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Diagnosing the financial health of Selected Pharmaceutical Companies in Bangladesh

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Abstract

In a developing country like Bangladesh the Pharmaceutical industry as a whole play a vital role in the progress of economicdevelopment. But the net profit of this industry has decreased for the last few years. In this paper we have tried to analyze the financial performance of Selected Pharmaceutical Companies in Bangladesh which is measured in terms of Ratio (Profitability, Liquidity, Solvency and Activity ratio) Analysis and in terms of Testing Financial Soundness by using Multivariate Discriminate Analysis (MDA) as developed by Prof. Altman. For the source of data mainly relied on Annual Reports and official records. It was observed from the study of the financial statement of the Pharmaceutical industry that the profit earning capacity, liquidity position, financial position and the performance of the most of the Pharmaceuticals are not in sound position and it was also observed that the most of the Pharmaceuticals has a lower level position of bankruptcy. The reasons behind this position of the industry are inefficiency of financial management, absence of realistic goals, strict government regulation and increased cost of raw-materials, labor and overhead. The financial performance should be improved immediately. Therefore, the appropriate authority should take measures for the removal of the above problems.

Keywords: Financial Performance, Ratio Analysis, Pharmaceuticals Industry, Multivariate Discriminate Analysis (MDA).

1. Introduction

Publicly traded companies are the economic pulse of a nation. Their birth, prosperity and demise generally reflect the financial condition of the country. A fairly reliable index of an economy in its process of growth and development is the rate of growth and decline of publicly traded companies. With the rapid growth of trade, commerce and industries, the numbers of publicly traded companies are considerably increasing in Bangladesh. These companies play a vital role on the economy of the country. Pharmaceutical is an important adjunct of industrialization in the country. Analyzing the Industrial Life Cycle, it has been found that all of the listed companies have just reached the middle stage. No company could reach the maturity stage. In a word, the Pharmaceutical industry of the country is just improving. It is well known that this industry is one of the key to earning foreign currency and it plays an important role on the export of the country. On the other hand, most of the internal demand for drugs is fulfilled by the domestic Pharmaceutical

industry of the country. But Pharmaceutical industry of Bangladesh depends on foreign country for raw-material and technology. Now the time to make the Pharmaceutical firms self sufficient for the betterment of the country. At this time, performance of manufacturing enterprise, like Pharmaceutical, needs to be measured and analyzed. But evaluation of performance is not a regular practice in the country. Against this backdrop this study is an attempt to evaluate performance of some selected Pharmaceuticals for the period under study. To evaluate the financial performance of the Pharmaceuticals, the technique of financial analysis has been applied. Among the various tools of financial analysis the most important one is the ratio analysis. It is very helpful to gain valuable insight into the financial position, operation and financial problems of a particulars enterprise. Moreover, Multivariate Discriminate Analysis (MDA) is used which is developed by Professor Altman to examine the overall financial soundness. Some statistical tools like mean, standard deviation, and T-test are used to evaluate the performance.

2. Objectives of the study

The study is designed to achieve the following objectives:

(i) To assess the financial performance of the selected Pharmaceuticals firms.

(ii) To test the financial strengths and weaknesses of selected Pharmaceuticals firms.

(iii) To pinpoint the causes of poor financial performance and suggest some measures to overcome the problems.

3. Hypothesis

The research is based on following hypothesis.

H_0: There is no significant difference between the industry mean and the individual firm's ratio.

H_1: There is significant difference between the industry mean and the individual firm's ratio.

4. Methodology of the study

Data has been taken from a sample of 9 Pharmaceuticals in Bangladesh. For the study only A and B category Pharmaceuticals are considered. "A" category Pharmaceutical includes those Pharmaceuticals that hold annual general meeting (AGM) and declare minimum 10% dividend regularly. The trading time of "A" category Pharmaceutical's share is T+3. "B" category Pharmaceutical includes those Pharmaceuticals that hold annual general meeting (AGM) regularly but declare dividend at a rate below 10% on a regular basis. The trading time of "B" category Pharmaceutical's share is also T+3. "Z" category Pharmaceutical includes those Pharmaceuticals that neither hold annual general meeting (AGM) nor declare dividend on a regular basis. The trading time of "Z" category Pharmaceutical's share is T+7. Moreover, the size of the Pharmaceuticals, availability of information, and year of establishment are also considered for selecting the

Pharmaceuticals. The study covers a three year period from 2005-06 to 2007-08. This study is based on secondary data. Secondary data are the annual reports of the selected Pharmaceuticals firms and various studies made available through library work. The collected data have been tabulated, analyzed and interpreted with the help of different financial ratios, Multivariate Discriminate Analysis (MDA) and statistical tools like mean, S.D. and T-test, etc. The hypothesis has been tested statistically to arrive at conclusion and policy implication.

5. Literature Review

Financial statements analysis is mainly concerned with the understanding of company accounts and interpretation of the published financial statements to enable legitimate users to make informed economic decisions. Financial analysis is the process of identifying the financial strengths and weaknesses of the firm by properly establishing relationship between the items of the balance sheet and the profit and loss account (Pandey, 1991). Analysis of financial statements is of interest to lenders, security analysts, managers and others (Prasanna, 1995). Trade creditors are interested in the firm's ability to meet their claims. Their analysis will therefore, confine to the evaluation of the firm's liquidity position. The suppliers are concerned with the firm's solvency and survival. They analyze the firm's profitability over time. Long term creditors place more emphasis on the firm's solvency and profitability. The investors are most concerned about the firm's earnings. So, they concentrate on the analysis of the firm's present and future profitability as well as earning ability and risk (Abu Sina, 1998). Financial ratios are the simplest tools for evaluating the financial performance of the firm (Chin-Feng, 2005). One can employ financial ratios to determine a firm's liquidity, profitability, solvency, capital structure and asset turnover. Hannan (1998) used financial ratios to show the financial position and performance analysis of Bangladesh Shilpa Bank. He showed that techniques of financial analysis can be used in the evaluation of financial position and performance of financial institution as well as non financial institutions even Development Financial Institutions (DFI). Altman (1968) used financial ratios to predict corporate bankruptcy. He found that the bankruptcy model has an accuracy rate of 93% and is very successful in predicting failed and non-failed firms. Sina (1998) used financial ratios to test the financial strengths and weaknesses of Khulna Newsprint Mills Ltd. He found that due to lack of planning and control of working capital, operational inefficiency, obsolete store, ineffective credit policy, increased cost of raw materials, labor and overhead, the position of the company was not good. Jahur (1995) used financial ratios to measure operational performance of limited company. He used profitability, liquidity, activity and capital structure to measure operational performance. Jahur (1996) used Altman's MDA model to conclude the bankruptcy position of Chittagong Steel Mills Ltd. He found that absences of realistic goals, strict govt. regulation are the main reasons for the lowest level of bankruptcy. Ohlson (1980) employed financial ratios to predict a firm's crisis. He found that there are four factors affecting a firm's vulnerability. These factors are the firm's scale, financial structure, performance and liquidity. In the article "The Assessment of Financial and Operating Performance of the Cement Industry: A Case Study of Confidence Cement Limited", Dipak & Milan (2001) found that the investment in cement was fairly profitable. Salauddin (2001) examined the profitability of the Pharmaceutical Companies of Bangladesh. By using ratio analysis, mean, standard deviation and co-efficient of variation he found that the profitability of the Pharmaceuticals sector was very satisfactory in terms of the standard norms of return on investment. Hye & Rahman (1997) conducted a

research to assess the performance of the selected private sector general insurance companies in Bangladesh. The study revealed that the private sector insurance companies had made substantial progress. The study found that the insurance companies were keeping their surplus funds in the form of fixed deposits with different commercial banks due to absence of suitable revenues for investment. Salim & Kabir (1996) examined the financial performance of Bangladesh Shipping Corporation. They found that conversion of long-term debt to equity may improve the financial performance of Bangladesh Shipping Corporation to a greater extent. These studies show that the ratio analysis and MDA are the good method to evaluate firm performance. The researcher uses these tools to measure the financial performance of 9 selected Pharmaceutical firms in this paper.

