CHAPTER II

REVIEW OF LITERATURE

A detailed review of literature has been made to find out the research gap and to identify the issues related to this study. This Chapter provides the reviews on International and National level sources with respect to various aspects pertaining to financial aspects of pharmaceutical companies.

**Business Knowledge Resource**¹: Drugs and pharmaceutical industry plays a vital role in the economic development of a nation. It is one of the largest and most advanced sectors in the world, acting as a source for various drugs, medicines and their intermediates as well as other pharmaceutical formulations. Being the intense knowledge-driven industry, it offers innumerable business opportunities for the investors/corporate the world over. The existence of well-defined and strong pharmaceutical industry is important for promoting and sustaining research and developmental (R&D) efforts and initiatives in an economy as well as making available the quality medicines to all at affordable prices. That is, it is essential to improve the health status of the individuals as well as the society as a whole, so that positive contributions could be made to the economic growth and regional development of a country¹.

**Prowess Database**²: The analysis of the data reveals that the pharmaceutical industry is one of the most profitable industries in India. The average profit earning (profit as a percentage of sales) of the pharmaceutical industry stands at around 8.8% in the year 1995 as against the 5.8% of the chemical industry, 4.8% of the food and the beverage industry, 5.5% of the machinery industry and 5.8 % of the transport and equipment industry². 

**Santeree and Stephen**³: There has been a rise in the profitability of firms from 8.8% to about 15.4 % in a short span of only 10 years from 1995 to 2005. In the pharmaceutical industry the extent of concentration is low. However, the co-existence of low levels of

¹ Business Knowledge Resource. Drugs and Pharmaceuticals. Government of India
http://business.gov.in/Industry_services/drugs.php
² Computed from the prowess database using the aggregated data of the industries
concentration and ever-increasing rise in profit earning stands against the conventional economic wisdom and a feature which is peculiar to this industry\textsuperscript{3}

**Rory Horner (2013)**\textsuperscript{4} reported that the Indian pharmaceutical industry, where a selective and short-term strategic decoupling and subsequent recoupling has played a crucial role in the development of what is now the largest such industry in the Global South, this article explores how decoupling from GPNs may lead to positive development outcomes. The experience of India and the pharmaceutical industry shows that a sequence of decoupling and recoupling can be an alternative to strategic coupling as a route to economic development.

**D’Este; 2001**\textsuperscript{5}. Indian pharmaceutical industry has developed enough capabilities to make the country self sufficient in health care needs and its export ability makes it a strategic trade sector in the Indian economy. The Indian pharmaceutical industry exports generic drugs to CIS (Commonwealth of Independent States) countries, Africa, and recently to the highly regulated US and European markets. The Indian pharmaceutical industry is characterized by a low degree of concentration; a large number of firms with similar market shares, a low level of R&D intensity ratios with a high level of brand proliferation. The need and incentive for innovation was undermined by low purchasing capability of the domestic market along with the ease of imitation and horizontal product differentiation; features that are representative of an industry behind the technological frontier.

**Grace 2004**\textsuperscript{6}: Indian pharmaceutical companies are also leveraging themselves to tap the potential emerging market of contract research. It is estimated that the overall cost of clinical trials in India is 46% lower than that in developed countries. Hence, foreign innovative firms are also outsourcing their clinical trial activities in India an opportunity which many Indian firms are availing.

\textsuperscript{3} Santeree and Stephen. 2004. The co-existence of high profit and low concentration for the pharmaceutical industry is also observed in other parts of the globe. P 467.


