COMPARATIVE ANALYSIS OF THE FINANCIAL PERFORMANCE OF THE PUNJAB AND HARYANA STATE ELECTRICITY BOARDS

A Research Project Report

Submitted to the Punjab Agricultural University
in partial fulfilment of the requirements
for the degree of

MASTER OF BUSINESS ADMINISTRATION

by

Amrish Bansal
(L-95-BS-02-MBA)

Department of Business Management
College of Basic Sciences and Humanities
PUNJAB AGRICULTURAL UNIVERSITY
LUDHIANA-141 004 (India)

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CERTIFICATE - I

This is to certify that this research project on "Comparative Analysis of the Financial Performance of the Punjab and Haryana State Electricity Boards " submitted in partial fulfillment of the requirements for the degree of Master of Business Administration of the Punjab Agricultural University , Ludhiana is a bonafide research work carried out by AMRISH BANSAL(Admission No. L-95-BS-02-MBA) under my supervision.

Dr. Y.P. Sachdeva
(Major Advisor)

CERTIFICATE - II

This is to certify that the research project entitled, " **Comparative Analysis of the Financial Performance of the Punjab and Haryana State Electricity Boards** " submitted by Mr. Amrish Bansal (L-95-BS-02-MBA) to the Punjab Agricultural University, Ludhiana in partial fulfilment of the requirements for the degree of Master of Business Administration has been approved by the Student's Advisory Committee after an oral examination on the same, in collaboration with an External Examiner.

Sachdeva

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Major Advisor

Chander 13.2.98

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Dean, Post Graduate Studies

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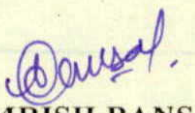
Last, but not the least, I thank my loving parents and my sisters for their affection and admiration that really kept me going.



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CHAPTER I

INTRODUCTION

With rapid technological advancement in almost all areas of human activity, there is hardly any area left out where electric power is not being used in any mechanical process, howsoever simple it may be since electricity is the basic source of power and its uses are varied without any limitation of direction and dimension. Every government, whether at the national or at the state level, has to make earnest efforts to build up electricity generating capacity from all possible means. This is based on the recognition that provision of adequate electric power is one of the important constituents of necessary infrastructure required for rapid economic growth.

It is keeping in view the importance of electricity as a source of power that the responsibility of looking after the generation and distribution of electricity has been vested in legally created public authorities, known as electricity boards. Such boards have thus been created in all the states whose basic function is to ensure that electricity generating capacity is augmented to the maximum possible extent and the available capacity is fully utilized in different uses according to the changing needs and in the best interest of the society as a whole.

With the passage of time the role played by the government in the economic development of a state or the country is assuming increasing importance. The participation by the states in almost every economic activity is the latest trend. There is hardly any area left out where the government has not come in a big way, may it be an

activity relating to Trade, Commerce Business, Industry, or public utility services, etc. All such activities, particularly the public utilities, constitute the biggest area where participation by the government is justified from all possible angles such as economy, efficiency, equity & justice.

With rapid technological advancement, there are hardly any process which can be performed without the use of power, electric power particularly. Since electricity is one of the basic means of power, and its uses varied without any direction & dimension, the government of every state/country have made tremendous efforts in building up electric generating capacity from all possible means. So, basic is electricity as an input that its generation and distribution could not be left to any individual who is interested in the private profitability rather than social desirability of any investment. Independent public authorities have, therefore, been created almost every where and are charged with the responsibility of generation of electricity. Whatever may be the name by which any such public authority may be known, the basic purpose of such public authorities, is to ensure that the electricity generating capacity available at any point of time is fully utilized and the same is used in different uses according to needs and what at any movement of time, is in the best interest of the society as a whole.

In the case of Punjab & Haryana states,the public authority which is charged with the responsibility of looking after all possible aspects relating to generation and distribution of electricity is known as Punjab State Electricity Board (P.S.E.B.) and Haryana State Electricity Board (H.S.E.B.) respectively. At higher

level the ultimate responsibility for planning of electricity generation and distribution lies with the irrigation and power departments of the state governments which are duly assisted, financially aided, and technically advised by the Central Planning Commission and the Ministry of Energy of the Government of India. An active help and assistance from the Government of India has been also necessary because of the huge amount of investment involved in generating additional capacity, and the fact that easy and smooth electricity supply tends to have far reaching effects on the socio-economic condition of the state and the country as a whole.

Interestingly, the generation and supply of electricity before independence was under the charge of local bodies and/or private concern the role of Central & State Governments has by and large been limited only to performing regulatory functions, as was expected of them under the provisions of Indian Electricity act, 1910. The existence of irrigation and power departments at the level of State & Central Governments was the off shoot of the post independence era. With the realisation of the government's playing the role of engine of economic growth and water based hydro-electric generation systems becoming more popular than before. To be more specific, power generation and distribution activities received a noticeable spurt particularly with the launching of the first five year plan. Being wholly due to state active participation through the legally created statutory public Authorities/Boards, the state owned power plants account for 94 percent of total power generation in India. The growing importance of this crucial sector of our economy is reflected in the huge amount of investment made during Five Year Plans so are

completed and the provisions made for creating additional power generating capacity. The plan wise Investment made in the power sector, and also its percentage to total expenditure is shown in Table 1.1

TABLE 1.1

Plan-wise Investments in the power sector.

Plan Period.	Investments (in Rs. Cr.)	As % of total plan expenditure.
First Plan. (1951-56).	320	16.3
Second Plan. (1956-61).	625	11.2
Third Plan. (1961-66).	1334	15.6
Three Annual Plans. (1966-69)	1877	27.4
Fourth Plan. (1969-74)	2523	16.0
Fifth Plan. (1974-79)	7294	18.6
Sixth Plan. (1980-85)	19265	19.7
Seventh Plan. (1985-90)	34273	12.0
Eighth Plan. (1992-97)	87200	10.9

This includes the figures of the Annual Plan (1978-79)

The plan-wise information contained in table 1.1 speaks voluminously of the total amount of investment so far made for building additional capacity for power generation. On an average not

less than 16 percent of the total plan expenditure has gone to the power sector in any plan period.

As compared to many developing countries, India is in a better position in having tackled the crucial problem of lack of adequate availability of electric power for use in agriculture, industry and house hold sectors. Inspite of this, the magnitude and nature of problems connected with electricity energy in India are such that serious handicaps will always remain in the way. The resources and opportunities available for augmenting energy are such that only most imaginative planning skills and methods with most pragmatic and tangible approach would perhaps enable India to solve its energy problems on long term basis. The diversities and disparities in different parts of country in respect of energy resources have only added to the difficult nature of the task ahead. This coupled with variations in needs and aspirations of different societies do necessitate adoption of very careful and comprehensive approach in involving a suitable energy policy for the country as a whole. So far, the Indian scene in respect of the generation and distribution of electric power has been, and still continue to be, characterised by the following:-

(a) That agriculture which is the backbone of the Indian Economy is the least saved sector in the country in so far its electric energy requirements are concerned.

(b) That the large part of energy requirements of the domestic and household sector to meet from non-commercial sources.

(c) That the consumption of commercial and non-commercial energy account for 44% and 56%, respectively of the total energy consumed.

This is quite in contrast to the fact that in most of the developed countries the share of non-commercial energy is almost negligible.

It is within the framework of the gigantic task (Appendix A) and responsibility which the Electricity Boards in the two states carry that their financial performance needs to be evaluated. This is particularly necessary at this juncture when the electricity boards in the two states are coming under public attack for their poor performance in almost all areas resulting in operational losses. The criticism is considered quite valid and justified even though in the case of such an important activity as is electricity generation and distribution, where things can not be left to private initiative, it is the criterion of social responsibility which is to have a distinct edge over private profitability. The present study is,therefore, an attempt to make a comparative analysis of financial performance of the Punjab & Haryana State Electricity Boards. It covers a period of five years from 1990-91 to 1994-95. Although a longer period could have been covered, it was, however, considered desirable to limit the period only to five years keeping in view the fact that there will be no positive marks on the utility of analysis based on a longer period. It was also felt that a five year period is enough to project trends, measure the efficiency of financial management, and to evaluate financial performance. In other words the focus of the present study is on examining the profitability and soundness of the financial position of the two electricity boards both from the point of view of short-run and long-run. The analysis is expected to be helpful to the management of the two Boards in knowing about their

working and in taking wise decisions relating to investments, acquisition of funds, analysing the productivity of the financial sources, and assessing the operational efficiency.

I.1 Objectives

Specific objectives of the study are as follows:

(1) Comparative analysis of the financial structure

(2) Comparative analysis of the working capital

(3) To study the cost, revenue and profitability of PSEB and HSEB over the period of study i.e. from 1990-91 to 1994-95

CHAPTER II

REVIEW OF LITERATURE

In the present chapter, a general review of literature available on either the ratio analysis or the state level enterprises has been presented. It is likely to give us an insight into the type of work which has been done in this area. It may be observed that relevant literature on state electricity boards especially the comparision is almost conspicuous by its absence. The review of literature has been presented in chronological order.

Murthy (1982) conceptualized the top manager's job and the problem of relating the man to his job, in the public enterprise, using four planning and control models (which are private enterprise, staff, middle management and factory manager). It was emphasised that performance could be enhanced by maintaining a balance between the choice of person, the enterprise's needs and the planning and control model.

Bhattacharya (1983) has presented the case o integrated approach to working capital management problems in loss making companies. Factors responsible for loss making are both internal and external and more emphasis is laid on internal ones. He further suggested that remedial measures for the external factors may be possible by government and other external agencies. Internal deficiencies may be made up by toning up management and managerial competence. Internal factors can be controlled by pricing policy and structure, cost projection ability, low productivity and high cost

structure. Long term remedies are profit plans which should be prepared division wise/product groupwise, replacement of old and obsolete equipments and discontinuing of uneconomic profit groups.

Pandit and Nargolkar (1984) concluded in their study of relationship between profitability, growth and working capital that working capital position and liquidity cannot be taken as a single index of the health of the company. Secondly the companies with growing sales required substantial additional working capital (generated from internal as well as external sources). Company may determine the levels of increased sales it can support out of retained earnings available from working capital.

Shiva (1984) suggested professional management of scarce resources; the perfect coordination between central and state Govt. to operate the public enterprise system and to employ talented managers to top level positions in state public enterprises (SPE's). His study,based on perceptions of middle/senior level managers of state enterprises of Karnataka, has identified the underlying causes of various problems. External causes include factors like political nature of top level appointments, political and bureaucratic interference, unstable tenures of top level executives, unfitness of top level executives and union interference in disciplinary matters. Internal factors include unfair scheduling and poor coordination.

Bansal and Gupta (1985) conducted a study in financial ratio analysis and statistics and brought forward that financial statements present consolidated financial position of the business.

He has termed these as 'legalised manipulative tactics' because these practices and policies are permitted by the Income Tax law as well as company law.

Maji (1987) diagnosed the financial sickness by the financial ratio analysis and from the erratic behaviour in current ratio, deft equity ratio and return on total capital employed. He also identified the various reasons and out of them important ones were (a) slump in demand (b) failure to keep pace with fast moving technology (c) excessive statutory interference (d) heavy tax burden (e) trade unionism (f) mismanagement (g) government control over price fixation (h) financial problems. He emphasised that in all cases, discontinuation of business is not feasible. He also emphasised that management must try to study the feasibility of (a) running the business at a reduced level of activity or (b) switching over to a business where the already developed known how and experience of old business can be utilized or (c) amalgamating with a healthier business or (d) reorganising the existing business, if failure is due to wrong. capitalisation policies or a wrong product mix.

Rao (1987) employed an important statistical tool known as discriminant analysis for evaluating the performance standard and norms of selected public enterprises. He concluded that gross profit of an enterprise is not an indicator of successful operations of the enterprise. The misclassifications, numbering seventeen, constitute a significant percentage, when we combine the two ratios viz. gross

To analyse financial statements ratio analysis of the company can be applied:

(i) Over a given period or time series analysis.

(ii) Comparison with other firms of same nature or X-Sectional analysis.

It was established that data should be distributed symmetrically i.e. it would be normally distributed.

Joshi (1986) brought forward that the fundamental objective of balance sheet and profit and loss account was to communicate information on the discharge of accountability of an entity to various parties to whom an entity is accountable. On the basis of these statements, user draw inferences by analyzing liquidity, solvency, cash flow, profitability, capital structure,net block, net worth, growth in earnings and dividends positions and take far reaching decisions of their investments in entity. He has explored the possibilities of manipulations of financial statements by management by changing the accounting policies from one year to another. These are

(i) Valuation of inventory

(ii) Gratuity and bonus payments

(iii) Depreciation policy and writing back of earlier excess provisions.