6. Theoretical discussion of Financial Ratio

Financial analysis offers a system of appraisal and evaluation of a firm's performance and operations; it is the analysis of the financial statement of an enterprise. The analysis of financial statement can be best done by various yardsticks of which, the important is known as ratio or percentage analysis. Ratio is a numerical or an arithmetical relation between two figures. It is expressed when one figure is divided by another. Accounting ratios show inter-relationship which exist among various accounting data. Accounting ratio can be expressed in various ways such as, a pure ratio, a rate or a percentage. Ratio analysis is certainly a very admirable device because it is simple and it has a predictive value. Management and other users thus, rely substantially on the financial ratios based on accounting data for making assessments and predictions of past performance, present position and probable future potentials. One important way for diagnosing the financial health is to measure the profitability, liquidity, activity and solvency and the level of the bankruptcy of enterprise.

6.1 Profitability Ratio

Profitability is a measure of efficiency. The profitability ratios measure the performance of profit of an enterprise. In other words the profitability ratios are designed to provide answers to questions such as what is the rate of profit?. What is EPS? What is the rate of investment? What is the rate of equity? Is the profit earned by the enterprise adequate? What is the dividend payout ratio? What is retention ratio and so on? The analysis of the profitability ratio is important for the shareholders, creditors, prospective investors, bankers and the government alike. Gross profit margin ratio, return on investment, net profit margin ratio and operating profit ratio can be used to measure the profitability position of the enterprise.

6.2 Liquidity Ratio

The liquidity ratios measure the ability of an enterprise to meet its short-term obligations and reflect the short-term financial strength of an enterprise. Liquidity is a pre-requisite for the very survival of an enterprise. Analysis of liquidity is very important in knowing the liquidity status, movement of funds, idle fund (if any) which will not only help financial management to keep the liquidity position of the company in order but also make sure of payment to short-term creditors, interested in short-term solvency of the company. Liquidity ratios reveal the rate at which fixed and working assets are being converted into cash and the time

when the cash will be required. Current ratio, quick ratio and working capital to total asset ratio can be used to measure the liquidity position of the enterprise.

6.3 Activity Ratio

Activity ratios indicate the effectiveness of an enterprise with which different assets are managed and utilized in a business. The efficiency in assets management is measured by activity ratio which involves the comparisons between the level of sales and investment in various assets accounts, inventories, bills receivable, fixed assets and others. The activity can be measured by the use of activity ratios such as inventory turnover, fixed assets turnover and total assets turnover.

6.4 Solvency Ratio

The long-term solvency of a company is an important aspect to the present and future long-term creditors, banks, debenture holders etc. Before sanctioning loan or buying a debenture or preference share, they are interested to see whether the company has ability to pay the interest regularly as well as repay the installment of the principal on due date or in one lump sum at the time of maturity. The long-run solvency of a company can be measured by the use of solvency ratios named debt to total assets, the time interest earned and retained earning to total assets.

7. Findings and Discussions

7.1 Profitability Ratio

The tables (01, 02,03,04,05 and 06) depict various financial ratios covering profitability of the selected Pharmaceuticals for the period under study.

(Insert Table-01 here)

7.1.1 Gross Profit Margin

The earnings in terms of sales can be assessed through the profit margin. The gross profit margin reflects the effectiveness of pricing policy and of production efficiency. Some authors consider that a profit margin ratio ranging from 20% to 30% has been considered as the standard norm for any industrial enterprise. The table-01 shows that the average gross profit ratios range from highest 34.43% in BXPHARMA to lowest 9.42% in BEACONPHAR. The study is also found that the industry average gross profit ratio was 17.69% and the average gross profit ratio of all but five samples was below industry average. In view of standard, the gross profit margin of SQURPHARMA, IBNSINA, BXPHARMA, and AMBEEPHA during the period was higher than standard norm and shown an increasing trend but the ratio for ACTIVEFINE, RENETA, BEACONPHAR, PHARMAID and BPL was lower than the standard. The higher ratio indicates favorable purchasing and markup policies and the ability of management to develop sales volume and lower ratio indicates unfavorable purchasing and markup policies and the inability of management to develop sales volume. This ratio also indicates that the selected enterprise (SQURPHARMA, IBNSINA, BXPHARMA, and AMBEEPHA) seems to be in an advantage position to service in the face of falling sales prices, rising cost of production or decline demand for the product. From the calculated value of t it is seen that there is a

significant difference in gross profit ratio between industry average and individual pharmaceuticals firms except SQURPHARMA and AMBEEPHA.

(Insert Table-02 here)

7.1.2 Net Profit Margin

The ratio reveals the overall profitability of the concern, that's why it is very useful to the proprietors and prospective investors. It also indicates management efficiency in manufacturing, administrating and selling of the products. The table-02 shows that the net profit ratios range from highest 10.75% in SQURPHARMA to lowest 13.36 %(negative) in BXPHARMA. SQURPHARMA earned the highest average net profit margin (10.75%) and industry average is 1.35%. The calculated ratios in table-02 indicate that the average net profit ratio of ACTIVEFINE, SQURPHARMA, IBNSINA, RENETA, AMBEEPHA, and PHARMAID are higher than industry average. BXPHARMA, BEACONPHAR and BPL are below industry average. Calculated values of t' state that there is a significant difference in net profit ratio between industry average and 5 individual pharmaceuticals firms (SQURPHARMA, IBNSINA, BEACONPHAR, PHARMAID and BPL). For other pharmaceuticals the difference is insignificant.