\textsuperscript{6} Cheri Grace (2004). Leveraging the private sector for public health objectives
Sarda Rohit R.*, Ladkat Nilesh B\(^7\): studies reveals that the healthcare facilities in India are still below standard as compared to most developed nations. Indian government is stringent on price control of Pharmaceuticals and this becomes a major hurdle for global players to enter in India but Indian patent Act and new drug policy has bought a new dimension to Indian Pharmaceutical Industry. Some of the Indo -global industries like Cipla, Ranbaxy and Dr. Reddy’s are showing rapid and consistent growth with their impact worldwide. India is also turning out to be a prime destination for clinical trials. Industry today is governed by wide range of regulations and different regulatory bodies.\(^7\)

Ajit Mahadevan\(^8\): India has witnessed rapid epidemiological transition as a consequence of economic and social change. With growing urbanization, the disease profile of the Indian population has become increasingly skewed toward lifestyle-related ailments such as obesity, heart disease, stroke, cancer, diabetes and respiratory diseases. The number of people suffering from chronic diseases such as cancer, diabetes, neuropsychiatric conditions and cardiovascular disease is set to double in India by 2020. Thus, change in patient demographics will fuel demand for quality and affordable products in the domestic market.\(^8\)

Ajit Mahadevan\(^9\): in his article says the Indian population is experiencing a shift in disease profiles. Traditionally, the acute disease segment held a significant share of the Indian pharmaceutical market. This segment will continue to grow at a steady rate, due to issues relating to public hygiene and sanitation. But, with increase in affluence, rise in life expectancy and the onset of lifestyle related conditions, the disease profile is gradually shifting towards a growth in the chronic diseases segment. India has the largest pool of diabetic patients in the world, with more than 41 million people suffering from the disease; this is projected to reach 73.5 million in 2025.

![Fig.1. Shift in Disease Profile](image-url)
The Department of Pharmaceuticals has prepared “Pharma Vision 2020,” aimed at making India one of the leading destinations for end-to-end drug discovery and innovation. It envisages meeting this objective by building top-notch infrastructure for talent and research, encouraging public-private partnership (PPP) models, offering financial incentives to encourage and incubate innovation and shaping a favorable regulatory environment. The GoI also aims to position India among the top five pharma innovation hubs by 2020, with one out of every five to 10 drug discovered worldwide by 2020 originating from the country.

**Mainak Mazumdar and Meenakshi Rajeev.** The Indian pharmaceutical industry has undergone a major change mainly from 2005 when the Patent Act of the government of India got revised. Patents are critical aspects in the development and marketing of pharmaceutical products. A patent can be obtained for a new drug molecule, a new application for an existing molecule, or for a new drug delivery system of an existing product. Analysis of patenting showed that the patents in drugs and pharmaceutical industry have grown at a higher rate of 6.06 (2005 - 2008) percent per annum as against the 5.57 (1994 - 2008) percent growth of total patents granted.

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Visalakshi and Sandhya (1997) attempted to assess the R&D capabilities in the pharmaceutical companies in India in the context of biotechnology commercialization. The study was conducted on the R&D capabilities of 33 companies. The companies represent 3 categories of the Indian industry like: (a) purely medicinal chemistry based pharmaceuticals; (b) diversified (both medicinal chemistry and biotechnology); (c) dedicated biotechnology companies. Discriminate analysis was performed to understand (i) the distinctiveness of the three groups of companies; and (ii) the characteristics of their R&D capabilities. With respect to eight of the ten chosen parameters like R&D intensity, skill intensity, linkages, output of R&D, size, age, R&D manpower as a proportion of total manpower and number of skilled R&D employees, the three groups are observed to be distinct from each other. The study concluded that there was no linkage between the R&D capabilities and the biotechnology commercialization.

Shahbaaz Husain. Multinationals are, in addition to the public sector, a part of India’s pharmaceutical foundation. Foreign companies entered the Indian market merely as trading companies with small investments. The new industrial policies emphasized the importance of foreign capital and industrial know-how. The Indian government carried out liberal FDI policies and incentives to invite foreign firms to start manufacturing facilities in order to get an inflow of know-how in the sector. The leading pharmaceutical companies from the West came to India and established manufacturing facilities. Subsequently, the multinationals brought in technology and international manufacturing practices. Domestic firms were encouraged to tie up with foreign firms, with participation in capital, and there were collaboration agreements in the private sector. The foreign firm Hoechst established a research centre, which enhanced basic research in India.