(iv) Interest capitalisation

(v) Lease capitalisation

(vi) Preliminary and other expenses.

(vii) Expenditure on R&D.

profit to capital employed and the gross profits to turnover without any established relationship between capital employed and turnover. These misclassifications cannot be ignored on the ground of diverse nature of operations and impact of social objectives.

Sarkar and Saha (1987) studied that if the company enjoyed long credit periods from its suppliers then it is an indicator of weakness of the company.

The causes of sickness of State Electricity Boards (SEBs) identified by Jain (1988) are:

(i) high compensurative tariffs for supply of power to agriculture.

(ii) benefit of cheap power actually is enjoyed by large scale farmers who are affluent and are in a position not only to pay the full cost of power but also to meet the prescribed net return of 3 percent on boards investments.

(iii) No job specifications have been laid down for a large number of categories of staff.

(iv) Immense actual transmission and distribution losses.

(v) Time and cost overruns in the implementation of thermal and hydel projects.

Berry and Nix (1988) established the approach highlighting form as appropriate to be narrow in findings and limited to one industry of ratios. Hence regression analysis was considered a

better choice. Certain cases were also identified where regression analysis was rendered as inappropriate.

Khandwala (1988) conducted an interview-cum-questionnaire study of officials, especially 36 rehabilitation officer closely involved with sick units, and found that more than four-fifths of the large sick units are considered potentially viable. Public financial institutions have a major stake in the revival of sick units, because they exist most and upto well over half their invested capital. It was also found that inappropriate management and financial institutions own practices and procedures were major internal causes of sickness. External causes such as recession and competition are secondary factors. The major remedial factor identified was early detection and timely prevention.

Dholakia (1989) argued that use of various criteria based on cash loss syndrome delays identification of sickness and therefore a comprehensive set of empirically tested criteria was needed which would serve as an early warning system. Abnormal fluctuations in a firms relative position within an industry to which it belongs should be explicitly used determine sickness at early stage. It was also found that this would require restructuring of existing systems and procedures adopted by the financial institution. Banks and financial institutions had systems for collecting and processing data and with some modifications in these systems it could be possible to predict industrial sickness among larger industrial units financed by banks.

Aggarwal (1989) emphasised that industrial sickness is a threat to Indian economy. He has established that out of the various rehabilitation and nursing institutions involved, banks play an effective role. He has cautioned that banks should streamline their lending criteria (with the coordination of other agencies involved) before nursing the ailing industrial units and financing them for revival. But only industrial units which are thought to be potentially viable should be included. He has divided the causes of industrial units into two categories (i) internal (ii) external. Besides these he has identified other factors such as obsolescence of articles produced, lack of organised marketing devices, entry of large scale enterprises, wrong choice of product mix and poor collection of debtors and receivables.

Ghosh (1991) established that there should be a suitable change in the company law to have a cash flow statement as a part of final accounts in India. Also cash flows data should be given quarterly instead of annually.

Panigrahy and Mishra (1993) investigated that sickness of large magnitude causes loss of employment, sustenance of cash loss and erosion of net worth. In india sick companies continue to exist and operate even after eroding their net worth because of the availability of cash in the form of loans, grants and subsidies. Study has also indicated that cash flow ratios are good indicators of corporate health under multi-variate analysis as they have higher rate of accuracy in predicting as well as signalling corporate sickness in advance.

Nandgopal et al. (1993) studied the financial performance of State Level Public Enterprises (SLPEs) in India and found that SLPEs have grown at a spectacular rate. SLPEs have become a potent tool in the hands of the state government to implement the public policy and accounts for a significant share of the state capital outlays. It was suggested to evolve a broad financial goal along a scale of which the one end may compel them to keep their net worth intact while the other end will make them increase net worth to their maximisation. A time bound program was also suggested to be evolved to clear the arrears of annual reports and accounts in the SLPEs.

Vasal (1995) attempted at identifying some fundamental factors which affect the level of extended corporate reporting (ECR) in India. Specifically he designed the research study to determine the impact of six explanatory variables - size, age, profitability, review of accounts by comptroller and Auditor general of India, participation in annual accounts competition and nature of industry on the corporate attributes were found to be consistently important and these are size, age, profitability, review of accounts by comptroller and auditor-general and nature of Industry.

Iyer and Kevin (1995) reasoned that major reason for privatisation of state enterprises is their poor performance. He identified the factors which are significant in distinguishing between good performer and bad performers (in Kerala). Results showed that there are five important indicators which are capable of

differentiating between good and bad performers. He evaluated public enterprise in two ways.

i) On the basis of financial achievements.

ii) On the basis of social achievements.

Jagetia (1996) indicated that ratio analysis pinpointed a strength and weakness in two ways (i) by comparing present performance with past, (ii) by depicting the arrears in which a particular business is advantaged or disadvantaged. This is done by comparing company's ratios to those of other businesses of same size within same industry. It was further added that predictive ratios monitor areas of business where change is likely to initiate some management decision or indecision which will have financial impact on business. It was emphasised that liquidity ratio measures the debt paying ability of the company.

Krishna (1996) studied the measurement of both short term and long term profitability and established that in both, the profit components of the ratios represent either EBDIT or OCF (Operating Cash Flow). The gross fixed capital at current price is considered as the investment base for measurement of long term profitability and gross value added at current price is considered as denominator for measuring short term profitability. He found that for examining the health of organisation, four profitability ratios were:

(i) EBDIT/valve added

(ii) OCF/Valve added

iii) EDBIT/Gross fixed assets

iv) OCF/Gross fixed assets

As such no work has been done on the comparative analysis of any of the boards although some work has been done to analyse the position of the boards individually. As these two boards (PSEB & HSEB) have assumed significant proportions, this study has been conducted to compare the two boards i.e. PSEB and HSEB.

CHAPTER III

RESEARCH METHODOLOGY

The study is based on the analysis of data collected for the period under study i.e. 1990-91 to 1994-95. The data has been collected from the annual financial statements of two electricity boards namely PSEB and HSEB. The encompass of the data covers the balance sheets, the revenue accounts and the net revenue account and the appropriation account. Besides this the administration reports of the two boards for relevant years have also been consulted. Necessary data, wherever relevant have also been consulted from the statistical abstracts of the various years.

Appropriate method of financial analysis have been adopted for the purpose of carrying out the comparitive analysis. It is based on the detailed case studies of the two boards.

III.1. Annual Statement of Accounts

The annual statement of accounts for the year is the basic thing which tells us about the financial health of the concern during the preceeding year. It consists of the revenue account indicating the income and expenditure and the balance sheet showing the assets and the liability position. Besides this schedules to the revenue account and the balance sheet, the various statements and the audit report comprises the annual statement of accounts.

III.1.1. Revenue Account

The information given in the revenue account consists of the income, expenditure, profit and the net surplus or deficit for the year.

III.1.2. Balance Sheet

The balance sheet of the Boards indicates the position of the fixed assets, current assets, long term liabilities and the short term liabilities.

III.1.3. Schedules

The schedules to the revenue account gives the detailed breakup of each and every item forming the revenue account.

The schedules to the balance sheet give the details of the various items comprising the balance sheet i.e. fixed assets, current assets, long term and short term liabilities.

III.1.4. Audit report

Audit report is given by the senior accounts officer and it gives the results in brief about the performance of the Board during the year. It gives the operational performance, working results and comments on the accounts.

III.2 Tools of Financial Analysis

The tools of financial analysis are the analytical methods or devices that are used to ascertain or measure the relationship among the items of a single set of financial statements, and analyse the changes that may have taken place in these items as reflected in financial statements of the successive periods. The fundamental

objective of such methods is to simplify or reduce the quantum of data under review in a manner that makes the data more understandable and meaningful. The various methods that are used in analysing financial statements are as follows:

III.2.1 Comparative Financial Statements:

The preparation of comparative financial and operating statements is an important device of horizontal financial analysis. In general, financial statements prepared with a view to reflect the overall financial position of a concern for two or more periods are known as comparative financial statements. This is obtained by comparing the similar data for a particular year with similar data for the previous year(s). Although in practice any financial statement can be converted into a comparative statement, such analysis is generally undertaken with reference to the balance sheet and the profit and loss account. Since in a comparative income statement the accounting data for one or more years are shown side by side, it becomes easy for the analyst to quickly ascertain the position in respect of the matters such as whether sales have increased or decreased, or the cost of sales has risen or fallen. A comparative balance sheet prepared with reference to any two or more different dates facilitates the comparison of assets and liabilities and helps in showing any increase or decrease that may have taken place in these items as a whole or in any of their components. In essence, comparative financial statements provide in a distinctly manner the necessary information required for analysing the trends in the financial and operating position of a concern over a period of time.

It may, however, may be remembered that the analysis based on comparative financial statements tends to become misleading if the data contained in these statements are not reflective of a consistent use of generally accepted accounting principles from date to date and from period to period. Besides, the analysis based on comparative financial statements is quite cumbersome and trends are difficult to establish. It was in recognition of these limitations that the Indian Companies Act 1956 made it obligatory on the part of companies to give financial and operating data at least for one previous year together with the data for the current year. These limitations, however, do not undermine the usefulness of comparative financial statements.

III.2.2 Common-size financial statements:

Comparative financial statements that give only the vertical percentages or ratios of the financial data without giving the rupee values are known as common-size financial statements. These statements are also known as 100 % statements. In common size statements the financial data are converted into percentages by taking the figure for a particular year as the base. For example, if the rupee value of each item on the asset side (or liability side) of the balance sheet is expressed as a ratio to total assets (or total liabilities), the resultant statement of ratios will be called a common-size financial statement.

When read horizontally, the common-size financial statements do not bring out the trend in variations in the values of individual items. On the contrary, these would show the relationships which the values of individual items will have with their total.

These statements are particularly useful in bringing out a comparative picture of the financial position of two or more business concerns at a particular point of time. However, for making such comparisons meaningful, it is necessary that the financial statements of all the concerns to be drawn into comparison are prepared on the same pattern.

III.2.3 Trend Percentages:

The method of trend percentages involves computation of percentage relationship which each item of a financial statement bears with the same item in the base year which may be the earliest, the latest, or any intervening year of the total period involved in comparison. The analysis of data to be so obtained for bringing out the percentage relationship emphasizes the changes taking place in the financial and operating data year after year, and permits the horizontal analysis of the financial position of the concern. The percentage to be obtained in this method can be derived as index numbers with reference to the data in each item for a particular year as base year. This enables the analyst to find out the relative changes in the financial and operating data that might have taken place year after year over the entire period under study.

The trend percentages are generally computed only for the selected items of a financial statement as the fundamental objective of analysis based on trend percentages is to compare the relationship between the selected items having a logical relationship with one another. An obvious advantage of such an analysis is that it permits the use and comparison of trend percentages in place of large absolute money values with brevity and easy readability.

III.2.4. Ratio Analysis

Ratio analysis is one of the most important and widely used techniques of analysing financial statements. In general, a ratio is defined as the " indicated quotient of two mathematical expressions" computed with a view to express the relationship between two or more figures. In financial analysis, a ratio of two accounting figures is used as an index for evaluating the financial position and performance of a business concern. The utility of ratio analysis is confined not only to the internal users but also the credit suppliers, banks, and other financial institutions. Ratio can be expressed either as (a) percentage, (b) as fractions, or (c) as stated comparisons between figures.

Ratio analysis is used as an important tool of financial forecasting, and serves as the basis of evaluating the financial solvency and operating efficiency of the concern. Though ratios are simple to calculate and easy to understand, but if due care is not observed while using them, they tend to confuse the emerging picture instead of clarifying it. The ratio analysis also suffers from certain other limitations such as use of a single ratio, lack of qualitative analysis of the problem and other issues of interest by application of proper standards. Besides being adversely affected by the personal biases of the analyst, the analysis based on ratios also fails to provide any allowance for price changes.