(Insert Table-03 here)

7.1.3 Return on Investment (ROI)

This ratio measures the profitability of enterprise on total investment. The Planning Commission, Government of Bangladesh has declared that the entire existing project in the public sector would have to guarantee a fixed return to 7.5% of the investment. This may be considered as the standard norm for the industrial enterprise. The table-03 shows that the return on investment on an average for the period under study varies from maximum 24.38% in SQURPHARMA to minimum 3.77% (negative) in BPL and the industry average is 6.67% which is lower than the standard norm of 7.5% . The ratio for BXPHARMA is negative. It is seen from the table that ACTIVEFINE, BXPHARMA, RENETA, BEACONPHAR, PHARMAID and BPL have a low ratio as compared to the industry average and standard norm, which is indicative of poor earning in terms of investment, the return on investment for SQURPHARMA(24.38%), IBNSINA (14.39%) and AMBEEPHA (11.16%) should be considered as extremely satisfactory as they are more than the industry average ratio and as well as the standard norm and this ratios are indicative of very good profitability in terms of investment. ACTIVEFINE, BXPHARMA, RENETA, BEACONPHAR, PHARMAID and BPL show a declining trend which indicates the inefficiency of the business as a whole. From the calculated value of t it is observed that there is a significant difference in return on investment between industry average and 5 individual pharmaceuticals firms (ACTIVEFINE, IBNSINA, BXPHARMA PHARMAID and BPL). For other pharmaceuticals the difference is insignificant.

(Insert Table-04 here)

7.1.4 Operating Profit Ratio

Operating Profit refers to the profit of an enterprise, which is obtained after deducting all operating expenses from gross profit. This ratio establishes the relationship between operating profit and sales. It represents the overall earnings of an enterprise and one can get a clear idea about the efficiency of an enterprise from its operating profit ratio. The higher the ratio, the better is the overall efficiency of the enterprise. Operating profit ratio ranging 4% to 6% is considered norm for the purpose of comparison and control by some authors (Jain and Narang, Jahur, Hye). The table-04 shows that the average operating profit ratio of the sample pharmaceuticals ranges from highest 29.02% in BXPHARMA to lowest 0.41% in BEACONPHAR. The industry average operating profit ratio is 10.70% and most of the companies (5 out of 9) failed to attain the average but most of the companies'(4 out of 9) operating profit ratio is more than standard. From the calculated value of t it is observed that there is a significant difference in operating profit ratio between industry average and almost all individual pharmaceuticals firms except SQURPHARMA.

(Insert Table-05 here)

7.1.5 Return on Capital Employed

The most independent ratio for assessment of profitability is the return on capital employed. It reflects the overall efficiency with which capital is used. Here, Capital Employed=Equity share capital + Preference share capital+ Undistributed profit+ Reserve and Surplus+ Long term Liabilities- Fictitious Assets. A rate of return ranging from 11% to 12% on Capital employed may be considered as reasonable for a selected enterprise. The table-05 represents the return on capital employed ratio of the sample pharmaceuticals for the study period. The table shows that the average returns on capital employed ranges from 1.46% in BPL to 13.79% in SQURPHARMA and the average ratio is negative for BXPHARMA (-7.52%). It appears from the table that the industry average return on capital employed is 3.59% which is not satisfactory in terms of the standard norm. It is seen from the table that SQURPHARMA has a high ratio as compared with standard norm, IBNSINA, AMBEEPHA and PHARMAID have a high ratio as compared to industry average. ACTIVEFINE, BXPHARMA, RENETA, BEACONPHAR and BPL have a lower ratio than industry average, which is indicative of poor earning in terms of capital employed. From the calculated value of t it is observed that there is a significant difference in return on capital employed between industry average and 4 individual pharmaceuticals firms (ACTIVEFINE, SQURPHARMA, and BPL). For other pharmaceuticals the difference is insignificant.

(Insert Table-06 here)

7.1.6 Return on Total Assets

This ratio is calculated to measure the profit after the tax against the amount invested in total assets to ascertain whether assets are being utilized properly or not. Some authors consider 10% to 12% rate of return on total assets as reasonable norm for a profitable firms and this may be considered as reasonable norm for the selected enterprises. Table -06 shows that the average return on total assets ranges from 3.77% (negative) in BXPHARMA to 7.42% in SQURPHARMA and the average return on total assets for BXPHARMA is

negative. It is seen from the table that the average return on total assets is 1.82% which is far away from standard norm. The average returns on total assets of all pharmaceuticals are below the standard norm which cannot be considered as satisfactory and desirable. The average return on total assets of BEACONPHAR (0.70%), BXPHARMA (-3.77%), AMBEEPHA (1.28%) and BPL (0.59%) are below the industry average. The calculated ratios show a decreasing trend for most of the pharmaceuticals during the period of study and lower ratios indicate the assets were not being utilized properly during the period. The calculated values of t state that there is a significant difference in return on total assets between industry average and 4 individual pharmaceuticals firms (SQURPHARMA, BEACONPHAR, PHARMAID and BPL). For other pharmaceuticals the difference is insignificant.

7.2 Liquidity Ratio

The Current Ratio and Quick Ratio, Current Assets to Fixed Assets and Net Working Capital to Total Assets are used to assess liquidity position of an enterprise. The tables (07, 08, 09, and10) depict various financial ratios covering liquidity of the selected pharmaceuticals for the period under study.

(Insert Table-07 here)

7.2.1 Current Ratio

This ratio is a measure of the firm's short term solvency of the firm's liquidity. It indicates the ability of the company to meet its current obligations. If the current ratio is too low, the firm may have difficulty in meeting short run commitment. If the ratio is too high the firm may have an excessive investment in current assets or be under utilizing short term credit. Some authors consider 2:1 as standard norm for current ratio. Table-07 shows that the industry average current ratio is 0.94:1 which indicates that the industry is not able to meet its current obligations from its current assets. The average current ratio ranges from 0.57:1 in AMBEEPHA to 1.12:1 in SQURPHARMA. The average current ratios of BEACONPHAR (0.61:1), AMBEEPHA (0.57:1) and BPL (0.85:1) are below the industry average as well as below the standard norm. The average current ratios of ACTIVEFINE (1.08:1), SQURPHARMA (1.12:1), IBNSINA (1.10:1), BXPHARMA (1.06:1), RENETA (1.08:1) and PHARMAID (0.98:1) are above the industry average but below the standard norm. It is seen from the table that all these ratios are far from standard norm. Therefore it can be said that the liquidity in terms of current ratio had been quite inadequate in all the years under study for all the pharmaceuticals. The downward trend of current ratios of BXPHARMA, RENETA, BEACONPHAR, AMBEEPHA, PHARMAID and BPL indicate the inefficient liquidity management in case of the selected pharmaceuticals, the financial position is very unsatisfactory and the companies' short term solvency is threatened. From the calculated value of t it is seen that there is a significant difference in current ratio between industry average and 4 individual pharmaceuticals firms (RENETA, BEACONPHAR, AMBEEPHA, and PHARMAID). For other pharmaceuticals the difference is insignificant.