Dr. Mandar Madhukar Kodgule: The Indian pharmaceutical sector has come a long way, from being almost non-existent before 1970 to a prominent provider of healthcare products at present. The Pharmaceutical industry has grown from mere US $0.3 billion

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turnover in 1980 to about US$ 21.73 billion in 2009-10. The country now ranks 3rd in terms of volume of production (10 per cent of global share) and 14th largest by value (1.5 per cent of global share).\(^\text{13}\)

*Kumar et al, (2012)\(^\text{14}\)* 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. He 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. 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.\(^\text{14}\).

*Amalendu Bhunia (2010)\(^\text{15}\)* from the study of the financial performance of the select pharmaceutical it can be concluded that the liquidity position was strong in case of KAPL and RDPL thereby reflecting the ability of the companies to pay short term obligations on due dates. Long-term solvency in case of KAPL and RDPL in all years which shows that companies relied more on external funds in terms of long term borrowings thereby providing a lower degree of protection to the creditors. Debtors’ turnover ratio of RDPL needs to be improved as the solvency of the firm depends upon the sales income generated from the use of various assets. Financial stability ratios in the vein of debt to total asset ratio, debt to net worth ratio, net worth to total asset ratio and total liabilities to total worth ratio in case of both the selected companies have showed a downward trend and consequently the financial stability of selected pharmaceutical companies have been decreasing at an intense rate. The sector is poised not only to take new challenge but to sustain the growth momentum of the past decade.


Saktivel, (2011)\textsuperscript{16} attempted to analyze the value creation in Indian Pharmaceutical Industry from 1997-98 to 2006-07 by using regression analysis. From the inferences of the entire results, it is found that the companies with high level of EVA are very highly valued and differ from valuation of companies with low and moderate EVA groups. So, it is clear that there is significant association between MVA and EVA for companies under pharmaceutical industry. It is strongly concluded that there is significant difference in mean value creation across low, moderate and high total productivity for pharmaceutical companies. In regression analysis, it is found that total productivity does not have explanatory power on value creation in short-term, but it has some influence on value creation in the long-run in respect of pharmaceutical companies. It is found that EVA is only variable which has unique influence on MVA of Pharmaceutical companies. Hence, it is concluded that Economic value added has positive significant impact on Value Creation for Pharmaceutical companies.

**Edward Altman (1968)\textsuperscript{17}** used multiple discriminate analyses (MDA) to build a bankruptcy prediction model. Altman made use of five ratios to develop a Z score which helped in the prediction of the financial health of a company. Altman found that his five ratios outperformed Beaver's (1966) cash flow to total debt ratio. His study was based on 60 firms in general.

**Toy (1974)\textsuperscript{18}** 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)\textsuperscript{19}** 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.


Mathew (1997)\textsuperscript{20} has made an attempt to analyse the relationship between ownership structure and financial structure with a view to know whether the former has any impact on the latter. The analysis was based on three hypothetical relationships that exist between ownership structures on one hand and unsystematic risk, non-manufacturing expenses and profit appropriation policies on the other hand. He concluded that wherever the management stake is high, leverage will be low and vice versa and there exists a significant relationship between ownership structure and financial structure of firms.

Banerjee (1997)\textsuperscript{21} has done an empirical research to find the superiority of EVA over other traditional financial performance measures. Ten industries have been chosen and each industry is represented by four/five companies. ROI and EVA have been calculated for sample companies and a comparison of both has been undertaken, showing the superiority of EVA over ROI. Indian companies are gradually recognizing the importance of EVA. Some of such companies are Ranbaxy Laboratories, Samtel India Ltd and Infosys Technologies Ltd.

KPMG-BS Study (1998)\textsuperscript{22} assessed top companies on EVA, sales, PAT (Profit after Tax), and MVA criteria. The survey has used the BS 1000 list of companies using a composite index comprising sales, profitability and compounded annual growth rate of those companies covering the period 1996-97. Sixty companies have been found able to create positive shareholder value whereas 38 companies have been found to destroy it. Accounting numbers have failed to capture shareholder value creation or destruction as per the findings of the study. 24 companies have destroyed shareholder value by reporting negative MVA.