The various ratios that have been calculated are as follows:

III.2.4.1. Current Ratio:

The current ratio is calculated by dividing current assets by current liabilities i.e.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities.}}$$

III.2.4.2. Quick Ratio:

It is calculated as :

$$\text{Quick Ratio} = \frac{\text{Current Assets - Inventory}}{\text{Current Liabilities.}}$$

$$= \frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

III.2.4.3. Cash Ratio:

It is defined as :

$$\text{Cash Ratio} = \frac{\text{Cash + Marketable Securities}}{\text{Current Liabilities}}$$

III.2.4.4. Debtors Turnover Ratio:

It can be calculated as :

$$\text{Debtors Turnover Ratio} = \frac{\text{Total Sales}}{\text{Debtors}}$$

$$\text{Average collection period} = \frac{365 \text{ Days}}{\text{Debtors Turnover Ratio}}$$

III.2.4.5. Working Capital Turnover Ratio :

In order to test the efficiency with which net working capital is utilized, the ratio of sales to working capital, that is, working capital turnover is used. It can be obtained by dividing sales with net working capital.

Thus,

$$\text{Working capital turnover} = \frac{\text{Sales}}{\text{Net Working Capital.}}$$

III.2.4.6. Gross Surplus Ratio:

The formula used for calculating the ratio is:

$$\text{Gross surplus ratio} = \frac{\text{Gross Surplus}}{\text{Sales}} \times 100$$

III.2.4.7. Operating Ratio:

The operating ratio can be calculated as follows:

$$\text{Operating Ratio} = \frac{\text{Cost of Electricity Sold+Operating Expenses}}{\text{Sales}} \times 100$$

The operating ratio when subtracted from 100 percent shows the net margin available for income tax, return to capital, and transfer to reserves. Thus,

$$\text{Ratio of Operating Surplus to Sales} = \frac{\text{Operating Surplus}}{\text{Sales}} \times 100$$

III.2.4.8. Net Surplus Ratio:

The net surplus ratio is calculated as follows:

$$\text{Net Surplus Ratio} = \frac{\text{Net Surplus after taxes}}{\text{Net Sales}} \times 100$$

III.2.4.9. Return on Capital Employed:

This ratio can be calculated using the following formula:

$$\text{Return on Capital Employed} = \frac{\text{Net Surplus}}{\text{Capital Employed}} \times 100$$

III.2.4.10. **Return on Assets:**

It is calculated as:

$$\text{Return on Assets} = \frac{\text{Net Surplus after Taxes}}{\text{Total Assets}} \times 100$$

III.3 Limitations of Financial Statement Analysis

Despite the fact that analysis of financial statements provides crucial information for being used as the basis of taking important policy decisions, its usefulness is circumscribed by a number of limitations. How correctly the financial statements are analysed depends to a large extent on the experience and farsightedness of the person(s) engaged in financial analysis. The awareness of the analyst about the limitations of the analysis of the financial statements is no less important, for if these limitations are not kept in mind the results and interpretations are likely to be misleading in terms of their wider implications on decision making.

Yet another important point to be borne in mind is that financial statements are basically of historic nature and that the past performance cannot be a perfect guide of the future. Consequently, the future course of business events cannot be forecast and interpreted accurately only in terms of what may have been experienced in the past. The past experience can at best be used as a guide to what the future cannot be an exact replica of the past.

Further, the accounting data contained in any financial statement or the ratios computed on the basis thereof are relevant only to the extent that, if intelligently used, these reflect the

probable state of coming events. By implication it means that the results of the financial statements cannot be taken as indicative of good or bad management. Also equally important is the fact that conclusions based on the accounting data drawn from financial statements of any particular year have very limited use, and may at times be dangerous in their implicative value.

Further the analysis of financial statements is only a means to reach conclusions and not an end by itself. What we derive from the analysis of financial statements cannot, therefore, be a substitute of sound judgement which is governed by one's intelligence, experience, and farsightedness. Where the analyst or the decision maker is involved in making a comparable study of two or more concerns, he should not ignore the fact that financial statements of different companies are seldom comparable because of differences in accounting procedures, nature of products, investments made in plant and machinery, pattern of financing, etc. The conclusions based on a comparative study are more often likely to be misleading if the above differences are not adequately recognized and reconciled.

Rapid changes in the value of money also reduce the validity of conclusions derived from the analysis of financial statements. For the conclusions, based on any comparative study of financial statements for different years, to be really useful impact of changes in prices. The analyst also needs to be cautious against the risks of window dressing of accounts. It creates problem for the

analysts as the accounting data may then hide truth instead of revealing it.

III.4 Scheme of Chapterisation of the Analysis

The analysis has been divided into three chapters keeping in view the objectives. Chapter IV consists of the analysis of the financial structure. Next chapter i.e. Chapter V deals with the analysis of the working capital. Chapter VI discusses the cost, revenue and the profitability of PSEB and HSEB for the period 1990-91 to 1994-95.

CHAPTER IV

ANALYSIS OF FINANCIAL STRUCTURE

The term financial structure refers to liability side of the balance sheet. As such, it reveals the pattern of total financing. In other words, it measures the extent to which total funds are made available to finance the total assets of the business. Consequently, it includes all types of resources whether long term medium terms of short term. Financial structure is a term broader than capital structure as capital structure is a part of financial structure. This makes abundantly clear that capital structure refers to the makeup of the total long term capital, while financial structure refers to the total finance mix of the firm. Thus, financial structure can be expressed as:

Financial structure = Total liabilities

or = Capital structure+ Current liabilities,

or = Shareholder's funds+ Long term funds+ Current liabilities

It is the financial structure of the firm that governs the cost of capital, efficiency in the use of funds, the profitability of the operations, etc. The decisions relating to financial structure are, therefore, important decisions. The financial management must make efforts to devise a balanced or an optimum financial structure so as to minimise the firm's cost of capital and maximise the firm's value.

This, indeed, is possible only when the management tries to balance the determining factors of financial structure, both internal and external, in such a manner that the cost of capital is at the minimum, helps in raising financial resources, and reduces the hazards of insolvency.

IV.1 The Financial Structure of the Punjab and Haryana State Electricity Boards

The financial structure of PSEB and HSEB is divided into four main heads: Long term finance, Reserves and Surpluses, Current Liabilities, and Other Liabilities. Financial structure of both the boards is given in Table IV.1

The first and the most important constituent of financial structure, that is, long term finance includes loans from the state government and other agencies such as LIC, Rural Electrification Corporation (REC), Board's bonds, and Banks. It constitutes the largest proportion of financial structure in both the Boards.

In the PSEB, loan from the state government in 1990-91 was Rs. 2663.54 Crores while in the same year it was Rs. 1114.2 Crores in the case of HSEB.

The second constituent of financial structure is reserves and surpluses which include general reserves, capital reserve, consumer's contribution, and other reserves for redemption of bonds, repayment of institutional and other loans, etc. The value of reserves was Rs. 466.64 Cr. in the year 1990-91 in the PSEB and was increasing over the period of five years, reaching the highest level of Rs. 919.64 Cr. in 1994-95. In the case of HSEB the value of reserves and

TABLE IV.1

Comparitive and Common-size Financial Structure of PSEB and HSEB (Rs. in Crores)

	1990-91		1991-92		1992-93		1993-94		1994-95	
	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB
1. Long term funds	2663.54	1504.1	3313.72	1682.08	3837.71	1871.51	4083.12	2101.53	4413.91	2027.41
Proportion to (5)	41.47	46.72	56.45	45.18	57.62	44.40	54.65	42.85	51.42.	43.51
(i) Loans From State Govt.	2663.54	1114.1	3313.72	1292.08	3837.71	681.51	4083.12	911.53	4413.91	837.41
(ii) Share Capital	--	390	--	390	--	1190	--	1190	--	1190
2. Reserves and Surpluses	360.23	103.08	419.38	123.53	503.66	149.41	603.41	181.12	738.58	218.23
Proportion to (5)	5.61	3.20	7.14	3.32	7.56	3.54	8.08	3.69	8.60	4.68
(i) General Reserve	184.49	96.74	212.19	113.98	254.03	136.65	299.59	162.42	350.92	190.62
(ii) Consumer's Contribution	175.74	6.34	207.19	9.55	249.63	12.76	303.82	18.7	387.66	27.61
3. Current Liabilities	745.63	627.05	646.26	814.26	779.74	911.73	913.34	1191.87	1060	1167.61
Proportion to (5)	11.61	19.48	11.01	21.87	11.71	21.63	12.22	24.30	12.35	25.06
4. Other Liabilities	2652.99	985.23	1490.94	1103.45	1539.65	1282.26	1871.77	1429.92	2371.58	1246.1
Proportion to (5)	41.31	46.72	25.4	29.64	57.62	44.4	25.05	29.16	27.63	26.74
5. Total Liabilities	6422.39	3219.46	5870.3	3823.32	6660.76	4214.91	7471.75	4904.44	8584.07	4659.35

surpluses of RS. 493.08 Cr. in 1990-91 experienced an increasing trend but at a decreased rate than PSEB. Its proportion to total liabilities was quiet small in both the Boards.

As to current liabilities which include interest payable to the state government, creditors for supply of material, cash credit from banks, etc., it increased in the case of PSEB from Rs. 453.27 Cr. in 1990-92 to Rs. 791.51 Cr. in 1994-95. In the case of HSEB, current liabilities which were Rs. 563.31 Cr. in 1990-91 increased to Rs. 1106.39 Cr. in 1994-95. In the terms of its proportionate share, current liabilities were quiet low on both the boards, but still lower in the PSEB.

The fourth constituent, other liabilities, includes consumers' security and deposits, salaries/wages payable, and other miscellaneous liabilities. In the PSEB, the value of other liabilities was Rs. 3752.29 Cr. which constituted 41.31 percent of total liabilities in the year 1990-91. It decreased in the year 1994-95 to Rs. 1021.53 Cr. after following a fluctuating trend. In the case of HSEB other liabilities, constitute 46.72 percent of the total liabilities, the value being Rs. 984.59 Cr. in 1990-92, which rose to the level of Rs. 1175.95 Cr. in the year 1994-95. On the whole, the value of other liabilities was comparatively more in the PSEB than in HSEB.

IV.2 Ratio Analysis of Financial Structure

Ratio is the most important tool in the hands of analysis to examine the efficiency of financial structure. It becomes more important in the case of Electricity Boards as they do not have share capital. To measure the extent of debts to owned finance in the capital structure of the two boards, stability ratios have been calculated. These ratios show the relative interest of creditors and

owners in the running of a business enterprise. The important stability ratios are:

1. Total assets to Net Worth
2. Net Block to Net Worth
3. Total Liabilities to Net Worth
4. Long-term Funds to Fixed Assets
5. Current Liabilities to Net Worth

IV.2.1 Total assets to Net Worth

This ratio shows the percentage of total assets to net worth. Total assets include fixed and current assets both. This ratio attempts to find out how much of the total assets are financed by proprietor's funds. This is a broad parameter to assess the dependence on outside funds.

As the table IV.2 shows the ratio of total assets to net worth is very high. In the case of PSEB this ratio was 1375.5 percent in the year 1990-91 as against 364.6 percent in the case of HSEB in the same year. It followed a decreasing trend in the PSEB during the period of study, coming down to 933.7 percent in the year 1994-95. This was due to the fact that the rate of increase in the net worth was higher that the rate of increase of total assets. In the case of HSEB this ratio followed a fluctuating trend, having increase in 1991-92 to 412.03 percent and decreasing again in 1992-93 to 295.4 percent. It was 305.7 percent in the year 1994-95.

By implication it follows that almost all the assets are financed by borrowed funds in both the boards and they are totally dependent on the on loans. The situation is worse in PSEB. Thus, financial structure of both the boards from the creditors point of view has not been satisfactory and the financial position of two boards has also not been very sound.

IV.2.2. Net Block to Net Worth

This ratio shows the percentage of net fixed assets (gross fixed assets minus depreciation) to net worth. Fixed assets require capital, which is more or less permanently invested in it. The fixed assets should be financed by the proprietor's funds to a large extent. This ratio indicates whether the owned funds are enough to finance fixed assets. The capital work in progress and investments have been included in fixed assets in the calculation of this ratio.

As shown in Table IV.2, the ratio of net block to net worth is very high which indicates that both the boards do not have their own funds to finance their fixed assets or net block. In the case of PSEB, this ratio was 558.83 percent in the year 1990-91 as against 162.06 in the case of HSEB in the same year. It was decreasing in the PSEB during the period under study, coming down to 366.8 percent in the year 1994-95. This was due to the fact that the rate of increase in the net worth was higher than the rate of increase of net block. In the case HSEB this ratio declined in the year 1993-94, after having increased during the previous year, for there was an increase in net worth because HSEB was having lass losses in this year.

Thus, it can be concluded from the above analysis that both the boards use borrowed funds to finance their fixed assets and their own funds very less, particularly in the case of HSEB.