(Insert Table-08 here)

7.2.2 Liquid (Quick or Acid Test) Ratio

It measures the firm's ability to meet short term obligations from its most liquid assets. Table-08 shows that the industry average of liquid ratio is 0.57:1 which is very lower than the standard (1:1) ratio. The table reveals that the average liquid ratio ranges from 0.29:1 in IBNSINA and in BEACONPHAR to 1.28:1 in ACTIVEFINE. The average liquid ratios of IBNSINA (0.29:1), RENETA (0.55:1), BEACONPHAR (0.29:1), AMBEEPHA (0.38:1) and BPL (0.43:1) are below the industry average as well as far away from standard norm and the average ratios of SQURPHARMA (0.64:1), BXPHARMA (0.59:1), and PHARMAID (0.70:1) are above the industry average but below the standard norm. It indicates that all pharmaceuticals except ACTIVEFINE (average liquid ratio is 1.28:1) are financially very weak and have no ability to pay its most immediate liabilities. It is also observed that this position is declining for most of the pharmaceuticals and it is the dangerous signal for the companies. From the calculated value of t it is observed that there is a significant difference in liquid ratio between industry average and 4 individual pharmaceuticals firms (ACTIVEFINE, IBNSINA, BEACONPHAR and AMBEEPHA). For other pharmaceuticals the difference is insignificant.

(Insert Table-09 here)

7.2.3 Current Assets to Fixed Assets

Another criterion for liquidity assessment is the ratio between current assets to fixed assets. This ratio will differ from industry to industry and, therefore, no standard can be laid down. The table-09 shows that the industry average current asset to fixed assets is 0.78:1. It is seen from the table that the average current assets to fixed assets ratio ranges from 0.40:1 in ACTIVEFINE to 1.06:1 in SQURPHARMA and the average ratio for ACTIVEFINE (0.40:1), RENETA (0.51:1) and BPL (0.61:1) is lower than industry average and the average ratio for SQURPHARMA (1.06:1), IBNSINA (0.79:01),BXPHARMA(0.94:1), BEACONPHAR (0.89:1), AMBEEPHA (0.92:1) and PHARMAID (0.93:1) is higher than the industry average. The calculated ratios show a decreasing trend for some pharmaceuticals which mean that trading is slack or more mechanization has been put through in that pharmaceuticals. From the calculated value of t it is observed that there is a significant difference in current assets to fixed assets between industry average and 01 individual pharmaceuticals firms (ACTIVEFINE). For all other pharmaceuticals the difference is insignificant.

(Insert Table-10 here)

7.2.4 Net Working Capital to Total Assets

Table-10 shows net working capital to total assets ratios for the selected pharmaceuticals for the study period. It is seen from the table that the industry average of net working capital to total assets ratio is -0.01. The table reveals that the average net working capital to total assets ratios of ACTIVEFINE (0.04), SQURPHARMA (0.05), IBNSINA (0.02), BXPHARMA (0.01), RENETA (0.02) and BPL (0.04) are higher than industry average and the average ratio of BEACONPHAR (-0.30), AMBEEPHA (-0.0004), PHARMAID (-0.01), are

lower than or equal industry average. From the calculated ratios it is clearly seen that the net working capital to total assets ratios are very small and for three pharmaceuticals the ratio is negative. Such state of affairs indicates the inability and inadequacy of net working capital to cover the total assets of the selected enterprise for the period under review. From the value of t it is observed that there is a significant difference in net working capital to total assets between industry average and 4 individual pharmaceuticals firms (RENETA, BEACONPHAR, AMBEEPHA and PHARMAID). For other pharmaceuticals the difference is insignificant.

7.3 Activity Ratios

Activity ratios show the intensity with which the firm uses its assets in generation sales. These ratios indicate whether the firm's investments in current and long-term assets are too small or too large. The objective is to have "enough" assets but not "too many". The tables (11, 12, and13) depict various activity ratios of the selected pharmaceuticals for the period under study.

(Insert Table-11 here)

7.3.1 Inventory Turnover Ratio

This ratio is also known as stock turnover ratio, establishes relationship between sales (or cost of goods sold) and the total inventory (or average inventory). A low inventory turnover may indicate an excessive investment in inventories a high ratio often means that the firm is running out of stock, resulting in poor service to customers. It assists the financial manager in evaluating inventory policy to avoid any danger of over stocking as a prelude to the effective utilization of the resources of the firm. Higher the ratio the better it is because it shows that stock is rapidly turned over. The table-11 shows that the industry average inventory turnover is 6.45 times. It is seen from the table that the average inventory turnover ratio ranges from 1.47 times in BXPHARMA to 19.99 times in ACTIVEFINE. Some authors consider 8 to 9 times of inventory turnover ratio as the reasonable norm for an efficient concern. From the study it is seen that the average inventory turnover for all selected pharmaceuticals except three pharmaceuticals, ACTIVEFINE(19.99 times), BEACONPHAR (9.52), PHARMAID (8.13), is lower than the industry average as well as standard norm which implies excessive inventory levels or a slow moving or obsolete inventories. If it is the obsolete inventories then it has to be written off. This will adversely affect the working capital and liquidity position of the firm. The calculated ratios indicate that the sale management of the selected pharmaceuticals can't be said to be efficient to sell its product. The values of t state that there is a significant difference in inventory turnover between industry average and 4 individual pharmaceuticals firms (ACTIVEFINE, SQURPHARMA, IBNSINA and BXPHARMA). For other pharmaceuticals the difference is insignificant.

(Insert Table-12 here)

7.3.2 Net Fixed Assets Turnover

The ratio indicates the extent of generating sales volume in terms of net fixed assets. Some authors consider that an ideal fixed assets turnover for an enterprise should be 5 times of net fixed assets and hence this may also be considered so far over selected case. Table-12 shows the net fixed assets turnover ratios for the

selected pharmaceuticals for the study period. From the calculated ratios it is seen that the industry average net fixed assets turnover is 1.89 which is far away from the standard. The average ratio ranges from 0.58 times in BXPHARMA to 4.41 times in BPL. The average ratio of ACTIVEFINE (1.17times), SQURPHARMA (1.41times), IBNSINA (1.16 times), BXPHARMA (0.58 times), RENETA (0.94 times) and AMBEEPHA (1.45 times) is lower than industry average as well as very lower than standard. Only three pharmaceuticals, BEACONPHAR (3.87 times), PHARMAID (2.02 times), BPL (4.41 times), have average ratio more than industry average but lower than standard. This low level of ratio indicates poor sales volume in terms of fixed assets. This indicates an inefficient use of fixed capital. From the calculated value of t it is observed that there is a significant difference in net fixed assets turnover between industry average and 7 individual pharmaceuticals firms (ACTIVEFINE, IBNSINA, BXPHARMA, RENETA, BEACONPHAR, AMBEEPHA, and BPL). For other pharmaceuticals the difference is insignificant.

(Insert Table-13 here)

7.3.3 Total Assets Turnover

Another activity ratio is total assets turnover. This is a measure of the extent of generating sales in terms of the total assets. A standard norm of 200% (i.e. 2 times) of this ratio is considered norm by some authors for an industrial enterprise. This may also be taken as such for our selected pharmaceuticals. Table-13 reveals that the average total assets turnover ratio ranges from 0.30 times in BXPHARMA to 2.04 times in BEACONPHAR and the industry average is 0.90 times which is very lower than standard norm. It is seen from the table that the average ratio of ACTIVEFINE (0.81 times), SQURPHARMA (0.69 times), IBNSINA (0.65 times), BXPHARMA (0.30 times), RENETA (0.62 times) and AMBEEPHA (0.77 times) is lower than the industry average as well as standard norm, but the average ratio of BEACONPHAR (2.04 times), PHARMAID (1.00 time), BPL (1.24 times) is higher than industry average as well as standard norm. From the calculated value of t it is observed that there is a significant difference in total assets turnover between industry average and 6 individual pharmaceuticals firms (SQURPHARMA, IBNSINA, BXPHARMA, RENETA, AMBEEPHA and BEACONPHAR). For other pharmaceuticals the difference is insignificant.