Kotrappa (2000)\textsuperscript{23} claimed that the success of a corporation greatly depended upon sound financing. When the original financing has been sound, a corporation has less fear for the future, provided it is given by a competent management. In this write-up, he attempted to sketch the factors responsible for reduced proportion of debt capital in the total capital employed. However, the choice between debt and equity sources of capital


\textsuperscript{23} Kotrappa, G(2000); ‘Contemporary in business finance’by Omprakash Kajipet; Discovery Publishing House; New Delhi; 1st Edn; pp: 70-75
for a corporate borrower was greatly influenced by these factors: 1) Taxes on Corporate Incomes 2) Inflation 3) Controlling Interest 4) Capital Market Reforms.

**Baker, Theodore and Powell (2001)** detailed the results of a 1999 survey of Nasdaq-listed firms based on 188 usable responses. The managers of NASDAQ firms took dividend decisions consistent with the Lintner’s model. The respondents provided information about the importance of 22 different factors that influenced their dividend policy. The results suggested that many managers of NASDAQ firms made dividend decisions consistent with Lintner’s (1956) survey model. Results also showed significant differences between the manager responses of financial and nonfinancial firms on 9 of the 22 factors. This finding implied the presence of industry effects on dividend policy pay out decisions.

**Bradley Jarell and Kim (2002)** found that debt to asset ratio was negatively related to both the volatility of annual Operating earnings and Advertising and Research and Development expenses.

**Mohanty (2003)** found that leverage is negatively related with profitability and value of the firm both within an industry as well as within the Indian Economy. It has been found that companies that spend a large sum of money on advertisement and Research and Development expenditure are the least levered.

**Booth and Cleary (2003)** in their study compared the dividend policy of selected emerging markets (Jordan, India, Pakistan, Turkey, South Korea, Malaysia, Thailand and Zimbabwe) with that of US and it was based on the International Finance Corporation database and the Compustat database. The study stated that in emerging markets, firms exhibited dividend behaviour similar to U.S. firms. The dividends were explained by profitability, debt, and the market-to-book ratio. The empirical dividend policy equations were structurally different, indicating different sensitivities to these variables. Additionally, emerging market firms seemed to be affected by asset mix, due to their

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greater reliance on bank debt. Overall, country factors were as important in dividend policy as previous studies found to be in capital structure decisions.

Bernstein William J and Arontt Robert D (2003)\textsuperscript{28} two important concepts played a key role in the bull market of the 1990s. Both represented fundamental flaws in logic. Both were demonstrably untrue. First, many investors believed that earnings could grow faster and existing enterprises contributed only part of GDP growth; the role of entrepreneurial capitalism, the creation of new enterprises, was a key driver of GDP growth, and it did not contribute to the growth in earnings and dividends of existing enterprises. During the 20th century, growth in stock prices and dividends were 2% less than underlying macroeconomic growth. Secondly, many investors believed that stock buybacks would permit earnings to grow faster than GDP. The important metric was not the volume of buybacks, however, but net buybacks, stock buybacks less new share issuance, whether in existing enterprises or through IPOs. They demonstrated, using two methodologies, that during the 20th century, new share issuance in many nations almost always exceeded stock buybacks by an average of 2 percent or more a year.

I.M. Pandey and Ramesh Bhat (2004)\textsuperscript{29} had examined the dividend behavior of Indian companies, using GMM estimator, which was the most suitable methodology in a dynamic setting. Their results showed that the Indian firms had lower target ratios and higher adjustment factors. The most significant results were that the restricted monetary policies had significant influence on the dividend behavior of Indian firms, causing about 5to6 percent reduction in the payout ratios. The significance of macroeconomic policy variable suggested that monetary policy restrictions did have an impact on cost of raising funds and the information asymmetry between lenders and borrowers increased that forced companies to reduce their dividend payout.

