CHAPTER VIII

SUMMARY OF FINDINGS AND CONCLUSION

8.1. INTRODUCTION

Agriculture is the backbone of our country’s economic development. Finance is the lifeblood of business. Any business activity requires finance. Without sound finance, no business can be prosperous and without sound management, no strong financial position can be built. It transforms the way of financial performance analysis which is the central aspect of a firm’s financial policy as it influences shareholders’ return and risk. An attempt is made to understand the productivity and financial efficiency of the select sugar companies. A firm requires sound financial management. Even an efficient firm may fail due to poor financial management.

Financial tools using ratio analysis were analyzed and the Summary of statistical measures like, mean, standard deviation, co-efficient of variance, skewness and kurtosis were used to evaluate the performance. The growth of sugar companies was analyzed and forecasted. Productivity efficiency was found using the productivity ratios and the production function using Solow was analysed. Regression analysis was used to test the inter-relationship between variables. Here, select ratios are used as variables. The financial health of the sugar companies is also ascertained. This chapter presents the key of findings of the study during the study period from 2001-2002 to 2010-2011 and provides suitable suggestions, which can be used as a measure for the future betterment of the sugar industry.

8.2 SUMMARY OF FINDINGS

8.2.1 TREND ANALYSIS

It is forecasted for the year of 2020-2021 for the select sugar companies in India. The Working Capital is extreme in BHL by Rs.5062.33 crores.
The Operating Profit is Rs.1597.59 crores in BHL. The Raw Materials consumption is higher in SRSL by Rs.7094.93 crores. The trend movement is estimated that the Net Sales would be maximum in SRSL by Rs.8260.92 crores. It is found that the Net Profit would be greatest in SRSL by Rs.572.34 crores.

8.2.2 ANNUAL COMPOUND GROWTH ANALYSIS

The annual compound growth rate of the select sugar companies in India is analyzed based on region. It has been found that the Networth is more in the southern region than that of northern region by 14.57 percent which represents that the funds are utilized at utmost and which in turn increases the investment. The Net Sales is higher in the northern region than that of southern region. It reflects that the profit is effective in the northern region. The productive capital is 11.21 percent in the northern region which is higher than the southern region. The Raw Materials is higher in the northern region than that of southern region by 11.85 percent. It represents the efficient utilization of the material consumption is good in the northern region. The Net Profit is higher in the southern region by 27.34 percent than that of the northern region by 14.29 percent which represent that there a constant eye on the indirect expenses met by the companies in the southern region than that of the northern region.

8.2.3 PRODUCTIVITY ANALYSIS

8.2.3.1 OVERALL PRODUCTIVITY

The overall productivity was found to be better in the sugar companies started after green revolution in India with an overall average of Rs.1.88 crores.

8.2.3.2 FACTORAL PRODUCTIVITY

The labour productivity increases in the sugar companies started after green revolution by an average value of Rs.2327.02 crores. The material production yields to maximum in the sugar companies started after green revolution with an
average of Rs.206.91 crores. The Capital Productivity ratio is high in the sugar companies started after green revolution by Rs.2620.03 crores which implies that these companies performed much better in the use of factoral productivity.

8.2.4 THE PRODUCTION FUNCTIONS USING SOLOW MODEL

According to Solow production function the mean value in the sugar companies started before green revolution is 108.3 and the mean value of 129.51 in the sugar companies started after green revolution. So the companies which began after green revolution period shows an increase value of production. The growth of sugar companies is accelerating in both cases.

8.2.5 REGRESSION ANALYSIS

The analysis of multiple regressions reveals that the relationship between Raw Materials and other independent variables i.e. the Capital, Labour and Sales has contributed 99 percent on the dependent variable of the sugar companies which started after green revolution period and the companies which started before green revolution period contribute 91.5 percent.