7.4 Solvency Ratios

Debt-Equity ratio and Debt to Total Assets ratio are commonly used solvency ratios. The tables (14 and 15) depict various solvency ratios of the selected pharmaceuticals for the period under study.

(Insert Table-14 here)

7.4.1 Debt-Equity Ratio

Equity represents a “cushion” for share-holders. This is a ratio calculated to measure the relative proportions of outsiders’ funds and shareholder’ funds invested in the company. This ratio is also known as external-internal equity ratio. The standard ratio is 2:1. The table-14 shows the debt-equity ratio for the selected pharmaceuticals for the study period. It is revealed from the table that the average debt-equity ratio is 2.12:1. The debt-equity ratio ranges from 0.33:1 in ACTIVEFINE to 7.23:1 in AMBEEPHA. It is seen from

the table that the average ratio of ACTIVEFINE (0.33:1), SQURPHARMA (1.08:1), IBNSINA (0.65:1), RENETA (1.24:1) and BPL (0.65:1) is lower than the industry average as well as standard norm, but the average ratio of BXPHARMA (2.27:1), BEACONPHAR (3.19:1), AMBEEPHA (7.23:1) and PHARMAID (2.44:1) is higher than the industry average as well as standard norm. These low levels of debt-equity ratio of ACTIVEFINE, SQURPHARMA, IBNSINA, RENETA and BPL mean that the claims of creditors are lower than those of owners and the company has not liberally used debt to finance its assets. It indicates an inefficient financial management. On the other hand the position is strong for BXPHARMA, BEACONPHAR, AMBEEPHA and PHARMAID. From the calculated value of t it is seen that there is a significant difference in debt-equity ratio between industry average and 7 individual pharmaceuticals firms except BXPHARMA and BEACONPHAR.

(Insert Table-15 here)

7.4.2 Debt to Total Assets Ratio

The objective of this ratio is to assign what portion of total assets (debt + equity) is collected from debt. Some authors consider that debt to total assets ratio should be 50% for an industrial enterprise. The table-15 shows the debt to total assets ratio for the selected pharmaceuticals for the study period. It is observed from the table that the industry average debt equity ratio is 36% which is lower than the standard norm. It is also seen from the table that the average ratio ranges from 7% in ACTIVEFINE to 83% in AMBEEPHA. The calculated ratios indicate the claim of creditors is about to very small in percentage to the shareholders of ACTIVEFINE (7%), SQURPHARMA (28%), IBNSINA (35%), RENETA (33%), and BEACONPHAR (24%), PHARMAID (27% and BPL (13%) Such a lower ratio of debts to total assets of selected pharmaceuticals reveals the fact that they are less dependent on debt rather than on their own capital for financing their projects. On the other hand the average ratio of BXPHARMA (75%) and AMBEEPHA (83%) is higher than the average as well as the standard norm which indicates that BXPHARMA and AMBEEPHA are more dependent on debt rather than their own capital for financing project. From the calculated value of t it is observed that there is a significant difference in debt to total assets between industry average and 6 individual pharmaceuticals firms (ACTIVEFINE, BXPHARMA, BEACONPHAR, AMBEEPHA, PHARMAID and BPL). For other pharmaceuticals the difference is insignificant.

8. Testing financial soundness of selected Pharmaceutical Companies:

After examining profitability, liquidity, activity and solvency of selected Pharmaceutical Companies, now it is necessary to examine the overall financial soundness of these companies during the study period. In this context Multivariate Discriminate Analysis (MDA) model as developed by Prof. Altman may be considered worth while. The said model can give some rough idea about the financial soundness of the selected Pharmaceuticals. He developed the following equation for judging the financial soundness of an enterprise:

$Z = 0.012T_1 + 0.014T_2 + 0.033T_3 + 0.006T_4 + 0.999T_5$

Where;

T_1: Working Capital / Total Assets

T_2: Retained earnings / Total Assets

T_3: Earning before interest & taxes / Total Assets

T_4: Market value of equity / Total debt

T_5: Sales / Total Assets

Z: Overall index

In order to test the overall financial soundness of the selected pharmaceuticals, it needs to calculate the ratios of working capital to total assets, retained earnings to total assets, earning before interest & taxes to total assets, market value of equity to book value of total debt and sales to total assets.

(Insert Table-16 here)

The table-16 depicts the year wise as well as average position of the ratios of working capital to total assets, retained earnings to total assets, earning before interest and taxes to total assets, market value of equity to total debt and sales to total assets.

(Insert Table-17 here)

The Table-17 shows the year-wise as well as average position of Z's score of the sample pharmaceuticals during the study period. After putting the respective average values of T_1, T_2, T_3, T_4 and T_5, in the aforesaid equations as developed by Prof. Altman, Z score was estimated**.** The average Z score ranges from 0.30 in BXPHARMA to 2.03 in BEACONPHAR and the industry average Z score is 0.91 comparing with Prof. Altman's conclusion that firms with Z score above 2.99 were solvent while those below Z score of 1.81 were bankrupt. Average Z score of sample pharmaceutical ACTIVEFINE (0.83), SQURPHARMA (0.73), IBNSINA (0.65), BXPHARMA (0.30), RENETA (0.63), AMBEEPHA (0.75) are lower than the industry average as well as the range provided by Prof. Altman. On the other hand average Z score of sample pharmaceuticals of PHARMAID (1.00) and BPL (1.24) are higher than the industry average but lower than the range provided by Prof. Altman. Only Z score of BEACONPHAR (2.03) exists within the range provided by Prof. Altman. The table shows the position of bankruptcy at a lower level during the period for all the selected pharmaceuticals except BEACONPHAR.

It can be concluded that the overall financial soundness of the sample Industry during the study period had been worst leading to total bankruptcy of the industry. From the calculated value of t it is observed that there is a significant difference in Z score between industry average and 6 individual pharmaceuticals firms (SQURPHARMA, IBNSINA, BXPHARMA, RENETA, BEACONPHAR and AMBEEPHA). For other pharmaceuticals the difference is insignificant.

9. Conclusions

From the discussion it can be concluded that the financial position and operational performance of the most of the selected pharmaceuticals were not satisfactory. The inefficiency of financial management may be a major cause for such a poor position of the state of affairs. By applying Prof. Altman's MDA model it is seen that the overall financial position of the sample pharmaceuticals was at the lower level of bankruptcy except only one pharmaceuticals (BEACONPHAR). The main reasons attributed to such a situation were reported to be poor market demands, scarcity of raw materials, high competition, vanished quota system, management in attention, lack of realistic goals, strict government regulations, political instability, increased price of raw materials and others adverse environmental factors etc. In order to save the pharmaceuticals from total bankruptcy the financial performance of the sample pharmaceuticals should be improved as early as possible.

