

# “A Comparative Analysis on Economic Efficiency of Indian Pharmaceutical Business Market”

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**Abstract –** *With the de-licensing of pharmaceutical industry and complemented by scientific talent and research capabilities and Intellectual Property Protection Regime, Indian pharmaceutical industry in all set to take on new challenges in the international market. Indian pharmaceutical industry has played a key role in promoting and sustaining development in the vital field of medicines. Financial analysts often assess firm's production and productivity performance, profitability performance, liquidity performance, working capital performance, fixed assets performance, fund flow performance and social performance. The financial performance analysis identifies the financial strengths and weaknesses of the firm by properly establishing relationships between the items of the balance sheet and profit and loss account. Thus, the present paper is of crucial importance to measure the firm's liquidity, profitability, and other indicators that the business is conducted in a rational and normal way; ensuring enough returns to the shareholders to maintain at least its market value. In this context researcher has undertaken an analysis of financial performance of pharmaceutical companies to understand how management of finance plays a crucial role in the growth. The present study covers two public sector drug & pharmaceutical enterprises listed on BSE. The study has been undertaken for the period of twelve years from 199899 to 200910. In order to analyze financial performance in terms of liquidity, solvency, profitability and financial efficiency, various accounting ratios have been used. Statistical measures i.e., linear multiple regression analysis and test of hypothesis – t test has been used.*

*The worker involvement in decision making would augment the mental satisfaction for workforces and monetary performance of the corporate sector. The research paper would like to measure the post-financial performance of pharmaceutical corporate sector considering sample size  $n = 10$  of top pharma units adopted ESOP during 1st April, 2000 to 31st December, 2005 using financial performance measures for six years after following the employee stock option plan. The study found that the post- financial performance of Suven Life Science Ltd. has reduced as compared to the industry average. However the financial performance of Ranbaxy Ltd. had statistically improved as compared to the group average value for all financial measures under consideration by the study.*

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## INTRODUCTION

Finance always being disregarded in financial decision making since it involves investment and financing in short-term period. Further, also act as a restrain in financial performance, since it does not contribute to return on equity (Rafuse, 1996). A well designed and implemented financial management is expected to contribute positively to the creation of a firm's value (Padachi, 2006). Dilemma in financial management is to achieve desired trade off between liquidity, solvency and profitability (Lazaridis et al., 2007). Management of working capital in terms of liquidity and profitability management is essential for sound financial recital as it has a direct impact on profitability of the company (Rajesh and Ramana Reddy, 2011). The

crucial part in managing working capital is required maintaining its liquidity in day-to-day operation to ensure its smooth running and meets its obligation (Eljelly, 2004). Ultimate goal of profitability can be achieved by efficient use of resources.

It is concerned with maximization of shareholders or owners wealth (Panwala, 2009). It can be attained through financial performance analysis. Financial performance means firm's overall financial health over a given period of time.

Financial performance analysis is the process of determining the operating and financial characteristics of a

firm from accounting and financial statements. The goal of such analysis is to determine the efficiency and performance of firm's management, as reflected in the financial records and reports. The analyst attempts to measure the firm's liquidity, profitability and other indicators that the business is conducted in a rational and normal way; ensuring enough returns to the shareholders to maintain at least its market value.

Indian pharmaceutical industry has played a key role in promoting and sustaining development in the vital field of medicines. It boasts of quality producers and many units have been approved by regulatory authorities in USA and U.K. International companies associated with this sector have stimulated, assisted and spearheaded this dynamic development in the past 58 years and helped to put India on the pharmaceutical map of the world. The public sector has been the backbone of the Indian economy, as it has acted as a strategic partner in the nation's economic growth and development. Public sector enterprises possess strong prospects for growth because they harness new business opportunities, and at the same time expanding the scope of their current business.

The Indian pharmaceutical industry is one of the world's largest, ranking 4th in terms of volume and 13th in terms of value in the global pharmaceutical market. In 2005, domestic pharmaceutical sales were US\$4.5 billion, growing at CAGR of 8.59%. The Indian pharmaceutical industry is characterized by a multitude of manufacturers (over 20,000 registered, as of 2003). These are predominantly small manufacturers, focusing on either Active Pharmaceutical Ingredients (APIs) or formulations. Until the advent of product patents in January 2005, only process patents were applicable in India, which effectively made it a low cost, generic market. As a result, manufacturing expertise and efficiency were the only requirements to participate in this industry, creating low barriers of entry.

As a result, the leading Indian pharmaceutical companies have become some of the most efficient manufacturing units in the world. In fact, India has the highest number of US FDA (Food and Drug Administration) certified manufacturing facilities outside the United States. There are an increasing number of opportunities with large Indian manufacturers & contract manufacturing organizations for the increasingly costconscious multinationals.