8.2.6 RATIO ANALYSIS

8.2.6.1 TECHNIQUES OF PROFITABILITY RATIO ANALYSIS BASED ON SIZE

The Gross Profit Ratio of the select sugar companies in India during the study period from 2001-2002 to 2010-2011 indicates that the mean value of the large-size companies is 13.79 percent. It is a sign of good management of the concern and it implies that the cost of production is good. The smaller standard deviation of medium-size companies is 5.25 which show the stable performance in comparison with small- and large-size companies. The large-size companies (C.V 0.44) were more consistent. The Skewness is positively skewed in large-size and medium-size companies by nearly 80 percent and the distribution of ratio was platykurtic in all the three categories.
The **Net Profit Ratio** of the select sugar companies in India during the study period shows that the mean percentage is observed in large-size companies by 6.07 which indicates the better and effective operational efficiency of its resources of the business and it turns each rupee of sales into net profit. The standard deviation of large-size companies is 3.16 which shows the stable performance. The C.V of small-size companies is -6.06 percent were more consistent. The Skewness is positively skewed in medium- and large-size companies and the distribution of ratio was less peaked with thinner tails in all the three categories.

The **Operating Profit Ratio** demonstrates that the mean value of the large-size companies is 19.31 percent. During the study period it shows that the large-size companies are good which implies that there is good operational efficiency. The standard deviation of medium-size companies is 4.41 which show the stable performance. The medium-size companies C.V (0.29) were more consistent. The Skewness is positively skewed in large-size companies by 1.39. The distribution of ratio was platykurtic in small- and medium-size companies and it is more peaked with fat tails in large-size companies.

The **Net profit to Fixed Assets ratio** that determines the mean value of the large-size companies is 10.06 percent during the study period. It shows that the large-size companies are good against small- and medium-size companies and it provides margin of safety to the assets. The standard deviation of large-size companies is 6.28 which show the stable performance. The small-size companies C.V was more consistent. The Skewness is positively skewed in all the sizes of companies and the distribution of ratio were less peaked than normal curve in large-, medium- and small-size companies.

### 8.2.6.2 TECHNIQUES OF LIQUIDITY RATIO ANALYSIS BASED ON SIZE

The **Current Ratio** of the select sugar companies in India during the study period from 2001-2002 to 2010-2011 indicates that the highest average mean value
of the medium-size companies is 2.43 times. It shows that the medium-size companies are good in financial stability. The smaller standard deviation of small-size companies is 0.26 which reflects the effective utilization of finance. The C.V of the large-size companies was consistent by 0.12. The Skewness is positively skewed in all companies and the distributions of ratio were platykurtic in all the three categories.

The **Quick Ratio** portrays that the mean value of the large-size company is 2.99 times. During the study period it shows that the large-size companies are good to meet their current obligations. The standard deviation of medium-size companies is 0.13 which shows the stable performance. The C.V of the small-size companies was consistent by 0.30. The Skewness is positively skewed in all the companies and the distribution of ratio was platykurtic in small-size companies and the curve is more peaked than the normal curve in large- and medium-size companies.

The **Absolute ratio** depicts that the medium-size company’s mean value is 0.17 times. It shows that the medium-size companies are better. The standard deviation of small-size companies is 0.05 which shows the stable performance in comparison with large- and medium- size companies. The C.V of the large-size companies by 0.45 was consistent. The Skewness is positively skewed in small- and medium- size companies by 1.26 and 1.07 respectively. The distribution of ratio was platykurtic in all the three categories during the study period.