IV.2.3. Total Liabilities to Net Worth

The ratio of total liabilities to net worth is calculated by dividing total liabilities by net worth. The term total liabilities represent the total indebtness of the organisation as shown by its short-term and long term obligations. The ratio is calculated to

measure the relative importance of the interest of the owners and creditors in the organisation. It signifies the extent to which the interest of creditors is covered by net worth of the enterprise. The creditors prefer a lower percentage of total liabilities to net worth, as it gives them greater protection against possible loss in the event of liquidation of the enterprise. On the other hand, owners prefer a higher ratio as it gives them better rate of return.

Table IV.2 exhibits that the ratio of total liabilities to net worth was 1376.31% in the year 1990-91, in the case of PSEB. It experienced a decreasing trend over the period of five years and fell to 933.42% in 1994-95. It implied that the coverage of interest of creditors by net worth was increasing, but at a slow rate. In the case of HSEB, this ratio was 364.57% in the year 1990-91 and increased to 412.08% in the year 1991-92. In the year 1994-95, the ratio was 305.72%.

Thus, from the above analysis it can be concluded that the interests of creditors are not safe in the Electricity Boards. Both the Boards have followed the policy of giving more preference to borrowed funds.

IV.2.4. Long-term Funds to Fixed Assets

This ratio is calculated by dividing the amount of long-term funds by the value of fixed assets. It shows the extent to which long-term funds are sunk into fixed assets. When fixed assets exceed the long term funds it shows that creditors' obligations have been used to finance a part of fixed assets. When long term funds exceed fixed assets, it indicates that a part of net working capital is supplied by the long term funds. The yardstick for this measure is 100 percent for industrial undertakings.

Table IV.2 gives the ratio of long term funds to fixed assets for the period under review. It reveals that for the period as a whole long term funds exceeded the amount of fixed assets in PSEB. The ratio was 102.14 percent in the PSEB as against 68.3 percent in the HSEB in the year 1990-91. In the PSEB, it has increased to 130.85 percent in the year 1994-95, that is, it has moved away from the standard percentage. In the case of HSEB, this ratio experienced an increasing trend over the five-year period, excepting the year 1994-95 when it declined to 114.73 percent as compared to 125.38 percent in the previous year (1993-94).

The above position serves the basis of concluding that both the boards are using long term funds to finance their fixed assets, and a part of net working capital is also being supplied through long term funds with HSEB crossing the standard percentage rapidly and PSEB moving away.

IV.2.5. Current Liabilities to Net Worth

This ratio relates the amount of current liabilities to net worth. It measures the amount of funds raised by the proprietors as against those raised by short term borrowing. A high ratio indicates that the organisation will be slow in meeting its short term obligations.

Table IV.2 gives the ratio of current liabilities to net worth. It was 97.13 percent in the year 1990-92 in the PSEB as against 63.79 percent in the case of HSEB in the same year. It exhibited a declining trend, falling to 86.07 percent in the year 1994-95. In the HSEB it showed fluctuating trend. It rose to 91.77 percent in the year 1992-93. It fell to 73.61 percent in 1994-95. Also that it was comparatively lower in the HSEB than in the PSEB. The overall position enables us to conclude that the contribution made by the

short term creditors was too much high in the case of both the boards.

The general impression gained from the analysis of financial structures of PSEB and HSEB is that both the Boards rely heavily on borrowed funds rather than on own funds. A small portion of total assets, that is, ranging from 7.26 percent to 10.71 percent in the case of PSEB and from 27.42 percent to 32.71 percent in the case of HSEB, has been financed through net worth. The comparative study of the two boards reveals a paradoxical situation whereby we come to know that financing of assets through net worth has increased over the years in the case of PSEB and fluctuating in the case of HSEB. Additionally, it is also observed that the long term funds are in excess of the financing of fixed assets which might be used for working capital purposes.

TABLE IV.2

STABILITY RATIOS

Particulars	1990-91		1991-92		1992-93		1993-94		1994-95	
	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB
Total Assets to Net Worth	1375.5	364.6	1094.1	412.03	1051.5	295.4	995	333.4	933.7	305.7
Net Block to Net Worth	558.83	162.06	585.47	171.10	522.92	113.9	466.79	113.96	366.8	115.9
Total Liabilities to Net Worth	1376.3	364.57	1093.5	412.08	1051.0	295.4	994.8	333.47	933.4	305.7
Long term funds to fixed assets	102.14	105.1	105.4	108.8	115.81	115.1	116.46	125.38	130.8	114.7
Current liabilities to Net Worth	97.13	63.79	91.77	80.61	89.58	58.07	90.15	75.58	86.07	72.59

CHAPTER V

ANALYSIS OF WORKING CAPITAL

Capital in its entirety can be broken into two main categories: fixed capital and working capital. The importance of working capital lies in the fact that it is a pre-requisite of fixed capital and hence it is necessary for a business concern to have working capital to run the day-to-day business activities. Just as circulation of blood in human body is necessary to maintain life, smooth flow of funds is very necessary to maintain the tempo of the running of a business concern. For understanding the meaning of working capital, it is important to know about the two elements of working capital: current assets and current liabilities. Current assets are those assets which in the ordinary course of business can be, or will be turned into cash within a short period of time, ordinarily within a year or an operating cycle. Current assets generally include cash in hand or at bank, marketable securities, other short term high quality investments, bills receivable, inventories, accrued incomes, loans and advances. Current liabilities are those liabilities which are intended at their inception to be paid in the ordinary course of business, within a year, out of current assets or the earnings of the concern. The basic current liabilities are bank overdrafts, accounts payable/creditors, bills payable, provision for taxation, advance payments and unexpired discount, outstanding expenses and accrued items.

As for the broader concept of capital, there is no universally accepted definition of working capital. Working capital is oftenly classified as gross working capital, and net working capital. The former simply called as working capital, refers to the firm's investment in current assets and the latter, the net working capital, on the other hand, can be defined in two ways: (a) the difference between current assets and current liabilities, and (b) that portion of a firm's current assets which is financed with long-term funds. Moreover, the net working capital can be positive or negative. When current assets are in excess of current liabilities, the positive working capital is obtained. In contrast, the negative working capital is obtained when current liabilities are in excess of current assets.

V.1 Working Capital Analysis:-

The analysis of working capital is primarily a test of short-term solvency of the firm. On the other hand, it may also be said to be a test of effectiveness and efficiency with which the business is being conducted. The financial manager always tries to maintain an adequate amount of working capital at every point of time so as to be able to carry on the day-to-day operations of the firm successfully and economically. There are dangers in having too little or too much of working capital. Therefore, the financial manager has to be very vigilant about the trends in the items which constitute the working capital. This process requires a careful enquiry into the current assets and the current liabilities so as to

have better control over the working capital and to manage and conserve it properly. Actually, the working capital balance of a going concern has a positive value. But often due to the intensive uses of working capital, it may exceed the sources, thus indicating a deficit. In efficiently managed companies such deficits are soon detected and set off. This whole process is known as analysis of working capital.

The analysis of working capital is carried out with the following main objectives:

1. To maintain adequate working capital at every point of time.
2. To minimise the cost of short-term financing.
3. To plan the various sources of short term finance well in advance.
4. To study the trends in the working capital position.
5. To maximise the return on investment.
6. To assess the effectiveness of the management of current assets.

V.2 Analysis of working capital of PSEB AND HSEB:

Table V.1, which gives the overall position in absolute terms about the working capital employed in the two Boards over the relevant period, shows that:

i)The value of current assets has been consistently increasing in the two Boards barring the year 1994-95 in which it declined by 23.73

TABLE V.1

Net Working Capital of PSEB and HSEB from 1990-91 to 1994-95 (Rs. in Crores)

Year	PSEB		HSEB		PSEB		HSEB		PSEB		HSEB	
	Current Assets	% Change	Current Assets	% Change	Current Liabilites	% Change	Current Liabilites	% Change	Net Working Capital	% Change	Net Working Capital	% Change
1990-91	537	--	645.1	--	745.63	--	627.05	--	-208.61	--	18.05	--
1991-92	611	13.78	799.2	23.89	646.26	-13.33	814.26	29.86	-35.26	83.1	-15.1	-183.66
1992-93	688.3	12.65	824.1	3.11	779.74	20.65	911.73	11.97	-91.46	-159.39	-87.65	-480.46
1993-94	711.5	3.37	1020	23.77	913.34	17.13	1191.87	30.73	-201.83	-120.67	-172.06	-96.30
1994-95	849.2	19.35	778	-23.73	1060	16.06	1167.61	-2.04	-210.8	-4.44	-389.61	-126.44
Average Rate		12.29		6.69		10.13		17.63		-50.35		-221.71

percent as compared to previous year in the case of HSEB. A similar position is obtained for PSEB. A similar picture is reflected in current liabilities. In case of HSEB, these have increased consistently except for 1994-95 where it declined by 2.03% as compared to previous year. In PSEB, the drop was in yr. 1991-92 rest remaining the same.

(ii) The average rate of increase both in current assets and current liabilities has been relatively more in the case of PSEB.

(iii) The net working capital has also shown a consistent tendency to decrease in the case of both the Boards, except for PSEB in 1991-92. In both the boards, it has remained -ve for most of time, i.e. inadequacy of w.c. exists.

V.3 Analysis of Current Assets:-

The analysis of current assets is based on Table V.2 which gives, for the two Boards, component-wise break up of current assets in absolute terms and as proportion to total current assets. The position obtained in respect of the various components is as under:

V.3.1. Cash and Bank Balances:- Cash serves as an important media of exchange for the purchase of goods and services, and discharging other current liabilities. It may be shown either as cash in hand or cash at bank. But in the case of both the Boards, no such distinction has been made as between the two, and both are shown under one heading "Cash and bank balances." It is needless to say

that cash is the most important asset which is used to meet the day-to-day requirements of business operations. The requirement of cash varies with the nature of business and the circumstances it has to pass through from time to time. It is precisely because of this factor that it has not been possible to lay down a general rule as to a definite proportion in which cash should be maintained.

A reference to Table V.2 shows that the value of current assets held in cash and bank balance has experienced volatile fluctuations in the PSEB. The PSEB had Rs. 65.94 Cr. in cash and bank balances in 1990-91 as compared to Rs. 6.4 Cr. in the case of HSEB in the same year. It declined to Rs. 62.30 Cr. in the PSEB in next year, while in the HSEB it decreased to Rs. 1.8 Cr. In the year 1992-93 the increase was stupendous in both the Board. On the whole, the value in cash and bank balances has increased at a annual average rate of 165.53 percent in the PSEB and 216.2 percent in the HSEB. Though the increase is tremendous in both the cases and is indicative of massive expansion in the operations of the two Boards, the overall increase is entirely on account of substantial increase in this component in the year 1992-93 which was due to the tremendous increase in the amount of money held in current account with banks. In terms of its proportion to the total value of current assets, there has not been anything worth stating. All that can be said is that in the case of PSEB this proportion has declined from 12.28 percent in 1990-91 to 7.84 percent in 1994-95, while in the case of HSEB there has been an increase in the proportion from 0.992 percent to 1.389 percent in the same period. On the whole, the HSEB has

maintained a higher proportion of cash and bank balances than the PSEB.

V.3.2. Sundry Debtors:- The sundry debtors represent those customers of a business concern who owe payments to the concern for the sale of goods and services made to them. The value of current assets carried by a business concern as sundry debtors at any particular time is determined by the volume of credit sales, terms and conditions of extending credit sales, and the efforts made for the recovery of amounts due. Extension of such trade credit facilities stimulates sales which contributes to the overall profitability of the concern. Financial executives aim at keeping the sundry debtors as low as possible with a view to maintaining sufficient cash in hand from current operations and obtaining advantages of higher profit opportunities as a result of allowing credit sales. With regard to credit sales one of the two alternatives in general policies is: either a strict credit policy is adopted which aims at restricting credit sales and reducing the bad-debts and/or liberal credit policy with a view to increasing the credit sales. Sundry debtors of Electricity Boards include sundry debtors for the sale/supply of power, electricity duty, interest due on securities, amount recoverable from employees, etc.

The position of the two Boards in respect of sundry debtors shows the following:

(i) The value of current assets represented by sundry debtors has consistently increased in the two Boards, except for the year

1994-95 in the case of HSEB when the value of sundry debtors experienced substantial decline in absolute terms, the average rate of increase being much higher for HSEB than for PSEB.

(ii) The value of sundry debtors has all along, in all the five years, been much higher in the HSEB than in the PSEB, which obviously speaks at least of the fact that the HSEB does not seem to have been very effective in realising the recoveries to be made from the beneficiaries of its services.