Keshar J. Baral (2004)\textsuperscript{30} in his research paper made an attempt to examine the determinants of capital structure -size, business risk, growth rate, earning rate, dividend payout, debt service capacity and degree of operating leverage-of the companies listed in


\textsuperscript{29} Pandey, I.M, and Ramesh Bhat; Professors (2004); Dividend Behavior of Indian Companies Under Monetary Policy Restrictions; Indian Institute of Management Ahmadabad, Indian Institute of Management ; Ahmadabad; May.

\textsuperscript{30} Keshar J. Baral (2004); Determinants of capital structure: a case study of listed Companies of Nepal; The Journal of Nepalese Business Studies Vol. I No. 1 Dec.
the Nepal Stock Exchange Ltd. as of July 16, 2003. Eight variables were taken and multiple regression models were used to assess the influence of defined explanatory variables on capital structure. In the preliminary analysis, manufacturing companies, commercial banks, insurance companies and finance companies were included. However, due to the unusual sign problem in the constant term of the model, manufacturing companies were excluded in final analysis. This study showed that size, growth rate and earning rate were statistically significant determinants of capital structure of the listed companies.

Anand (2004)\textsuperscript{31} made a study based on the survey conducted in 2001 of 81 CFO’s drawn from a large (based on market capitalization) cross section of 474 private sector and 51 public sector firms of corporate India. The study supported the findings of Lintner’s study on dividend policy. The dividend policy was designed in a manner to take into consideration the investors’ preference for dividend and clientele effect. In addition to its dividend policy was used as a signaling mechanism to convey information on the present and future prospects of the firm indicating that the same does affect the market value.

Koch Adam S. and Sun Amy X (2004)\textsuperscript{32} had examined whether the market interpreted changes in dividend as a signal about the persistence of past earnings change. Prior to observing this signal, investors believed that past earnings change were not necessarily indicative of future earnings level. They empirically investigated whether a change was indicative of future earnings level. Further, they empirically investigated whether a change in dividends altered investor’s assessments about the valuation implications of past earnings. Results confirmed the hypothesis that changes in dividends caused investors to revise their expectations about the persistence of past earnings changes. This effect varied predictably with the magnitude of the dividend change and the sign of the past earnings change.

Lim, G.C (2005)\textsuperscript{33} applied a model of fundamental share prices based on a bounded dividend process, with earnings as the upper bound, to assess the deviations of actual


prices for over-and under-valuations. The fundamental model extended the traditional present value of future dividends analysis to allow for the effect of an earnings-dividends trade-off effect. The simple fundamental model included a closed form of share price solution which may be calibrated to generate fundamental values from which to assess an actual price for over or under valuations. The properties of the model were explored with a simulation example.

Sarma and Panda (2005)\textsuperscript{34} the detailed study was based on the data published in the RBI Bulletin and covered a period of 30 years (1969-70 to 1999-2000). The financial variables profits, capital structure, sales change and lagged dividend showed significant results, but not the investments demand. It was because the estimates might be biased due to the presence of the lagged dependent variable as one of the explanatory variables.

Chaudhuri (2007)\textsuperscript{35} explores that R&D expenditure has dramatically increased for a segment of the Indian pharmaceutical industry after TRIPS came into effect. It is not only that the amount of R&D expenditure has increased, but there has been a drastic shift in the structure of R&D activities of the Indian companies. Earlier they were primarily engaged with the development of new processes for manufacturing drugs, now they are also involved in R&D for new chemical entities (NCE).

Deutsche Bank Research report (2008)\textsuperscript{36} India is gaining importance as a manufacturer of pharmaceuticals. Between 1996 and 2006, nominal sales of pharmaceuticals rose up by 9 per cent per annum and thus expanded much faster than the global pharmaceutical market. Demand in India is growing due to rising population, the increasing number of old people and the development of incomes. As a production location, the country is benefiting from its wage cost advantages over western competitors and also when it comes to producing medicines.