**8.2.6.3 TECHNIQUES OF SOLVENCY RATIO ANALYSIS BASED ON SIZE**

The **Debt-Equity ratio** of the select sugar companies in India represents that the mean value of the medium-size companies is 2.71 times which provides the margin of safety to the creditors during the study period. The standard deviation of large-size companies is 0.22 which is steady in performance. The C.V of large-size companies was more consistent. The Skewness is positively skewed in small-size companies by 0.36 and whereas it is negatively skewed in large-and medium-size companies and the distribution of ratio was platykurtic in all the three categories of companies.
The **Proprietary ratio** indicates that the mean value of the large-size companies is 0.42 percent. It shows that the large-size companies are reasonably good and there is less danger and risk to creditors in the event of winding up. The standard deviation of large-size companies is 0.04 which shows the stable performance in comparison with small- and medium-size companies. The C.V of large-size companies was consistent by 0.09. The Skewness is positively skewed in large- and medium-size companies and the distribution of ratio was less peaked by thinner tails in all the three categories.

The **Return on Investment ratio** exemplifies that the return on investment of the select sugar companies is higher in medium-size companies as its average percentage is 1.76, which indicates that more wealth for the shareholders or investors is found in medium-size companies. The standard deviation of large-size companies is 0.05 which shows the stable performance. The C.V of small-size companies was consistent by -5.29 than the large- and medium-size companies. The Skewness is positively skewed in large-, medium- and small-size companies by 1.14, 0.22 and 0.15 respectively. The distributions of ratio were platykurtic in all the sizes of the companies.

The **Fixed Assets to Networth ratio** of the select sugar companies identified that the mean value of the small-size companies is 2.07 percent; during the study period it reveals that the small-size companies are greater in the intensive utilization of fixed assets. The standard deviation of large-size companies is 0.18 which shows the stable performance. The C.V of large-size companies was consistent by 0.14. The Skewness is positively skewed in small-size companies by 0.45. The distributions of ratio were platykurtic in small-, large- and medium-size companies.

The **Current Assets to Networth ratio** of the select sugar companies is analyzed and the mean value of the small-size company is 2.38 percent during the study period. It shows that the small-size companies security for creditors are good against large- and medium-size companies. The standard deviation of large-size
companies is 0.32 which shows the stable performance. The C.V of medium-size
companies was consistent by 0.19. The Skewness is positively skewed in all the sizes of
the companies and the distribution of ratio was less peaked in all the three categories.

The **Net Profit to total Assets ratio** exemplifies the mean value of the
large-size company is 0.05 during the study period. It shows that the large-size
companies are greater in the intensive utilization of total assets. The standard
deviation of large-size companies is 0.03 which shows the stable performance. The
C.V of small-size companies was more consistent. The Skewness is positively skewed
in all sizes of the companies by 0.39, 1.21 and 1.27 and the distributions of ratio were
less peaked than the normal curve in small-, large- and medium-size companies.

The **Investment to Networth ratio** represent that the investment towards
Networth of the select sugar companies is higher in large-size companies as its
average percentage is 0.23; it indicates that the ability of the firms operation
toward the debt is found to be good in large-size companies. The standard
deviation of small-size companies is 0.02 which shows the stable performance.
The small-size companies (C.V 0.34) were more consistent than the large- and
medium- size companies. The Skewness is positively skewed in all the sizes of the
companies and the distribution of ratio was platykurtic.

The **Networth to Total Income ratio** establishes the mean value of the
select sugar companies and it is 0.46 percent in large-size companies. During the
study period it shows that the large-size companies stand good in profitability from
the shareholders point of view. The standard deviation of small-and medium-size
companies is 0.04 which shows the stable performance in comparison with large
size companies. The C.V of medium-size companies was consistent by 0.14.
The Skewness is positively skewed in small- and large-size companies and the
distribution of ratio was platykurtic in all the three categories.
8.2.6.4 TECHNIQUES OF SALES EFFICIENCY RATIO BASED ON SIZE

The Debtors Turnover ratio of select sugar companies during the study period 2001-2002 to 2010-2011 indicates that the sales towards the average debtors is 14.69 times in medium-size companies. It shows that the ability of the firm’s debts collection and it is good in medium-size companies. The standard deviation of large-size companies is 1.60. The C.V of large-size companies was more consistent by 0.16. The Skewness is positively skewed in small- and medium-size of companies. The distributions of ratio have short tails in all the three categories.