The followings are the recommendations:

i. The financial management specially purchase, sales and inventory management have to be motivated, so that they act all the tasks cordially, efficiently and honestly.

ii. The Pharmaceuticals should regularly make use of ratio analysis and measure should be taken to improve undesirable ratios at least as to the point of industry's average.

iii. Qualified, trained and experienced management personnel should be appointed.

iv. Government regulations should be flexible and policy should be realistic.

v. Operational efficiency should be increased by reducing cost and wastage and improving operating and management performance. Supply of working capital should be adequate.

vi. Liquidity position of the selected Pharmaceuticals should be improved by reducing current liabilities.

vii. A reasonable credit policy should be implemented, so that the main portion of profit does not spend in payment of fixed charges.

viii. Accountability and motivation for achievement of performance should be fixed up.

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Table-01: Gross Profit Margin

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	11	13.56	13.51	12.69	17.69	1.46	5.95	4.30	Rejected
SQURPHARMA	22.13	22.84	16.87	20.61	17.69	3.26	1.55	4.30	Accepted
IBNSINA	21.98	21.46	19.89	21.11	17.69	1.09	5.43	4.30	Rejected
BXPHARMA	39.03	29.18	35.08	34.43	17.69	4.96	5.83	4.30	Rejected
RENETA	9.62	10.12	11.82	10.52	17.69	1.15	10.86	4.30	Rejected
BEACONPHAR	9.70	9.28	9.27	9.42	17.69	0.25	59.07	4.30	Rejected
AMBEEPHA	18.44	19.90	22.57	20.30	17.69	2.09	2.16	4.30	Accepted
PHARMAID	14.16	14.25	14.32	14.24	17.69	0.08	69.00	4.30	Rejected
BPL	16.22	16.23	15	15.82	17.69	0.71	4.56	4.30	Rejected

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-02: Net Profit Margin

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	1.80	2.40	2.53	2.24	1.35	0.39	3.87	4.30	Accepted
SQURPHARMA	13.31	11.13	7.83	10.75	1.35	2.76	5.88	4.30	Rejected
IBNSINA	3.87	4.67	4.78	4.44	1.35	0.50	10.66	4.30	Rejected
BXPHARMA	(4.01)	(23.30)	(12.79)	(13.36)	1.35	9.66	2.64	4.30	Accepted
RENETA	2.71	3.35	4.50	3.52	1.35	0.91	4.09	4.30	Accepted
BEACONPHAR	0.52	0.22	0.30	0.34	1.35	0.16	11.22	4.30	Rejected
AMBEEPHA	0.97	0.96	2.28	1.40	1.35	0.76	0.11	4.30	Accepted
PHARMAID	2.34	2.50	2.26	2.37	1.35	0.12	14.57	4.30	Rejected
BPL	0.72	0.52	0.20	0.48	1.35	0.26	5.80	4.30	Rejected

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-03: Return on Investment

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	2.57	2.93	3.09	2.86	6.67	0.27	23.81	4.30	Rejected
SQURPHARMA	20.72	32.93	19.48	24.38	6.67	7.43	4.13	4.30	Accepted
IBNSINA	11.79	15.73	15.64	14.39	6.67	2.25	5.94	4.30	Rejected
BXPHARMA	(1.39)	(6.74)	(3.19)	-3.77	6.67	2.72	6.65	4.30	Rejected
RENETA	3.69	4.79	6.20	4.89	6.67	1.26	2.44	4.30	Accepted
BEACONPHAR	4.77	2.01	2.21	3.00	6.67	1.54	4.13	4.30	Accepted
AMBEEPHA	6.85	8.90	17.72	11.16	6.67	5.78	1.34	4.30	Accepted
PHARMAID	2.27	2.35	2.45	2.36	6.67	0.09	86.2	4.30	Rejected
BPL	0.75	0.76	0.70	0.74	6.67	0.03	296.5	4.30	Rejected

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-04: Operating Profit Ratio

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	3.92	5.27	5.32	4.84	10.70	0.79	12.74	4.30	Rejected
SQURPHARMA	19.63	20.89	14.78	18.43	10.70	3.23	4.13	4.30	Accepted
IBNSINA	18.09	16.47	15.18	16.58	10.70	1.46	7.00	4.30	Rejected
BXPHARMA	29.61	23.34	34.11	29.02	10.70	5.41	5.85	4.30	Rejected
RENETA	2.99	4.02	5.55	4.19	10.70	1.29	8.68	4.30	Rejected
BEACONPHAR	0.61	0.26	0.35	0.41	10.70	0.18	102.9	4.30	Rejected
AMBEEPHA	14.10	16.01	17.87	15.99	10.70	1.89	4.85	4.30	Rejected
PHARMAID	2.85	3.05	2.35	2.75	10.70	0.36	37.86	4.30	Rejected
BPL	4.23	3.35	4.78	4.12	10.70	0.72	15.67	4.30	Rejected

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-05: Return on Capital Employed

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	2.03	2.32	2.45	2.27	3.59	0.21	11.00	4.30	Rejected
SQURPHARMA	15.02	15.69	10.65	13.79	3.59	2.74	6.46	4.30	Rejected
IBNSINA	3.70	5.01	5.60	4.77	3.59	0.97	2.11	4.30	Accepted
BXPHARMA	(2.32)	(14.9)	(5.35)	(7.52)	3.59	6.57	2.92	4.30	Accepted
RENETA	0.35	3.09	4.31	2.58	3.59	2.03	0.86	4.30	Accepted
BEACONPHAR	4.77	2.01	2.21	3.00	3.59	1.54	0.66	4.30	Accepted
AMBEEPHA	4.06	4.92	13.62	7.53	3.59	5.29	1.29	4.30	Accepted
PHARMAID	3.70	4.33	5.21	4.41	3.59	0.76	1.86	4.30	Accepted
BPL	1.53	1.59	1.25	1.46	3.59	0.18	21.3	4.30	Rejected

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-06: Return on Total Assets

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	1.61	1.88	2.01	1.83	1.82	0.20	.08	4.30	Accepted
SQURPHARMA	9.00	8.27	5.00	7.42	1.82	2.13	4.55	4.30	Rejected
IBNSINA	2.31	3.11	3.20	2.87	1.82	0.49	3.75	4.30	Accepted
BXPHARMA	(1.39)	(6.74)	(3.19)	(3.77)	1.82	2.72	3.56	4.30	Accepted
RENETA	2.23	3.09	4.31	3.21	1.82	1.05	2.28	4.30	Accepted
BEACONPHAR	1.04	0.46	0.61	0.70	1.82	0.30	6.59	4.30	Rejected
AMBEEPHA	0.82	1.02	2.00	1.28	1.82	0.63	1.5	4.30	Accepted
PHARMAID	2.12	2.26	2.45	2.28	1.82	0.17	4.6	4.30	Rejected
BPL	0.75	0.76	0.25	0.59	1.82	0.29	7.24	4.30	Rejected