(iii) The proportion of the value of current assets in sundry debtors ;has been nearly two times more in the HSEB as compared to the PSEB, the overall average being 51.55 percent for the former and 28.58 percent for the latter. What seems to follow from this is that the HSEB has suffered relatively more on account of the higher value of bad-debts. The reason for the difference in the value of sundry debtors in both the Boards is that the HSEB has more amount recoverable from other sister Boards, corporations, and Public Sector Undertakings for sale of power than the PSEB.

V.3.3. RECEIVABLES: Generally, the terms debtors and receivables are used inter-changeably. But, the two Electricity Boards have treated them in a different way by showing them separately in their final accounts. The component receivables in the case of both the Boards includes subsidy recoverable from State government, inter-unit transfers, depreciation not covered by revenue surplus and accrued, pre-paid expenses, claims recoverable, material suspense account,

etc.

Table V.2 exhibits that the value of receivables has registered an increasing trend in the case of both the Boards, except for HSEB in 1992-93.

However, the average rate of increase, from the year 1990-91 to 1994-95 was higher in the case of PSEB (25.2 percent) than the HSEB (14.23 percent), as in absolute terms the value of receivables was smaller in the HSEB than the PSEB. The proportion of receivables to total current assets also depicted a rising trend in the case of PSEB and a fluctuating trend in HSEB. What is interesting is that in the case of PSEB the average proportion was higher by nearly one and half times that what it was in the HSEB, it was 23.87 percent in the case of PSEB and 16.07 percent in the case of HSEB. So wide a gap seems to have obtained largely due to the fact that the PSEB avails subsidy from the State government on account of rural electrification (RE) losses.

V.3.4. Loans and Advances: Generally, the loans and advances are taken to mean the amount given to someone which is repayable in the case of loan or adjustable in the case of advance, within a stipulated period. With reference to Electricity Boards loans and advances include advance to staff, advances to contractor, advances to supplier for capital and operating stores, departmental advances, etc.

It is apparent from Table V.2 that the percentage change with regard to loans and advances of both the boards was negative in the year 1992-93 and 1993-94. There has been a tremendous increase in the case of both the boards in 1994-95 when they moved from -ve % change to very high +ve change. The annual average proportion of loans and advances to total current assets was higher in the PSEB (14.97 percent) than in the HSEB (5.96 percent). In both the Boards, the proportion itself gradually declining up to the end of 1993-94 and increasing in the next year.

V.3.5. Inventory:- The term inventory refers to the stockpile of the product a firm is offering for sale, including the components that make up the product. Generally, it includes the stores of raw material, stock of finished goods, work-in-progress, and other accessories. It is necessary for a business concern to keep a minimum stock of inventory for maintaining the continuity in the operations of the business enterprises. Depending upon the nature of the firm/industry, inventories may be durable or non-durable, perishable or non-perishable, valuable or inexpensive. Whatever be the nature of the inventories, the accounting process emphasizes the need for a distinction between goods held for resale and other current assets. Inventory has no fixed rupee value that can be easily determined by inspection. It has a value only to the extent that it can be sold. In both the Boards, inventory includes the following items:

(i) Operating Stores, and

TABLE V.2

COMPOSITION OF CURRENT ASSETS OF PSEB AND HSEB(Rs. IN CRORES)

PARTICULARS	1990-91		1991-92		1992-93		1993-94		1994-95	
	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB
1. Cash and bank balance.	65.94	6.4	62.3	1.8	109.1	4.05	88.9	5.47	66.6	10.81
% change	-	-	-5.52	-71.9	75.18	125	-18.5	35.06	-25.1	97.62
% of total	12.28	0.992	10.2	0.225	15.86	0.491	12.49	0.536	7.843	1.389
2. Sundry debtors	137.2	342.3	165.2	433.1	186.4	478.3	228.6	591.8	267.6	267.8
% change	-	-	20.38	26.53	12.87	10.44	22.61	23.74	17.09	-54.8
% of total	25.55	53.06	27.03	54.19	27.08	58.04	32.12	58.03	31.51	34.42
3. Receivables change	114	108.5	131.2	121.7	145.5	97.65	192.2	136.3	241	179.6
% change	-	-	15.06	12.21	10.92	-19.8	32.07	39.59	25.39	31.79
% of total	21.23	16.82	21.47	15.23	21.14	11.85	27.01	13.37	28.37	23.09
4. Loans and advamces	98.7	42.78	116.3	68.34	96.97	34.43	65.05	34.11	120.9	55.07
% change	-	-	17.81	59.75	-16.6	-49.6	-32.9	-0.93	85.78	61.45
% of total	18.38	6.632	19.03	8.551	14.09	4.178	9.143	3.345	14.23	7.078
5. Inventory	121.2	117.4	136.1	142.8	150.3	170.5	136.8	178.5	153.2	188.1
% change	-	-	12.3	21.65	10.41	19.42	-8.93	4.686	11.94	5.362
% of total	22.57	18.19	22.27	17.86	21.83	20.69	19.23	17.5	18.04	24.17
6. Inter unit transfers	0	27.8	0	31.43	0	39.16	0	73.65	0	76.65
% change	-	-	0	13.06	0	24.59	0	88.07	0	4.073
% of total	0	4.309	0	3.933	0	4.752	0	7.222	0	9.852
7. Total current assets	537	645.1	611	799.2	688.3	824.1	711.5	1020	849.2	778

(ii) Capital stores for specific projects.

Table V.2 exhibits that the value of inventories has increased at a higher rate in the HSEB than in the PSEB. The PSEB had Rs. 121.15 Cr. as inventory in 1990-91 which increased to Rs. 19.2 Cr. in 1994-95. IN the case of HSEB, the value of inventory increased from Rs. 117.4 Cr. in 1990-91 to Rs. 188.1 Cr. in 1994-95. The annual average rate of increase was 6.43 percent in the PSEB as compared to 12.78 percent in the HSEB. In terms of its proportion to total current assets, inventories have been higher in the PSEB than in the HSEB, the annual average proportion being 20.79 percent in the PSEB and 19.68 percent in HSEB.

V.4 Analysis of Current Liabilities:-

The analysis of working capital will not be complete unless the current liabilities are analysed vis-a-vis the current assets, particularly so as the two are two sides of the same coin. With reference to Electricity Boards, in the analysis of current liabilities, we include analysis of interest payable to the State government, creditors for supply of materials, cash credit from banks, and also the other/miscellaneous current liabilities, as shown in Table V.3.

V.4.1. Interest payable to the State Government:- It represents the amount payable to the State government as interest on loans taken by the Boards. As Table V.3 exhibits, the amount of interest payable to the State government is more in the PSEB than in the HSEB. It was

Rs. 398.78 Cr. in 1990-91 in the PSEB which showed increasing trend, except in 1991-92 and reached the maximum of Rs. 449.55 Cr. in the year 1994-95, whereas the HSEB has comparatively a lower level of liability on this count. It was Rs. 63.75 in the year 1990-91 which declined to Rs. 45.68 in 1994-95. The reason being that the Electricity Boards are required to make payments according to the priorities given in the Electricity Supply Act. (Amendment) 1978. The HSEB was not able to pay interest on the State government loans in the absence of any surplus and therefore, it could not be provided in the accounts. The proportion of interest on State government loan to total current liabilities as compared to the proportion of other liabilities is highest in the PSEB and the lowest in the HSEB. The annual average proportion being 78.73 percent in the former and 3.65 percent in the latter. These comparative figures, if taken at their face value, may prove to be deceptive to an analyst, since the lower proportion in the case of HSEB is not because of its efficiency to pay off interest but owing to the fact that it (HSEB) follows the policy of transferring the amount of interest on the State Government loan to contingent liabilities heading.

V.4.2. Sundry Creditors for Supply of Materials:- The term sundry creditors represents those persons who have claims against current assets. In the case of Electricity Boards it includes the amount payable to the suppliers of materials required for generating energy. It is clear from Table V.3 that sundry creditors for supply of materials have increased during all the years under study, in the case of both the Boards. The annual average rate of increase was

16.94 percent in the case of PSEB and was 16.51 percent in the HSEB. It is further interesting to note that the value of sundry creditors for supply of materials was more in the PSEB than in the HSEB in all the years. On an average, this proportion T.L. was 47.145 percent in the PSEB and 74.27 percent in the HSEB.

V.4.3. Cash Credit from Banks:- The Boards are supposed to repay cash credit usually within a short period. As is apparent from Table V.3, the cash credit does not constitute a part of the current liabilities of the PSEB, though it enjoys the cash credit limit from the State Bank of Patiala and United Commercial Bank. In the case of HSEB, the outstanding cash credit balance was Rs. 10.79 Cr. in 1991-92 which rose to Rs. 28.39 cr. in 1993-94. At the end of the year 1984-85, its cash credit liability was Rs. 15.54 Cr. On an average the proportion of this constituent to the total current liabilities in the HSEB was just 2 percent.

V.4.4. Others:- The current liabilities which are not included in the above items are included under the head, 'Others'. In both the Boards, it includes the amount payable to sister Boards and other Public Sector Undertakings. As Table V.3 makes it clear, the value of 'other liability' has consistently increased in case of both the Boards with the exception of the year 1992-93 in the HSEB when it declined by 28.87 percent. Its value is comparatively more in the HSEB than in the PSEB. It was Rs. 63.43 Cr. in 1990-91 in the PSEB as against Rs. 137.34 cr. in the HSEB. The proportion of 'other liabilities' to total current liabilities was higher for the HSEB,

TABLE V.3

COMPOSITION OF CURRENT LIABILITIES OF PSEB AND HSEB(Rs. IN CRORES)

PARTICULARS	1990-91		1991-92		1992-93		1993-94		1994-95	
	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB
1. Interest on govt. loans	398.8	63.75	271	75.1	342.1	56.18	383.9	51.15	449.5	45.67
% change	-	-	-0.32	0.178	0.262	-0.25	0.122	-0.09	0.171	-0.11
% of total	53.48	10.17	41.94	9.223	43.88	6.162	42.03	4.292	42.41	3.911
2. sundry creditors for supply of materials	283.4	426	298.7	537.1	359.9	692.6	451.7	964.4	525.7	940.7
% change	-	-	0.054	0.261	0.205	0.289	0.255	0.392	0.164	-0.02
% of total	38.01	67.93	46.22	65.96	46.15	75.97	49.45	80.91	49.6	80.57
3. cash credit from banks	0	0	0	10.79	0	26.92	0	28.39	0	15.53
% change	-	-	0	0	0	1.495	0	0.055	0	-0.45
% of total	0	0	0	1.325	0	2.953	0	2.382	0	1.33
4. others	63.43	137.3	76.49	191.2	77.74	136	77.73	147.9	84.73	165.6
% change	-	-	0.206	0.392	0.016	-0.29	-0	0.087	0.09	0.12
% of total	8.507	21.9	11.84	23.49	9.97	14.92	8.511	12.41	7.993	14.18
5. Total current liabilities	745.6	627.1	646.3	814.3	779.7	911.7	913.3	1192	1060	1168

for it has a larger number of Boards as its creditors in comparison to the PSEB. It was 7.99 percent for PSEB and 14.19 percent for HSEB in the year 1994-95 as against 11.8 percent and 21.90 percent, respectively, in 1990-91.

V.5. Ratio Analysis of Working Capital:-

Ratio analysis is a conventional and frequently used yardstick for evaluating the financial condition and performance of an organisation. A ratio may be defined as a fixed relationship between the accounting figures. In finance ratios are used to point out the relationships that are not obvious from the raw data.

"Ratio" is the symptom, like the blood pressure, the pulse, or the temperature of an individual. Some managements can overcome or mitigate the symptoms; other managements fail to recognize the symptoms for lack of the ability, the aggressiveness, and the knowledge of doing so.

Different types of ratios are analysed in the following pages to measure the liquidity, that is, the ability of the two Boards to meet their obligations promptly and regularly. The important ratios are as follows:

1. Liquidity Ratios
   a) Current Ratio
   b) Quick Ratio
   c) Cash Ratio.
2. Working capital Efficiency Ratios
   a) Debtors Turnover Ratio

b) Working Capital Turnover Ratio

c) Inventory to Net Working Capital

V.5.1. Liquidity Ratios:-

These ratios constitute the ratio-analysis of the short-term financial position and are intended to derive a picture about the capacity of a firm to meet its short term obligations out of its short-term resources. Liquidity is the ability of the firm to meet its current liabilities as they fall due. Since liquidity is basic to continuous operation of the firm, it is necessary to determine the degree of liquidity of business concern. Generally, the following three ratios are considered very useful in ascertaining the short-term debt paying capacity of a concern:

V.5.1.1. Current Ratio: The current ratio is considered to be the most frequently used ratio or proportion. The current ratio is intimately bound up with the concept of working capital which is the amount of current assets after providing for current liabilities and represents a margin of safety for short-term creditors. A relatively large amount of net working capital is deemed as a cushion against the threats of insolvency to the firm. Current ratio studies (a) the extent to which current assets are financed by current liabilities, and (b) the ability of the concern to promptly meet its short-period obligations.