The working capital ratio demonstrates that the mean value of the small size companies is 3.57 times, and it shows that the small-size companies are good and denotes the efficient use of working capital in the business. The standard deviation of medium-size companies is 0.55 which shows the stable performance. The C.V of medium-size companies was consistent by 0.19. The Skewness is negatively skewed in all the sizes of the companies and the distributions of ratio were platykurtic in all the three categories.

The Fixed asset turnover ratio signifies that the high ratio is found in the small-size companies is 1.96 times, which indicates the efficient utilization of the assets of the select sugar companies during the study period. The standard deviation of medium-size companies is 0.41 which shows the stable performance. The C.V of medium-size companies (0.22) was consistent. The Skewness is positively skewed in the small- and medium-size of companies by 0.20 and 0.23 respectively. The distributions of ratio were less peaked than normal curve in all the three categories.

The Raw materials to sales ratio implies that the mean value of the small-size companies is 71.28 percent during the study period. The standard deviation of large-size companies is 6.28 which shows the stable performance in comparison.
The C.V of large-size companies was consistent. The Skewness is positively skewed in the medium-size companies and the distribution of ratio was platykurtic in all the three categories.

The **Power and Fuel to Sales Ratio** shows that the mean value of medium-size companies is 2.30 percent, which indicates the efficient utilization of the power and fuel which leads to high profit of the select sugar companies during the study period. The standard deviation of small-size companies is 0.45 which shows the stable performance in comparison with large- and medium-size companies. The C.V of small-size companies was consistent by 0.17. The Skewness is positively skewed in all the sizes of the companies. The distributions of ratio have short tails in all the three categories.

The **Labour cost to sales ratio** of the select sugar companies demonstrates that the mean value of the small-size company is 4.93 percent; during the study period it reveals that the small-size companies are greater in the intensive in utilization of labour cost. The standard deviation of medium-size companies is 0.72 which shows the stable performance. The C.V of medium-size companies was consistent by 0.11. The Skewness is positively skewed in small-size companies and the distributions of ratio were platykurtic in small-, large- and medium-size companies.

The **Other Manufacturing Expenses to Sales Ratio** of select sugar companies during the study period represents that the other manufacturing expenses towards sales of the select sugar companies is lower in large-size companies as its average is 6.21 percent. So it indicates that the ability of the firms operation towards the expenses is good in large-size companies. The standard deviation of large-size companies is 1.05 which shows the stable performance. The C.V of medium-size companies was consistent by 0.14. The Skewness is positively skewed in all the sizes of the companies. The distributions of ratio were less peaked in all categories.
The **Selling and Administration Ratio** shows that the mean value of the small-size companies is 2.43 percent during the study period and it demonstrate that the small-size companies are good in utilizing the expenses. The standard deviation of small-size companies is 0.34 which shows the stable performance. The C.V of small-size companies was more consistent by 0.14. The Skewness is positively skewed in small- and large-size companies and the distributions of ratio were platykurtic in all the three categories.

**8.2.7 ANALYSIS OF VARIANCE**

**ANOVA FOR PROFITABILITY RATIO BASED ON SIZE**

There is a difference in the mean value of Gross Profit Ratio among the three categories of companies. The mean value of Net Profit Ratio differs significantly among the three categories of companies. The mean value of Operating Profit Ratio among the three categories of companies differs significantly. There is a difference in the mean value of Net Profit to Fixed Assets Ratio among three categories of companies.

**ANOVA FOR LIQUIDITY RATIO BASED ON SIZE**

The mean value of current ratio among the three categories of companies differs significantly. The difference in the mean value of Quick ratio among the three categories of companies differs significantly. The mean value of Absolute ratios differs significantly.