Shanmugasundaram (2008)\textsuperscript{37} attempts to explain the variations in the capital structure in the pharmaceuticals companies between process patent period and the transition

\textsuperscript{36}; Deutsche Bank Research report; April 9\textsuperscript{th} 2008. India’s Pharmaceutical Industry on the course of globalization. Asia Current Issues.
\textsuperscript{37}Shanmugasundaram, G. (2008); Department of Commerce, Kanchi Mamunivar Centre for PG Studies; Lawspet, Pondicherry, South India; Intra-Industry Variations of Capital Structure in Pharmaceutical Industry in India;
period. On the basis of capital structure theories and to see if there is any shift in the capital structure in the same period. The results are broadly consistent with the capital structure theories. The most important explanatory variable for the capital structure pattern is asset type measured by the proportion of fixed assets to total assets. This explanatory variable showed a positive significant relationship with debt equity ratio in domestic pharmaceutical companies, an insignificant relation in the case of multinational companies and a significant relation in the case of the pooled pharmaceutical companies during the transition period consistent with the “static trade off theory”. The other important explanatory variables namely profitability measures adjusted to total assets and that adjusted to net sales showed negative relations consistent with the “pecking order theory” in the case of domestic pharmaceutical companies and positive relation consistent with the static trade off theory in the case of MNCs. Growth rate of total assets showed positive relation consistent with the pecking order theory in the case of domestic companies while MNCs showed the reverse but at an insignificant level. MNCs showed a negative relation with risk, consistent with the static trade off theory. Further the comparison of the two pairs of regression models between the process and transition period has shown significant structural shift in the debt ratio of Indian, foreign and pooled companies in India after change of policy, favoring product patent in the place of process patent.

Asma Salman and Romella Qamar (2011)38 Financial analysis is useful for every business enterprises to enhance their performance, competitive strength and access their financial stability and profitability of the firm. This paper details the financial analysis of the two Multinational companies, GlaxoSmithKline (GSK) and SanofiAventis (SA) and an attempt to compare their financial performance by using ratio analysis. Data is drawn from pharmaceutical industry in Pakistan from financial year 2005 to 2009. Analysis of variance (ANOVA) and statistical hypothesis test (t-Test) with independent sample characteristics was analyzed through Statistical Package for the Social Sciences (SPSS). The results comparison with this method between two pharmaceutical companies is

presented. It is revealed that the performance of both companies in the observed period has improved. The current method reflects that GlaxoSmithKline is leading SanofiAventis.

Madhu Malik (2004) \(^{39}\) examined the relationship between shareholder wealth and certain financial variables like EPS, RNOW and ROCE. By using correlation analysis, it was found that there was positive and high correlation between EVA and RONW, ROCE. There was a positive but low correlation between EVA and EPS. By using co – efficient of determination (r2), EVA was compared with Traditional performance measures and it was found that not a single traditional performance measure explains to the fullest extent variation in shareholder wealth.

Banerjee (1997)\(^{40}\) has conducted an empirical research to find the superiority of EVA over other traditional financial performance measures. Ten industries have been chosen and each industry is represented by four/five companies. ROI and EVA have been calculated for sample companies and a comparison of both has been undertaken, showing the superiority of EVA over ROI. Indian companies are gradually recognizing the importance of EVA. Some of such companies are Ranbaxy Laboratories, Samtel India Ltd and Infosys Technologies Ltd.

Kramer and Pushner (1997)\(^{41}\) tested the hypothesis that EVA is highly correlated with MVA. The study concluded that no clear evidence to support the contention that EVA is the best internal measure of corporate success in adding value to shareholder investments. On the contrary, the market seems more focused on ‘Profit’ than EVA. The study found that there is no clear advantage to shareholders in looking at EVA, as the accounting return on their investment is NO PAT.

Pattanayak and Mukherjee (1998)\(^{42}\) discussed that there are traditional methods to measure corporate income or known as accounting concept and there is also a modern

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method to measure corporate income or known as economic concept. EVA, which is based on economic concept, is professed to be a superior technique to identify whether the organization’s NOPAT (Net Operating Profit after Tax) during a period is covering its WACC (Weighted Average Cost of Capital), thus generating value for its owners. But it is very tricky to calculate EVA. Companies trying to implement EVA are asked to incorporate 164 amendments to their financial accounts.