One of the major factors that have increased the confidence of foreign multinationals looking for local opportunities in India is the adoption of a new product patent regime in January 2005. This will facilitate concurrent global phase II and III clinical trials. A new

patent regime has changed the dynamics of the Indian pharmaceuticals industry in other respects, too. Several leading domestic producers have begun to conduct original research into new chemical entities (NCEs) and novel drug delivery systems. However, these companies are likely to license most of these drug candidates to Western pharmaceutical companies, because few Indian companies can afford the high costs and failure rates associated with developing an NCE. In this context, several Indian firms have already entered into research partnerships with multinationals. Some pharmaceutical MNCs like AstraZeneca have opened their own captive research centers in India to take advantage of the low costs as well as availability of high quality intellectual work force.

## PHARMACEUTICAL SECTOR OF INDIA

India received independence from Britain in 1947. In the early years following that event, MNCs were allowed to export drugs—mainly low-priced generics and a few high-priced specialty items. When the Indian government increased pressure against the import of finished products, MNCs developed formulation units in India and exported only bulk drugs to that country. In the early 1960s, the Indian government encouraged the indigenous manufacture of bulk drugs. India's pharmaceutical industry is now ranked as the third largest industry in the world in terms of volume. Its rank is 14th in terms of value. Between September 2008 and September 2009, the total turnover of India's pharmaceuticals industry was US\$ 21.04 billion. The domestic market was worth US\$ 12.26 billion. This was reported by the Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers. As per a report by IMS Health India, the Indian pharmaceutical market reached US\$ 10.04 billion in size in July 2010. 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 Indian pharmaceutical industry meets around 70% of the domestic demand for bulk drugs, drug intermediates, and pharmaceutical formulations. The Indian Pharmaceutical sector is highly fragmented with more than 20,000 registered units. It has grown drastically during the last two decades. The 250 pharmaceutical leading companies control 70% of the market with market leader holding nearly 7% of the market share. It is an extremely fragmented market with severe price competition and government 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.

USA is the largest drug market in world. The other large drug markets are Europe and Japan, each pharmaceutical market has its own unique characteristics in terms of structure of industry, channels of distribution, protection of patents, funding of healthcare costs, etc. The US generic market is nearly 5-6 times of the Indian pharmaceuticals market. This attracts a lot of attention and investment in the Indian Industry to cater this market. On account of this universal assumption the US market is the most regulated market as compared to the others and may be considered the toughest market to succeed for any company. If a company manages to establish its presence in the US market, it is widely believed that accessing other markets would not be a difficult task.

The Indian pharmaceutical industry had 2000 players in the domestic market before 1970 and it was largely dominated by multinational companies (MNCs). The Government of India has introduced two landmark regulations in 1970, viz., the Indian Patent Act and the Drug Price Control Order (DPCO). The Indian Patent Act, 1970 was introduced to encourage domestic producers to manufacture drugs and ensure self-sufficiency in medicines. The DPCO governed the prices of all bulk drugs and formulations to ensure the widespread availability of medicines at reasonable prices. The introduction of these two regulations and incentives available to smallscale industries (SSIs) led the share of SSIs increasing, due to low entry barriers. Further, owing to introduction of FERA 1974, which required all MNCs to dilute their equity holding, the market share of MNCs declined during 1970-79. During the period 1979 to 1987, the production of bulk drugs by Indian players increased due to a surge in exports. The market share of MNCs continued to decline. In 1991 there was a major turning point for MNCs due to the liberalization of Indian Economy.

## **ECONOMIC EFFICIENCY VIA MULTIPLE REGRESSIONS**

To measure the financial performance of selected public sector drug & pharmaceutical enterprises in India, it is important to study financial performance indicators, namely, current ratio, liquid ratio, debt-equity ratio, interest coverage ratio, inventory turnover ratio, debtors turnover ratio, return on investment ratio, net profit to total asset ratio, debt to total asset ratio, debt to net worth ratio, net

worth to total asset ratio and total liabilities to net worth. It Now, to study the joint variations of these associations, linear regression (multiple regressions) analysis has been adopted.

In this section an attempt has been made to examine composite impact of financial performance indicators on profitability through the sophisticated statistical techniques. Accordingly, multiple regression techniques have been applied to study the joint influence of the selected ratios indicating company's financial position and performance on the profitability and the regression coefficients have been tested with the help of the most popular 't' test.