**ANOVA FOR SOLVENCY RATIO BASED ON SIZE**

The difference in the mean value of Debt-Equity Ratio among the three categories of companies differs significantly. The differences in the mean value of Proprietary ratio among the three categories of companies differ significantly. The mean value of Return on Investment does not differ significantly among the three categories of companies. The differences in the mean value of Fixed Assets to Networth Ratio among the three categories of companies differ significantly.
The differences in the mean value of Current Assets to Networth Ratio among the three categories of companies differ significantly. The mean value of Net Profit to Total Assets Ratio differs significantly among select sugar companies based on size. The differences in the mean value of Investment to Networth Ratio among the three categories of companies differ significantly. The difference in the mean value of Networth to Total Income Ratio differs significantly.

ANOVA FOR SALES EFFICIENCY RATIO BASED ON SIZE

The mean value of Debtors Turnover Ratio differs significantly among the three categories of companies. The difference in the mean value of Fixed Assets to Networth Ratio among the three categories of companies does not differ significantly. The difference in the mean value of Fixed Assets Turnover Ratio among the three categories of companies does not differ significantly. The mean value of Raw Materials to Sales Ratio does not differ significantly among the three categories. The mean value of Power and Fuel to Sales Ratio differs significantly among the three categories of companies. There is a significant difference in the mean value of Labour Charges to Sales Ratio among the three categories of companies. The differences in the mean value of other manufacturing expenses to sales ratio among the three categories of companies differ significantly. The mean value of Selling and Administration to Sales Ratio differs significantly among the three categories of companies.

8.2.8 Z SCORE ANALYSIS BASED ON SIZE

The Average Z score during the study period is 2.04 which represents that the financial position is healthy in small-size companies. The Average Z score during the study period is 2.07 which represents that the financial position is healthy in medium-size companies. The Average Z score during the study period is 2.68 which is above the standard norms and it represents that the financial position is too healthy in large-size companies.
8.3 SUGGESTIONS

The trend of working capital of sugar industry in India is found to be negative in ISRL, JSCL, PSAIL, PSCL companies. Therefore, they must improve the working capital position to improve debtors and inventory.

The average growth of sugar industry was slower in the southern region than that of northern region due to poor irrigation and rainfall.

There is a need for improving the productivity and it can be done by improving the quality of labour compensation such as providing reward to their workers.

The sugar companies started before green revolution should increase production with the up gradation of modern technological innovation.

The companies should watch all its expenses and especially the operating expenses since they constitute the major portion of sales. To remain profitable the sugar companies should manage its resources effectively.

The demand for sugar is high at global level, therefore the companies should increase the production through increase in the level of investment.

Since the sugarcane is the main raw material for the production of sugar, the farmers may be encouraged to produce quality sugarcane.
8.4 CONCLUSION

Industries play an important role in the growth of any economy. Since India is a developing country there is a need for faster economic growth. India being the second largest producer of sugar in the world market, the sugar industry is gaining an important place among other industries in India. This makes the planners to make various measures to improve the industry. The growth of sugar industry is necessary by increasing the productive efficiency and the factors of production.

The study brings out the fact that the production of sugar in the companies started after green revolution is more effective than the sugar companies started before green revolution. It is due to the effective utilization and modernization of its resources. The analysis reveals that the relationship between Raw Materials and other independent variables i.e. the Capital, Labour and Sales has contributed 99 percent on dependent variable of the companies which started after green revolution period. The growth of the northern region has positive growth in terms of output, capital employed and also there is better rainfall and irrigation in this region than that of the southern region. The trend line moves towards maximum in BHL companies. In terms of financial efficiency the ratio analysis indicates that the large-size companies are more effective than that of the medium- and small-size companies. The profitability positions of large-size companies are better than the medium- and small- size companies. The difference in the mean value among the three categories of companies differs significantly based on size. The financial health of the large-size companies is too healthy.

For further research the following topics can be studied:
2. Determinants on capital structure of Indian Sugar Industry.