A relatively high value of current ratio is considered to be an indicator that the concern is liquid and has the ability to pay

its bills in time. On the other hand, a relatively low value of the current ratio is considered as indicative of the concern facing difficulty in paying its bills. As a conventional rule, a current ratio of 2:1 is considered satisfactory as a rule of thumb.

Table V.4 shows that the current ratio of the PSEB for the year 1990-91 was 0.720. It has followed no specific trend and has been fluctuating over the years. It increased in 1991-92 and 1994-95 but has decreased in the other years under study. But in all cases it was always less than 1. In the case of HSEB, the current ratio has consistently declined from 1.0288 in 1990-91 to 0.666 in 1994-95. Poor liquidity of the two Boards can be attributed a large proportion of Sundry creditors. Thus, it is clear that the liquidity position of the HSEB has been more sound as compared to that of the PSEB. However, the liquidity position of the both the Boards, can be held as very poor, inspite the fact the service concerns can afford a lower current ratio than the trading and manufacturing concerns.

V.5.1.2. Quick Ratio : Since current ratio provides a rough idea of the financial soundness of an enterprise, as a second testing device, the quick ratio, has been evolved to obtain an objective idea of liquidity and solvency position of a firm. The adequacy of current assets as to their quality and quantity is checked by the quick ratio or acid test ratio which brings out the extent to which (a) current assets are immediately convertible into cash, and (b) current liabilities are instantaneously repayable. Thus, it is a more severe test of short-term solvency, and it measures the ability of an enterprise to discharge its immediate obligations by dividing the

quick assets with current liabilities. Quick ratio gives no consideration to inventory, which may be slow-moving in comparison to other current assets like cash and bank balances, sundry debtors, loans and advances. A quick ratio of 1 has usually been considered favourable since for every rupee of current liabilities there are quick assets worth one.

As Table V.4 exhibits, the quick ratio has followed a declining trend in the HSEB, On the whole, a similar position has be obtained as was obtained for current ratio. This ratio was more for HSEB, than PSEB in all the years except in 1994-95. Although ratio was declining, yet the financial position was sound in the case of both the Boards as in service industry, the standard of 1:1 can be relaxed.

V.5.1.3. **Cash Ratio** The ratio of cash and near cash assets to current liabilities provides a more meaningful measure of liquidity. To get an idea of absolute liquidity of a concern, both receivables and inventories are excluded from the current assets and only absolute liquid assets such as cash in hand, cash at bank, and readily realisable securities are taken into consideration. The acceptable norm for this ratio is 50 percent. It means that every rupee worth of absolute liquid assets is sufficient to meet Rs. 2/- worth of current liabilities, or after every one rupee of current liabilities an undertaking should have 50 paise as its absolute assets.

Table V.4 indicates that cash to current liabilities ratio once again followed a similar trend as the two previous ratios. It was 0.27 in 1990-91 and 0.315 in 1994-95 for HSEB. This leads us to

the conclusion that both the Boards had insignificant cash in hand, cash at banks, and in marketable securities. When the cash ratio is analysed vis-a-vis the quick ratio, it is found that most liquid funds of both the Boards remain tied up in receivables, debtors, etc.

V.5.2. Working Capital Efficiency Ratios :

Working capital efficiency ratios are calculated to evaluate whether the management is utilizing working capital effectively or not. These ratios help the management in checking the efficiency with which working capital is being employed in the business. The following ratios are analysed for checking the efficiency of working capital :

V.5.2.1. Debtors Turnover Ratio : Debtors turnover ratio matches net credit sales of a firm to recorded trade debtors. It indicates the rate at which cash is generated by the turnover of debtors. To make it more meaningful, it is further supplemented by average collection period derived by dividing 360/365 days by this ratio. The resulting figures explain the number of days of credit a concern is allowing to its customers to settle the invoices of goods sold to them and measures the quality of debtors since it indicates the rapidity or slowness of their collection efficiency.

Table V.4 makes it clear that the debtors turnover ratio has had an increasing trend over the years in the case of PSEB except in 1991-92. It was 5.43 in 1990-91 which rose to 6.76 in 1994-95, indicating that the timelag between credit sales and cash collection is becoming shorter. On the other hand, in the case of HSEB, there

was hardly any specific trend visible. This ratio was 1.38 in 1990-91 and remained almost constant upto the year 1993-94. However, it increased to 3.5 in 1994-95. This ratio is comparatively lower in the HSEB than in the PSEB which implies that debts were being collected rapidly by the PSEB. The average collection period was 66 days in 1990-91 in the PSEB which declined to 53 days in the year 1994-95. In the HSEB it declined from 261 days in 1990-91 to 103 days in 1994-95. It was 296 days, the maximum, in 1993-94. Although it has decreased from 1990-91 to 1994-95 in the case of both the Boards, A.C.P. was higher in the HSEB than in the PSEB.

V.5.2.2. Working Capital Turnover : In order to test the efficiency with which net working capital is utilized, the ratio of sales to working capital, that is, working capital turnover is used.

This ratio indicates whether the business is being operated on a small or large amount of net working capital in relation to sales. Generally, higher is this ratio, greater is the efficiency and higher rate of profit. However, a very high ratio may be indicative of a potential danger involving the shortage of working capital.

The PSEB is having edge over the HSEB in terms of the efficiency with which it was collecting its debts. Also significant is the outcome that a relatively lesser amount of capital was blocked up in holding inventories as compared to what it was in other current assets in both the Boards, which is indicated in their sound liquid position.

TABLE V.4
RATIO ANALYSIS

Particulars	1990-91		1991-92		1992-93		1993-94		1994-95	
	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB
1. Liquidity Rarios										
a) Current Ratio	0.72	1.02	0.95	0.98	0.88	0.90	0.78	0.86	0.80	0.67
b) Quick Ratio	0.56	0.84	0.74	0.81	0.69	0.72	0.63	0.71	0.66	0.51
c) Cash Ratio	0.09	0.01	0.1	0.002	0.14	0.004	0.1	0.005	0.06	0.009
2. Working Capital Efficiency Ratios										
a) Debtors Turnover Ratio	5.43	1.38	5.15	1.25	5.72	1.38	6.33	1.22	6.76	3.5
Average collection Period (Days)	66	261	70	287	63	261	57	296	53	103

CHAPTER VI

ANALYSIS OF REVENUE ACCOUNT

The term 'Revenue Account' as applied to the Electricity Boards is the same as the term 'Profit and Loss Account' applied to the trading concerns. As the Electricity Boards use the term revenue account instead of profit and loss account, we have used the same term, as also the other terms and are relevant to the Boards, in the present analysis. The annual financial statements in general, and balance sheet and revenue account in particular, portray the results of the operations of the business. As is the balance sheet, the revenue account is of the greatest value to any analyst. The analysis of revenue account presents comparative data at periodic intervals. The comparative analysis of balance sheets consists of comparing the fluctuations in the amounts represented by individual items in the successive financial statements. In the same way, successive revenue accounts are set up in parallel vertical columns and explanation of important changes in individual items are carefully sought. Recently, there has been a shift in emphasis in the financial circles from the balance sheet to the revenue account as the statement of primary importance. The main reason responsible for the shift is the dynamic nature of revenue account and its main function of reporting the results of business operations. The division of income between the different elements of our economy - labour, management, lenders, tax gatherers representing various governmental units and stockholders has made the objectivity of revenue account increasingly important. They all are interested in

analysing the revenue account, though the objectives of analysis may differ significantly.

VI.1 Significance of the Analysis of Revenue Account

Income is the golden egg and hence the center of attraction of all those interested in the affairs of an enterprise. Just as the balance sheet is said to be the statement of primary interest to the short-term creditors, in the same way the revenue account is given first place by the investors. An investor, whatever be the type of securities he may purchase, plans to preserve his principal amount intact and to receive in addition an annual payment of return on investment. The presentvation of capital depends upon the value of the assets; but the value of assets, in its turn, depends upon their yields. Therefore, the value of the principal upon its capacity to yield the expected income. Even though the property may remain unimpaired, the failure of income is usually sufficient to bring about a serious fall in market value of the security held. In fact, revenue account and balance sheet are essential for a well rounded view. Profitability of a business can be judged by analysing the revenue account. The revenue account and the balance sheet are of the greatest value when obtained over successive periods of time and presented in the comparative form.

A comparative revenue account shows the operating results for a number of accounting periods so that change in absolute data from one period to another may be stated in terms of money and

percentages. It also locates the causes due to which unfavourable results may have been occurred. Profits are essential means of obtaining wider economic and social targets. But profits mean more than the monetary figures in the revenue account at the end of the accounting period. Only a profitable business over a period of years can earn a satisfactory return for investors, provide jobs and opportunities for the employees, spend money on research and technology that provides better products to its customers. Also that only a profitable concern can help others in progress, including dealers who handle their products and raw material suppliers, and can pay its share of the heavy costs of present day government by participating in the payment of income tax and corporate tax. The profitability of one concern can be compared with that of its counterparts with the help of revenue account analysis. The profitability of a concern can also be compared with that of the industry as a whole in which it falls, and through this comparison one can easily reach the conclusion about the contribution made by that concern to the national exchequer. Additionally, the analytical figures also help in forecasting for the future.

Hence, as the revenue account is in fact the heart core of financial reporting, a deep insight into its various components through analysis assumes significance.

VI.2 The analysis of revenue account includes the following:

(1) Analysis of gross surplus

(2) Analysis of operating surplus

(3) Analysis of net surplus

VI.2.1 Analysis of Gross Surplus:-

Electricity Board have the tendency to use the term 'Surplus' for profit. The term 'gross surplus' or 'gross margin' is the excess of revenue, that is, net sales over expenditure which includes the cost of goods/services sold. In the case of a trading concern, the cost comprises of purchase price, freight inwards, octroi duty and expenses incurred on the goods till they are received in the firm's premises. In the case of a manufacturing concern, the cost includes the cost of raw materials, wages and other manufacturing expenses. A condensed form of gross surplus of trading or manufacturing enterprise would be as under:

Net Sales	Rs.
Less Cost of goods	Rs.
Gross Profit/Surplus	Rs.
Less administrative and selling expenses	Rs.
Net operating profit/ surplus	Rs.

This form is of particular interest in showing the relation of cost of goods sold to sales and gross surplus. The data are of great value in explaining changes in net earnings. Gross surplus varies with the change in 'net sales' or the change in the 'cost of goods sold'. Each of these variables, however, is affected by two factors: commodity volume and price. In order to analyse the variations in gross surplus, it is necessary to consider the following:

(i) Variations in net sales due to change in the volume of sales.

(ii) Variations in net sales due to change in selling price.

(iii) Variations in the cost of goods sold due to change in the volume of the production.

(iv) Variations in the cost of goods sold due to change in cost price.

While analysing the gross surplus it is necessary to study its components. The usual components of gross surplus are net sales revenue and cost of electricity sold.

VI.2.1.1. Net Sales Revenue:

The term 'net sales' refers to the aggregate sales revenue of the enterprise after deducting therefrom goods returned, price adjustments, and trade discount, if any.

Table VI. 1 shows that sale of electricity and the percentage change in sales over the previous years for the PSEB and the HSEB for the period from 1990-91 to 1994-95. A careful examination of the table reveals that there was a vast increase in sales revenue in the case of both the Boards over the period under study. The sale of electricity in the PSEB was Rs. 745 cr. in 1990-91 which rose to Rs. 1810 cr. in 1994-95, thus showing an increase of about 143 percent. As against this, the sale of electricity in the HSEB was Rs. 471 Cr. in 1990-91 which increased Rs. 937 Cr. in 1994-95. The rate of change in the sales over the previous year was

comparatively more in the PSEB than in the HSEB during the entire period, the only exception being 1994-95 when the rate of change was slightly higher in the case of HSEB (30 percent) than what is was in the case of PSEB (25 percent). On the whole, the annual average rate of increase in sales was 25.07 percent for the PSEB and 18.99 percent for the HSEB. In absolute terms, the sales revenue from electricity was less in the case of HSEB than what it was in the case of PSEB, apparently owing to the less installed capacity, unless production and subsequent less sales in the case of former.

