend in Equity	2016
371	1,154	Trend in Debt	Trend in Equity	2017
1,650	539	Trend in Debt	Trend in Equity	2018
441	1,345	Trend in Debt	Trend in Equity	2019
1,475	567	Trend in Debt	Trend in Equity	2020
492	1,520	Trend in Debt	Trend in Equity	2021
1,724	750	Trend in Debt	Trend in Equity	2022
578	1,710	Trend in Debt	Trend in Equity	2023



The above chart and table shows that there is a continuous rise in the Annual averages of financing pattern of two different industries whereas Metal and Pharma industry shows lowest average in the year 2003-04 and highest in the year 2012-13.

FINDINGS

The annual average of financial pattern trends in case of Metal and Pharmaceutical Industries implies that these industries have access to market for both equity and debt financing. To reduce the cost of capital initially companies were raising maximum debt initially subsequently which is resulted increase in financial risk so they also opt equity for financing hence they are maintaining a trade-off between debt and equity.

The average debt equity ratio is better in case of Metal In-

dustry as compared to Pharmaceutical Industry. It is clear that Metal Industry is using more debt financing to finance its operations. The more use of debt financing in this industry is increasing the value of the firm and minimising the cost of capital resulting in overall wealth maximisation of shareholders.

CONCLUSION

An optimal capital structure is that which maximises the shareholders wealth with best combination of debt and equity mix and minimising the company's cost of capital. This analysis concludes that companies are using both debt and equity financing as a part of its capital structure. The average debt equity ratio in case of Pharma Industry is lower as compared to Metal Industry. The Pharm Industry should pay more attention to debt financing to maximise the value of the share price. Both the industries are advice to maintain a trade-off between debt and equity so as to achieve the objective of optimal capital structure.

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