**Karam Pal Singh and Mahesh Garg (2004)** examined the disclosure of EVA in Indian Corporates. The study revealed that out of 50 companies, only 32 companies have generated positive EVA and 18 companies have destroyed their shareholders’ wealth in 1998. In 2000, only 29 companies have generated positive EVA. In 2001, only 34 companies have generated positive EVA. And the same trend continued in 2002. The study also found that one – third of total companies are reporting negative EVA throughout the period and another one – third companies are generating positive EVA. It also revealed that only two – three industries are reporting negative EVA and rest are generating positive EVA.

**Hawawini and Viallet (1999)** offered yet another modification to the DuPont model. This modification resulted in five different ratios that combine to form ROE and ROI. In their modification they acknowledge that the financial statements firms prepare for their annual reports (which are of most importance to creditors and tax collectors) are not always useful to managers making operating and financial decisions.

**Nissim & Penman (2001)** suggest using a modified version of the traditional DuPont model in order to eliminate the effects of financial leverage and other factors not under the control of those managers. Using operating income to sales and asset turnover based on operating assets limits the performance measure of management to those factors over which management has the most control. The modified DuPont model has become widely recognized in the financial analysis literature.

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45 Nissim & Penman. 2001. "Ratio Analysis and Equity Valuation: From Research to Practice"
Saunders (2000) provides a model of financial analysis for financial institutions based on the DuPont system of financial analysis return on equity model and return on investment model. The return on equity model disaggregates performance into three components: net profit margin, total asset turnover, and the equity multiplier. The profit margin allows the financial analyst to evaluate the income statement and the components of the income statement. Total asset turnover allows the financial analyst to evaluate the left-hand side of the balance sheet: assets. The equity multiplier allows the financial analyst to evaluate the right-hand side of the balance sheet: liabilities and owners equity.

Brigham and Houston, (2001) The modified model was a powerful tool to illustrate the interconnectedness of a firm’s income statement and its balance sheet, and to develop straight-forward strategies for improving the firm’s ROE.

Sundararajan, et al (2002) Various measures of rates of return are used mainly for that purpose. We fully agree with the opinion that “Relaying too heavily on just a few indicators of bank profitability can be misleading. While ROI, ROE, and interest margin (and non interest expenses) to gross income remain the key measures, they should ideally be supplemented by the analysis of other operating ratios”

Debasish Sur and kaushik Chakraborty (2006) in his study financial performance of Indian Pharmaceutical Industry: The Indian Pharmaceutical Industry has been playing a very significant role in increasing the life expectancy and in decreasing the mortality rate. It is the 5th largest in terms of volume and 14th largest in value terms I the world. The comparative analysis the financial performance of Indian pharmaceutical industry for the period 1993 to 2002 by selecting six notable companies of the industry. The comparison has been made from almost all points of view regarding financial performance using relevant statistical tools.

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Dilek Teker, Ozlem Tasseven, Aycatukel (2009) examined that capital structure of a company consists of a particular combination of debt and equity issues to relieve potential pressures on its long term financing. To examine such issues, many theories have been developed in the literature and they generally focus upon what determinants are likely to influence the so-called leverage decisions of the firms. Among these, the MM theory, trade-off theory and signaling theory have been said to mainly play a crucial role in identifying a testing the various properties of the leverage decisions. This paper defines the fundamentals underlying these theories.

The review of literature indicated a gap in the field of study. As the industry has a significant role to play in the economic development of the country, there is a great need to study the financial performance with respect to health and growth of pharmaceutical companies in particular. Though there are several studies available to measure the general financial performance of pharmaceutical companies, where in only the application of ratios have been used and found out the profitability and solvency position of the companies. A few studies are also conducted to analyse the financial strength and relate with capital structure of companies. Therefore, it is required a broad spectrum of financial analysis covering all aspects namely, measuring financial health in terms of profit potential and solvency position and on the other side, internal and external growth prospects of companies. The study covers entire aspects pertaining to financial health and growth potential of selected Indian pharmaceutical companies.

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