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-07: Current Ratio

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	1.26:1	1.51:1	1.74:1	1.08:1	0.94:1	0.24	1.00	4.30	Accepted
SQURPHARMA	1.05:1	1.09:1	1.21:1	1.12:1	0.94:1	0.08	3.60	4.30	Accepted
IBNSINA	0.98:1	1.13:1	1.19:1	1.10:1	0.94:1	0.11	2.67	4.30	Accepted
BXPHARMA	1.27:1	0.98:1	0.92:1	1.06:1	0.94:1	0.19	1.09	4.30	Accepted
RENETA	1.09:1	1.08:1	1.06:1	1.08:1	0.94:1	0.02	14.00	4.30	Rejected
BEACONPHAR	0.70:1	0.60:1	0.52:1	0.61:1	0.94:1	0.09	6.60	4.30	Rejected
AMBEEPHA	0.58:1	0.56:1	0.56:1	0.57:1	0.94:1	0.01	61.67	4.30	Rejected
PHARMAID	0.98:1	0.97:1	0.98:1	0.98:1	0.94:1	0.01	6.67	4.30	Rejected
BPL	0.98:1	0.90:1	0.67:1	0.85:1	0.94:1	0.16	1.00	4.30	Accepted

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-08: Liquid/ Quick/ Acid Test Ratio

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	1.06:1	1.31:1	1.47:1	1.28:1	0.57:1	0.21	464.33	4.30	Rejected
SQURPHARMA	0.58:1	0.66:1	0.69:1	0.64:1	0.57:1	0.06	2.33	4.30	Accepted
IBNSINA	0.35:1	0.34:1	0.18:1	0.29:1	0.57:1	0.10	4.67	4.30	Rejected
BXPHARMA	0.68:1	0.52:1	0.57:1	0.59:1	0.57:1	0.08	0.40	4.30	Accepted
RENETA	0.51:1	0.66:1	0.49:1	0.55:1	0.57:1	0.09	0.40	4.30	Accepted
BEACONPHAR	0.32:1	0.23:1	0.33:1	0.29:1	0.57:1	0.06	9.33	4.30	Rejected
AMBEEPHA	0.42:1	0.37:1	0.34:1	0.38:1	0.57:1	0.04	9.50	4.30	Rejected
PHARMAID	0.59:1	0.76:1	0.74:1	0.70:1	0.57:1	0.09	2.60	4.30	Accepted
BPL	0.47:1	0.50:1	0.32:1	0.43:1	0.57:1	0.10	2.33	4.30	Accepted

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-09: Current Assets to Fixed Assets

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	0.35:1	0.40:1	0.46:1	0.40:1	0.78:1	0.06	12.67	4.30	Rejected
SQURPHARMA	0.66:1	0.96:1	1.56:1	1.06:1	0.78:1	0.46	1.04	4.30	Accepted
IBNSINA	0.58:1	0.74:1	1.04:1	0.79:1	0.78:1	0.23	0.08	4.30	Accepted
BXPHARMA	1.04:1	1.16:1	0.61:1	0.94:1	0.78:1	0.29	0.94	4.30	Accepted
RENETA	0.44:1	0.43:1	0.66:1	0.51:1	0.78:1	0.13	3.38	4.30	Accepted
BEACONPHAR	1.22:1	0.85:1	0.60:1	0.89:1	0.78:1	0.31	0.61	4.30	Accepted
AMBEEPHA	0.82:1	0.90:1	1.03:1	0.92:1	0.78:1	0.11	2.33	4.30	Accepted
PHARMAID	0.79:1	0.90:1	1.09:1	0.93:1	0.78:1	0.15	1.67	4.30	Accepted
BPL	0.50:1	0.74:1	0.60:1	0.61:1	0.78:1	0.12	2.43	4.30	Accepted

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-10: Net Working Capital to Total Assets

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	(0.01)	0.04	0.08	0.04	(0.01)	0.04	2.50	4.30	Accepted
SQURPHARMA	0.02	0.04	0.10	0.05	(0.01)	0.04	3.00	4.30	Accepted
IBNSINA	(0.01)	0.05	0.01	0.02	(0.01)	0.04	1.50	4.30	Accepted
BXPHARMA	0.02	(0.01)	(0.04)	0.01	(0.01)	0.03	1.00	4.30	Accepted
RENETA	0.03	0.02	0.02	0.02	(0.01)	0.001	30.00	4.30	Rejected
BEACONPHAR	(0.23)	(0.31)	(0.35)	(0.30)	(0.01)	0.06	10.33	4.30	Rejected
AMBEEPHA	(0.0003)	(0.0004)	(0.0004)	(0.0004)	(0.01)	0.0001	104.00	4.30	Rejected
PHARMAID	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	0.003	10.00	4.30	Rejected
BPL	(0.01)	(0.05)	0.18	0.04	(0.01)	0.12	0.71	4.30	Accepted

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-11: Inventory Turnover

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	22.30	21.00	16.67	19.99	6.45	2.95	19.07	4.30	Rejected
SQURPHARMA	4.09	4.26	2.76	3.70	6.45	0.82	5.85	4.30	Rejected
IBNSINA	1.66	2.09	1.56	1.77	6.45	0.28	29.25	4.30	Rejected
BXPHARMA	1.52	1.16	1.74	1.47	6.45	0.29	29.29	4.30	Rejected
RENETA	3.64	5.64	2.79	4.03	6.45	1.46	2.88	4.30	Accepted
BEACONPHAR	6.75	7.45	14.36	9.52	6.45	4.21	1.08	4.30	Accepted
AMBEEPHA	3.82	5.70	4.14	4.55	6.45	1.01	3.28	4.30	Accepted
PHARMAID	5.44	8.81	10.15	8.13	6.45	2.43	1.20	4.30	Accepted
BPL	3.35	5.67	5.55	4.86	6.45	1.31	2.09	4.30	Accepted

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-12: Net Fixed Assets Turnover

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	1.22	1.12	1.17	1.17	1.89	0.05	24.00	4.30	Rejected
SQURPHARMA	1.13	1.45	1.64	1.41	1.89	0.26	3.20	4.30	Accepted
IBNSINA	0.95	1.16	1.36	1.16	1.89	0.21	6.08	4.30	Rejected
BXPHARMA	0.71	0.63	0.40	0.58	1.89	0.16	14.56	4.30	Rejected
RENETA	0.86	0.96	1.00	0.94	1.89	0.07	23.75	4.30	Rejected
BEACONPHAR	4.43	3.96	3.23	3.87	1.89	0.60	5.66	4.30	Rejected
AMBEEPHA	1.29	1.56	1.51	1.45	1.89	0.14	5.50	4.30	Rejected
PHARMAID	1.72	1.71	2.63	2.02	1.89	0.53	0.42	4.30	Accepted
BPL	2.34	2.87	2.03	4.41	1.89	0.42	10.50	4.30	Rejected