It can be made out from the above analysis that both the Boards experienced increasing trend in their sales performance largely due to gradual increase in production as well as consumption of electricity.

VI.2.1.2 Cost of Electricity Sold:-

Cost of electricity sold is of variable nature. It implies that a change in output will lead to change in the value of electricity sold. Generally, cost of production changes according to the level of output. But the per unit cost follows the same pattern of change as that of the changes in the prices of different constituents of the cost of electricity sold. The cost of electricity sold is determined by the purchase price of electricity and its production cost. The importance of determining the cost of electricity sold lies in the fact that the excess of sales revenue over the cost of electricity sold represents the gross surplus. The

gross surplus can be used in determining the net surplus during an accounting period, after deducting the expenses of administration, repairs and maintenance, and salaries, etc. for the period.

As per Table VI. 1, the cost of electricity sold has continuously increased in the case of both the Boards. In the PSEB the cost of electricity sold was Rs. 365 Cr. in 1990-91 which rose to Rs. 1258 Cr. in 1994-95 at an annual average rate of increase of 36.9 percent, while in the case of HSEB the cost was Rs. 338 Cr. in 1991-92 which reached maximum of Rs. 831 Cr. in 1994-95 at an annual average rate of increase of 26.125 percent. As the annual average rate of increase was approximately 1.5 times more in the PSEB than in the HSEB, the difference was due to the fact that the availability of energy for sale was increasing at a higher rate in the case of former as compared to the latter.

For having a more objective view, the cost of electricity sold is further analysed as below by establishing its percentage relationship with sales. This ratio is always expressed in terms of percentage. From table VI.1 it is clear that the ratio of cost of electricity sold to sales registered increasing trend in both the Boards throughout the period under study except in the year 1994-95. This ratio was 49.1 percent in 1990-91 in the PSEB which increased to 76.4 percent in 1993-94. In 1994-95 is showed a decline and came down to 69.5% implying a decline in gross surplus. In the case of HSEB, this ratio was 71.7 percent in 1990-91 which rose to 111 percent in 1993-94 and come down to 88.6% in 1994-95. Although the changes in the ratio do not provide a well-rounded view of the

situation, but the annual average ratio signifies that it was higher in the HSEB (91.72 percent) that in the PSEB (65.42 percent), which implies that the percentage of gross surplus is more in the PSEB as compared to the HSEB.

Analysis of Various components of cost of Electricity Sold:-

A component-wise analysis of cost of electricity is as under:-

VI.2.1.2.1 Cost of power purchased:- The cost of power purchased is the cost of power which the two Boards purchase from other neighbouring Boards. Table VI.1 exhibits that the cost of power purchased has not experienced an increasing trend in the case of PSEB. In the year 1990-91 it was worth Rs. 125 Cr. which increased to Rs. 454 Cr. in 1994-95.

In the case of HSEB, the cost of power purchased was Rs. 157 Cr. in 1990-91 which, after increasing constantly, reached to Rs. 502 r. in 1993-94. In the year 1994-95, it declined to Rs. 486 Cr. A glance at the comparative position of the two Boards provides the view that the annual average rate of increase was higher in the case of PSEB (52.64 percent) than in the case of HSEB (43.9 percent)

The percentage of cost of power purchased to sales in case of PSEB was 16.77 percent in 1990-91 which rose to 25.1 percent in 1994-95, while in the case of HSEB it was 33.3 percent in 1990-91 which increased to 51.9 percent in 1994-95.

The annual average proportion was 22.074 percent in the PSEB and 49.1 percent in the HSEB.

VI.2.1.2.2. Cost of fuel:- Electricity is generated either at Hydro Projects or Thermal Projects. Thermal Projects constitute a major portion and require fuel for generating electricity. Fuel includes coal, oil and lubricating oil. This component accounts for a substantial portion of cost of electricity sold. In the case of both the Boards the cost of fuel has experienced in increasing trend over the period under study. It was Rs. 229 Cr. in the year 1990-91 in the PSEB as compared to Rs. 180 Cr. in the case of HSEB in the same year. By 1994-95 it increased to Rs. 801 Cr. in the PSEB and Rs. 343 Cr. in the HSEB in 1994-95. The point of difference between the two boards in that the annual average rate of increase was higher in the PSEB (47.03 percent) than that of in the HSEB (18.11 percent). The proportion of cost of fuel to sales ranged from 32.08 percent to 53.1 percent in the PSEB and from 38.2 percent to 50.1 percent in HSEB, the annual average proportion being 43.016 percent in the case of former and 42.28 percent for the latter.

VI.2.1.2.3. Expenditure on operation of generating Stations:- This is the expenditure which is increased for operating the Hydraulic and steam Power Plans. The expenditure on operation of generating stations was Rs. 1.42 Cr. in 1990-91 in the case of PSEB which increased regularly reaching a level of Rs. 5.71 Cr. in 1992-93 and falling to Rs. 3.21 Cr. in 1994-95. In the case of HSEB the increases taking place regularly till 1992-93 showing 43.9 percent

increase in 1991-92, 87.3 percent in 1992-93, 5.0 percent decrease in 1993-94, and 0% in 1994-95. The annual average rate of increase was 57.25 percent in the case of PSEB and 31.55 percent in the HSEB. When examined as the percentage of expenditure on generating stations to sales, it is noticed that inspite of the trend being uniform in both the Boards, this percentage was lower in the PSEB (0.246 percent) than what it was in the PSEB (0.292 percent).

VI.2.1.3.Gross Surplus:-

Gross surplus is the excess of sale of electricity over the cost of electricity sold. As table VI.1 depicts, the gross surplus has undergone a fluctuating trend in both the Boards. From Rs. 379 Cr. in 1990-91 in the case of PSEB it decreased to Rs. 302 Cr. in 1992-93, thereafter increase to Rs.552 Cr. In the case of HSEB, gross surplus was Rs. 133 Cr. in 1990-91 and decreased to Rs. 77 Cr. (deficit) in 1993-94. However, the gross surplus reached the level of Rs. 106 Cr. in 1994-95. The rate of increase was comparatively higher in the HSEB than in the PSEB. The annual average rate of increase was 9.13 percent for the former and 8.42 percent for the latter.

VI.2.1.4. Ratio of Gross surplus to Sales:- The ratio of gross surplus to sales is the first and the most important index of the profitability of the concern. It expresses the relationship of gross surplus on sales to sales in terms of percentage. As Table VI.1 exhibits the gross surplus ratio was 50.9 percent in 1990-91 in the case of PSEB which experienced a decreasing trend mostly during the

period under study and came down to 23.6 percent in 1993-94 and increased to 30.5% in 1994-95. It as due to the fact that the rate of increase in the cost of electricity sold was comparatively higher than the rate of increase in sales. In the case of HSEB this ratio was 28.3 percent in 1990-91 which decreased to -11% percent in 1993-94, followed by a increase to 11.4 percent in the year 1994-95 due to increase in sales, and a relatively lesser increase in the cost of electricity sold in the latter year. The annual average proportion was higher in the PSEB (34.58 percent) that in the HSEB (8.284 percent) implying that more amount is available in the PSEB to meet out its operating expenses than that in the HSEB. Yet another notable feature that emerges from the present analysis is that in the case of PSEB the said proportion was above the annual average proportion upto 1991-92, which came to be below the average percentage in subsequent years. The position obtaining in the HSEB was similar in the sense that upto 1992-93 the gross surplus to sales ratio remained above the average level and came to be below the average level in the succeeding years (except in the last year).

VI.2.2. Analysis of Operating Surplus:-

Operating surplus may be defined as the excess of gross surplus over the operating expenses which generally include administrative expenses, trading expenses, selling and distribution expenses, and the depreciation charged on fixed assets. 'Operating profit is the measure of ability; skill, aggressiveness and ingenuity of the management to operate a business successfully for its main purpose'.

VI.2.2.1. Operating Expenses:-

Operating expenses are those expenses that are not directly associated with the acquisition or manufacturing of the products. These expenses are as essential as the product cost, but are not part of it. In the operating surplus section of the revenue account, the various actual expenses incurred in the running of a business are deducted from the gross surplus. These expenses are known as operating expenses. The operating expenses in the case of Electricity Boards are further divided into four subgroups namely, salaries, general administrative expenses, repairs and maintenance, and depreciation. It may be illuminatory to analyse these in absolute terms as well as in relative terms to evaluate the operating efficiency of the enterprise.

VI.2.2.1.1. Salaries:- Salary means that amount which is paid to the staff working in the offices. As Table VI. exhibits, the salaries registered an increasing trend in the case of both the Boards. In 1990-91 the salaries paid were worth Rs. 292 Cr. in the PSEB as compared to Rs. 134 Cr. in the HSEB. In 1984-85, it increased to the level of Rs. 438 Cr. in PSEB and Rs. 483 Cr. in the HSEB.

Owing to the higher number of staff in the PSEB, its salaries were more than that of the HSEB. The ratio of salaries to sales during 1990-91 to 1994-95 varied between 24.2 percent to 37.8 percent in the PSEB, and between 25.9 percent to 30.4 percent in the

case of HSEB. On an average the salary proportion was higher in the PSEB (30.74 percent) than in the HSEB (28.74 percent).

VI.2.2.1.2. General Administrative Expenses:- All expenses incurred in the running of office are known as administrative expenses. These expenses include allowances, medical expenses, rents and taxes, printing and stationery, postage and telegraph charges, transport expenses, legal charges, audit charges, miscellaneous office expenses etc.

The data in Table VI.1 bear out that there was an increasing trend in these expenses over the period under study in both the Boards. These expenses were Rs. 20.9 Cr. in 1990-91 which rose to Rs. 29.1 Cr. in 1994-95 in the PSEB, while these amounted to Rs. 11.4 Cr. in 1990-91 and Rs. 25.1 Cr. in 1994-95 in the HSEB. The annual average rate of increase was about four times as high in the HSEB (29.04 percent) as in the PSEB (7.04 percent). The table amply confirms that in the PSEB the ratio of administrative expenses to sales was 2.81 percent in 1990-91, the maximum in the period under study.

In the case of HSEB the ratio was 2.41 percent in 1990-91 and increased to 2.55 percent in 1991-92 and decreased to 2.49% in 1992-93 before increasing to 2.79% in 1993-94. However, in 1994-95 it decreased to 2.67 percent. The average ratio was higher in HSEB (2.58 percent) as compared to that in the PSEB (2.18 percent).

VI.2.2.1.3. Repairs and Maintenance:- These are the expenses incurred on keeping the assets useable. In the case of Electricity Boards, Hydraulic Power Plants, Thermal Power Plants, Transmission lines, Distribution lines, Public lighting, etc. always remain under repair.

Table VI.1 reveals that there was an increasing trend in the amount expended on repairs and maintenance in both the boards. It was evident that the annual increase in this charge on revenue account was more in the HSEB (17.4 percent) than in the PSEB (15.12 percent). It is clear from the fact that the average proportion in the HSEB (7.744 percent) was higher than in the PSEB (6.194 percent). The trend behaviour for proportions conforms to the trend in the anoia percentage changes.

VI.2.2.1.4. Depreciation:- Depreciation is an non cash expenditure. It is closely related to the maintenance of fixed assets. In order to arrive at the true surpluses made in the course of a given period of time, it is necessary that such a gradual decrease in the value of an asset due to wear and tear, expiration of time or permanent fall in the market value, must be recognised and charged for. Each asset has a limited life after which it becomes necessary to replace it. For replacement of assets, a large amount is required so that every year some amount should be charged out of the profits and transferred to the depreciation reserve fund. The methods generally used for charging depreciation are the straight line method, written down value method, annuity method, and sinking fund method, etc. Both the

Boards have not maintained separate register of assets showing their life, original cost, date of acquisition/completion, depreciation provided, and their written down value, etc., as such physical existence of these assets could not be verified.

Table VI.I exhibits that the amount charged for depreciation was Rs. 87.5 Cr. in 1990-91 in the case of PSEB which rose to Rs. 296 Cr. in 1994-95, i.e. by 238.29 percent. In the case of HSEB it was Rs. 39.2 Cr. in 1990-91 and increased to Rs. 143 Cr. in 1990-95, i.e. by 264.8 percent. The similarity between the two Boards in this regard is that the depreciation charge was increasing in both the Boards. The annual average rate of increase was 52.96 percent in the HSEB, while it was slightly less in the PSEB (47.658 percent). The percentage of depreciation to sales in the PSEB was 11.7 percent in 1990-91, which rose to 16.4 percent in 1994-95. In the case of HSEB it was 8.32 percent in 1990-91 which increased to 15.3 percent in 1994-95. The annual average proportion was 13.28 percent in the PSEB and 11.304 percent in HSEB. In the absence of any systematic trend, the analysis can hardly be any warning to the Board.