## **LITERATURE REVIEW**

Financial performance analysis is vital for the triumph of an enterprise. Financial performance analysis is an appraisal of the feasibility, solidity and fertility of a business, sub-business or mission. Altman and Eberhart (1994) reported the use of neural network in identification of distressed business by the Italian central bank. Using over 1,000 sampled firms with 10 financial ratios as independent variables, they found that the classification of neural networks was very close to that achieved by discriminant analysis. They concluded that the neural network is not a clearly dominant mathematical technique compared to traditional statistical techniques.

Gepp and Kumar (2008) incorporated the time "bias" factor into the classic business failure prediction model. Using Altman (1968) and Ohlson's (1980) models to a matched sample of failed and non-failed firms from 1980's, they found that the predictive accuracy of Altman's model declined when applied against the 1980's data. The findings explained the importance of incorporating the time factor in the traditional failure prediction models.

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. Notably, collateral value of assets and tax shield factors did not shown up as important explanatory variables.

Eldomiati (2007) stated that researchers decided to take India as sample of emerging market and evaluate performance of firms against capital structure After the comparison to the developed markets like America, Europe etc. He found that capital markets were less efficient and suffered from higher level of asymmetry in terms of information in emerging and developing markets than capital markets in developed countries.

Campbell (2008) constructed a multivariate prediction model that estimates the probability of bankruptcy reorganization for closely held firms. Six variables were used in developing the hypotheses and five were significant in distinguishing closely held firms that reorganize from those that liquidate. The five factors were firm size, asset profitability, the number of secured creditors, the presence of free assets, and the number of under-secured secured creditors. The prediction model correctly classified 78.5% of the sampled firms. This model is used as a decision aid when forming an expert opinion regarding a debtor's likelihood of rehabilitation.

No study has incorporated the financial performance analysis of the central public sector enterprises in Indian drug & pharmaceutical Industry. Nor has any previous research examined the solvency position, liquidity position, profitability analysis, operating efficiency and the prediction of financial health and viability of public sector drug & pharmaceutical enterprises in India.

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.

Dhiman, Gupta and Nagia (2010) found that productivity index for ten top ESOP pharma units is not significantly changed from group average of Indian pharma corporate sector.

## METHODOLOGY

In order to analyze financial performance in terms of liquidity, solvency, profitability and financial efficiency, various accounting ratios have been used. Various statistical measures have been used i.e., Mean., S.D., C.V., linear multiple regression analysis and test of hypothesis – t test. In this context an attempt has been made an analysis of financial performance of pharmaceutical companies to understand how management of finance plays a crucial role in the growth.

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 is focus on determining the capital structure pattern of the companies and its impact on the investment pattern over the period of time.

The study is based on the secondary data collected from different sources for the analysis. Data set has been retrieved from Organization of Pharmaceuticals Producers of India (OPPI) and it is supported by the annual reports of the companies from CMIE Prowess database. The data used in the study consist of 23 Foreign Direct Invested pharmaceutical companies with capital as the base during the period from 1st April 1999 to 31st March 2008.

## CONCLUSION

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 it was so poor in case of RDPL thereby reflecting the ability of the companies to pay short-term obligations on due dates. Long-term solvency in case of KAPL is lower 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.

Financial stability ratios in the vein of debt to net worth ratio in case of RDPL have showed a downward trend and consequently the financial stability has been decreasing at an intense rate.

The Indian pharmaceutical industry will witness an increase in the market share. The sector is poised not only to take new challenge but to sustain the growth momentum of the past decade.

The significant t-values for four ratios (NPR, ECR, and MCR & ACR) for sample size are shown above. The post-financial performance of Suven Life Science Ltd. is reduced as compared to the industry average. However the financial performance of Ranbaxy Ltd. is highly improved as compared to the group average value for all ratios. Moreover the ECR and ACR for all sample size (approx) are significantly changed in comparison of pharma industry.

In the recent time, financial manager always plans an optimum capital structure for his company to obtain the higher market value per share. 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. Exactly how firms choose the amount of debt and equity in their capital structures still an enigma. There are number of factors influencing the capital structure decision of the company, but the judgment of the person making the capital structure decision plays a crucial part. Two similar companies can have different capital structures as per the different judgement of decision makers with the



significance of various factors. 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, this study also conclude that the capital structure decision of the pharmaceutical companies has very little effect on its investment pattern, which defines that the company is using long term sources of funds to finance its current assets and its operational activities of its business with the object to attain the long term solvency and maximising profitability with least cost of capital.

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 shortterm obligations on due dates.□□Longterm solvency in case of KAPL and RDPL in all years which shows that companies relied more on external funds in terms of longterm 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 Indian pharmaceutical industry will witness an increase in the market share. The sector is poised not only to take new challenge but to sustain the growth momentum of the past decade.

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