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-13: Total Assets Turnover

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	0.89	0.76	0.79	0.81	0.90	0.07	2.25	4.30	Accepted
SQURPHARMA	0.68	0.74	0.64	0.69	0.90	0.05	7.00	4.30	Rejected
IBNSINA	0.60	0.67	0.67	0.65	0.90	0.04	12.50	4.30	Rejected
BXPHARMA	0.35	0.29	0.25	0.30	0.90	0.05	20.00	4.30	Rejected
RENETA	0.59	0.67	0.60	0.62	0.90	0.04	14.00	4.30	Rejected
BEACONPHAR	1.99	2.13	2.00	2.04	0.90	0.08	22.80	4.30	Rejected
AMBEEPHA	0.72	0.84	0.74	0.77	0.90	0.06	4.33	4.30	Rejected
PHARMAID	0.90	0.87	1.23	1.00	0.90	0.20	0.83	4.30	Accepted
BPL	1.04	1.40	1.27	1.24	0.90	0.18	3.40	4.30	Accepted

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-14: Debt-Equity Ratio

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	0.35	0.32	0.31	0.33:1	2.12:1	0.02	179.00	4.30	Rejected
SQURPHARMA	1.14	1.18	0.92	1.08:1	2.12:1	0.14	13.00	4.30	Rejected
IBNSINA	0.60	0.61	0.75	0.65:1	2.12:1	0.08	29.40	4.30	Rejected
BXPHARMA	2.03	2.45	2.33	2.27:1	2.12:1	0.22	1.15	4.30	Accepted
RENETA	1.29	1.14	1.29	1.24:1	2.12:1	0.09	17.60	4.30	Rejected
BEACONPHAR	3.59	3.33	2.64	3.19:1	2.12:1	0.49	3.82	4.30	Accepted
AMBEEPHA	6.97	7.44	7.28	7.23:1	2.12:1	0.24	36.50	4.30	Rejected
PHARMAID	2.21	2.48	2.71	2.44:1	2.12:1	0.25	2.29	4.30	Accepted
BPL	0.39	0.58	0.98	0.65:1	2.12:1	0.30	8.65	4.30	Rejected

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table-15: Debt to Total Assets Ratio

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	0.08	0.07	0.06	0.07	0.36	0.01	48.33	4.30	Rejected
SQURPHARMA	0.30	0.31	0.24	0.28	0.36	0.04	4.00	4.30	Accepted
IBNSINA	0.35	0.36	0.34	0.35	0.36	0.01	1.67	4.30	Accepted
BXPHARMA	0.74	0.76	0.74	0.75	0.36	0.01	65.00	4.30	Rejected
RENETA	0.36	0.33	0.30	0.33	0.36	0.03	1.50	4.30	Accepted
BEACONPHAR	0.20	0.25	0.27	0.24	0.36	0.04	6.00	4.30	Rejected
AMBEEPHA	0.82	0.83	0.83	0.83	0.36	0.005	156.67	4.30	Rejected
PHARMAID	0.30	0.27	0.24	0.27	0.36	0.03	4.50	4.30	Rejected
BPL	0.13	0.17	0.10	0.13	0.36	0.04	11.50	4.30	Rejected

Source: Annual Report and Official Records of the selected Pharmaceuticals

*Significant at the 0.05 level (2-tailed).

Table: 16 (Ratios for Testing Financial Soundness)

Ratios	ACTIVEFINE	SQURPHARMA	IBNSINA	BXPHARMA	RENETA	BEACONPHAR	AMBEEPHA	P
Working Capital to Total Assets (in time)	(0.005) 0.040 0.080 0.038 0.042	0.019 0.401 0.104 0.174 0.200	(0.007) 0.047 0.080 0.04 0.044	0.108 (0.012) (0.035) 0.021 0.077	0.026 0.024 0.024 0.025 0.001	(0.233) (0.307) (0.348) (0.296) 0.0583	(0.0003) (0.0004) (0.0004) (0.0004) 0.00001	
Retained Earnings to Total Assets (in time)	0.007 0.012 0.017 0.012 0.005	0.09 0.083 0.050 0.074 0.021	0.016 0.001 0.003 0.007 0.008	(0.014) (0.067) (0.032) (0.037) 0.027	(0.039) (0.036) (0.022) (0.032) 0.009	(0.314) (0.329) (0.390) (0.344) 0.041	0.0067 0.0079 0.0164 0.0103 0.0053	
Earning before interest and taxes to Total Assets (in time)	0.019 0.022 0.024 0.022 0.003	0.124 0.129 0.092 0.115 0.020	0.078 0.103 0.095 0.092 0.013	0.077 0.024 0.036 0.045 0.028	0.37 0.047 0.051 0.156 0.185	0.048 0.050 0.057 0.052 0.005	0.099 0.132 0.137 0.123 0.021	
Market value of equity to Total Debt (in time)	2.86 3.125 3.23 3.072 0.191	0.88 0.85 1.09 0.94 0.131	1.67 1.64 1.33 1.547 0.188	0.49 0.41 0.43 0.443 0.042	0.78 0.88 0.78 0.813 0.058	0.28 0.30 0.38 0.32 0.053	0.143 0.134 0.137 0.138 0.005	
Sales to Total Asset (in time)	0.89 0.76 0.79 0.813 0.068	0.68 0.74 0.64 0.687 0.050	0.59 0.68 0.67 0.647 0.049	0.35 0.29 0.25 0.297 0.050	0.59 0.67 0.60 0.62 0.043	1.99 2.13 2.00 2.04 0.078	0.709 0.819 0.721 0.749 0.060	

Source: Annual Report and Official Records of the selected Pharmaceuticals industry, (2005-2008)

Table: 17 (Analysis of Z score)

Name of the Pharmaceuticals	2005-06	2006-07	2007-08	Mean	Industry Mean	S.D	t –value (Absolute value)	Table value*	Result (Ho)
ACTIVEFINE	0.91	0.78	0.81	0.83	0.91	0.07	2.00	4.30	Accepted
SQURPHARMA	0.69	0.75	0.76	0.73	0.91	0.04	9.00	4.30	Rejected
IBNSINA	0.60	0.68	0.68	0.65	0.91	0.05	8.67	4.30	Rejected
BXPHARMA	0.35	0.29	0.25	0.30	0.91	0.05	20.33	4.30	Rejected
RENETA	0.61	0.68	0.61	0.63	0.91	0.04	14.00	4.30	Rejected
BEACONPHAR	1.99	2.12	1.99	2.03	0.91	0.08	22.40	4.30	Rejected
AMBEEPHA	0.71	0.82	0.73	0.75	0.91	0.06	5.33	4.30	Rejected
PHARMAID	0.90	0.88	1.23	1.00	0.91	0.20	0.75	4.30	Accepted
BPL	1.07	1.41	1.24	1.24	0.91	0.18	3.30	4.30	Accepted

*Significant at the 0.05 level (2-tailed).

List of Pharmaceuticals under study:

Name of the Pharmaceuticals	Short name used
Active Fine Chemicals Limited	ACTIVEFINE
Square Pharmaceuticals Limited	SQURPHARMA
The Ibn Sina Pharmaceuticals ltd.	IBNSINA
Beximco Pharma	BXPHARMA
Renata Ltd.	RENATA
Beasel Pharmaceuticals Limited	BEACONPHAR
Ambee Pharma	AMBEEPHA
Pharma Aids	PHARMAID
Beacon Pharmaceuticals Limited	BPL