VI.2.2.2.Overall Operating Expenses Analysis:-

Table VI. shows that operating expenses have experienced an increasing trend during the period under reference, in the case of both the boards. In the PSEB operating expenses were Rs. 451 Cr. in 1990-91 which rose to Rs. 852 Cr. n 1994-95 i.e. by 50.87 percent. In the HSEB these were Rs. 223 Cr. in 1990-91 which increased to Rs.

483 Cr. in 1994-95, i.e. by 116.59 percent. The annual average rate of increase was higher in the HSEB (23.32 percent) than in the PSEB (17.78 percent). In 1990-91 the percentage of operating expenses to sales was 60.5 percent in the PSEB as against 47.3 percent in the HSEB. The proportion declined continuously upto the year 1994-95 in PSEB when it was 51.5 percent. In the HSEB it increased upto 1993-94 when it was 52% percent and then declined slightly to 51.5% in 1994-95. The annual average proportion was 54.14 percent for the former and 50.4 percent for the latter.

VI.2.2.3. Operating Ratio:-

Though the ascertainment of the percentage of cost of electricity sold to sales is quite valuable as it tells us the percentage of gross surplus, but the percentage of cost of electricity sold and operating expenses to sales is quite more valuable as it yields the net operating margin. The operating ratio when subtracted from 100 percent shows the net margin available for income tax, return to capital, and transfer to reserves.

Table VI.2 exhibits that both the boards were having no operating surplus during the period of five years i.e. had net loss. Both the boards continued to make increasing losses in the successive years except in 1994-95 when they seemed to have recovered a bit. In PSEB operating losses were Rs. 71 Cr. in the year 1990-91 which rose to Rs.345 Cr. in the year 1993-94. In the year it decreased slightly and was Rs. 300 Cr. In HSEb, it was Rs. 90 Cr. in 1990-91 and Rs. 453 Cr. in 1993-94. However, it also showed an decrease in 1994-95 when it came down to Rs. 377 Cr. On an average the losses increased

relatively more in the case of HSEB than in PSEB as the annual average rate of increase in the operating losses of HSEB was Rs. 72.6 percent as compared to Rs. 54.8 percent in the PSEB. All in all the figures of operating results of both boards provide warning signals requiring taking of corrective measures to improve upon their operations. If the boards remain constantly losing proportions, it would reflect adversely in their proportions.

The ratio of operating loss to sales has shown constant rise in the case of HSEB except in 1994-95 and a fluctuating trend in the case of PSEB. On an average the proportion was higher in the HSEB (42 percent) than in PSEB (19.53 percent). Thus, it follows that the HSEB as compared to the PSEB needs to be more watchful to set off the losses.

VI.2.2.4. Non-Operating Surplus and Deficit

For calculating the actual net surplus, non-operating incomes are added to, and non-operating losses are deducted from, the operating surplus. In the non-operating incomes are included, the miscellaneous revenue from customers such as rent of meters, public lighting maintenance charges, revenue from trading like sale of electrical plant, sale of stores, sale of scrap, interest of loans and investments, share of Rajasthan and miscellaneous receipts. There are certain non-operating expenses such as contribution to pension fund

As is revealed by Table VI.1, the non-operating surplus has experienced an increasing trend in the case of both the boards except in the year 1994-95 in HSEB. It was Rs. 27.8 Cr. in 1990-91 which

rose to Rs. 107 Cr. in 1994-95 in the PSEB as compared to Rs. 52.3 Cr. in 1990-91 rising to Rs. 136 Cr. in 1993-94 in the HSEB. The rate of increase in the HSEB was higher than in PSEB. The annual average rate of increase being 15.84 percent in the PSEB and 16.74 percent in the HSEB. Its percentage to net sales experienced a fluctuating trend in both the boards. It varied between 4.71 percent and 5.92 percent in the PSEB and between 6.11 percent and 18.8 percent in the HSEB.

VI.2.3. **Analysis of Net Surplus**

The main objectives of any enterprise is profit earning. Even though social responsibility is also recogonised as equally important objective these days, but the profit motive is still the ultimate objective of all business concerns. The net profit of any concern depends on its sales volume. We can say that the sales constitute the fundamental dynamic force in a business concern, for in the absence of sufficient sale of merchandise or service, as the case may be, the business cannot hope to be successful. The rupees value of sales may be superficial and sometimes even erroneous measure of success. A business might raise its gross income from sales to a very high level by selling at prices which are so low as not to yield a satisfactory income after the cost of goods sold and the expenses of doing business are deducted. It is not, therefore, the number of rupees of sales that measure the ultimate success, but the profitablity of the sales. The success of any business can be measured in the terms of profit. Hence, it is necessary to measure the profitablity of the sales. This measure is provided by the ratio of net surplus to sales.

TABLE VI.1

Position of Gross Surplus and Percentage of Various Items to Net Sales in PSEB and HSEB (RS. in Crores)

PARTICULARS	1990-91		1991-92		1992-93		1993-94		1994-95	
	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB
1. Sale Of Electricity	744.62	471.39	849.93	542.76	1067.02	659.87	1447.53	720.97	1809.81	937.34
% Change	-	-	14.142784	15.14033	25.542103	21.576756	35.661	9.2593996	25.027461	30.010957
Trend percentages	100	100	114.14585	115.13789	143.3011	139.98091	194.40371	152.9423	243.05802	198.84175
2. Cost of Elect. sold	365.24	337.98	513.04	475.18	764.56	658.41	1105.21	798.22	1258.18	830.92
% Change	-	-	40.466543	40.594118	49.025417	38.560125	44.555038	21.234489	13.840809	4.096615
% of sales	49.050522	71.698594	60.362618	87.548825	71.653765	99.778744	76.35144	110.71473	69.520005	88.646596
(i)Cost of power Purchased	124.95	156.86	186.79	224.88	251.49	325.56	331.81	502.46	454.21	486.27
% Change	-	-	49.491797	43.363509	34.637829	44.770544	31.937652	54.337142	36.888581	-3.222147
% of sales		33.276056	21.977104	41.432677	23.56938	49.336991	22.922496	69.69222	25.09711	51.877654
(ii)Cost of Fuel	238.87	180.3	324.68	249.12	507.36	330.64	768.01	293.66	800.76	342.55
% Change	-	-	35.923306	38.169717	56.26463	32.723186	51.373778	-11.18437	4.2642674	16.648505
% of sales		38.248584	38.200793	45.89874	47.549249	50.106839	53.056586	40.731237	44.245529	36.544904
(iii)Expenditure on Operation of Generating Stations	1.42	0.82	1.57	1.18	5.71	2.21	5.39	2.1	3.21	2.1
% Change	-	-	10.56338	43.902439	263.69427	87.288136	-5.604203	-4.977376	-40.44527	0
% of sales	0.1907013	0.1739536	0.1847211	0.2174073	0.5351352	0.3349145	0.3723584	0.2912743	0.1773667	0.2240382
3. Gross Surplus/loss	379.38	133.41	336.89	67.58	302.46	1.46	342.32	-77.25	551.63	106.42
% Change	-	-	-11.19985	-49.34413	-10.21995	-97.8396	13.178602	-5391.096	61.144543	-237.7605
% of sales	50.949478	28.301406	39.637382	12.451175	28.346235	0.2212557	23.64856	-10.71473	30.479995	11.353404
4. Operating Expenses	450.82	222.95	495.59	273.97	612.54	333.89	687.81	375.62	851.81	483.04
% Change	-	-	9.9307928	22.884055	23.598136	21.871008	12.288177	12.498128	23.843794	28.598051
% of sales	60.543633	47.296294	58.309508	50.477191	57.406609	50.59936	47.516114	52.099255	47.066267	51.533062

(i)Salaries	292.35	134.33	321.53	165.02	357.01	189.48	403.61	217.9	438.44	243.16
% Change	-	-	9.9811869	22.846721	11.03474	14.822446	13.052856	14.998944	8.6296177	11.592474
% of sales	39.261637	28.496574	37.830174	30.403862	33.458604	28.714747	27.882669	30.223172	24.225747	25.941494
(ii)General and Administration Expenses	20.89	11.38	21.73	13.86	23.38	16.45	24.97	20.11	29.07	25.06
% Change	-	-	4.0210627	21.792619	7.5931891	18.686869	6.8006843	22.24924	16.419704	24.61462
% of sales	2.8054578	2.4141369	2.5566811	2.5536149	2.1911492	2.4929153	1.7250074	2.7892978	1.606246	2.6735229
(iii)Repairs and Maintenance	50.1	38	59.05	41.35	70.24	48.62	84.66	58.02	87.99	71.42
% Change	-	-	17.864271	8.8157895	18.950042	17.58162	20.529613	19.333608	3.9333806	23.095484
% of sales	6.7282641	8.0612656	6.947631	7.6184686	6.5828194	7.368118	5.8485834	8.0474916	4.8618363	7.6194337
(iv)Depreciation	87.48	39.24	93.28	53.74	161.91	79.34	174.57	79.59	296.31	143.4
% Change	-	-	6.6300869	36.95209	73.574185	47.63677	7.8191588	0.3150996	69.737068	80.173389
% of sales	11.748274	8.3243174	10.975021	9.9012455	15.174036	12.02358	12.059854	11.039294	16.372437	15.298611
5. Operating Surplus/ Loss	-71.44	-89.54	-158.7	-206.39	-310.08	-332.43	-345.49	-452.87	-300.18	-376.62
% Change	-	-	122.14446	130.50034	95.387524	61.06885	11.419634	36.230184	-13.11471	-16.83706
% of sales	-9.594155	-18.99489	-18.67213	-38.02602	-29.06037	-50.3781	-23.86755	-62.81399	-16.58627	-40.17966
6. Non-Operating Surplus/deficit	27.81	52.25	43.41	75.68	50.23	95.71	81.09	135.6	107.2	57.29
% Change	-	-	56.09493	44.842105	15.710666	26.466702	61.437388	41.677986	32.198791	-57.75074
% of sales			5.1074794	13.943548	4.7075031	14.504372	5.6019564	18.807995	5.9232737	6.1119764
7. Net Surplus/loss	-43.63	-37.29	-115.29	-130.71	-259.85	-236.72	-264.4	-317.27	-192.98	-319.33
% Change	-	-	164.24479	250.52293	125.38815	81.103206	1.7510102	34.027543	-27.0121	0.6492892

As Table VI.1 shows that there was no net surplus available to both the boards i.e. there was a net loss. In the year 1990-91, the net loss was Rs. 44 Cr. which increased upto the year 1993-94 and was Rs. 264 Cr. in PSEB. In the year 1994-95 it showed a slight improvement and was Rs. 193 Cr. In the case of HSEB, it was Rs. 37 Cr. in 1990-91 which increased gradually to Rs.319 Cr. The annual average rate of increase in the net loss was high in the HSEB (56.4 percent) than what it was in the PSEB (44.0 percent).

VI.3 Test of Profitability

The net surplus position of the two boards with the help of profitability ratios. All these ratios reflect the efficiency of the enterprise as a whole.

VI.3.1. Net Surplus Ratio

This ratio is also known as the profit margin. To calculate it the amount of net surplus is divided by the sales. It indicates what portion of sales is left to the proprietors after all costs, charges and expenses have been deducted. It differs from the ratio of the operating surplus to the net sales in as much as it is calculated after adding non-operating income and deducting non-operating expenses from the operating surplus. This ratio is widely used as a measure of overall profitability and is very useful to the proprietors. As in both the boards no provision is made for taxes, it can, therefore, be taken as net surplus only. Table VI.1 shows that there was no net surplus in both the boards i.e. only net losses were there. In the PSEB this ratio showed a decreasing trend till 1992-93 when it decreased from -5.86 percent in 1990-91 to -24.4 percent in

1992-93. It then increased to -10.7 percent in 1994-95. This shows that the position deteriorated till 1992-93 but started improving later. In the HSEB this ratio showed a decreasing trend for the most of the period under study except in 1994-95 when it showed a slight improvement. In the year 1990-91 this ratio was -7.91 percent which declined to -44 percent in 1993-94. However in 1994-95 it increased to -34.1 percent. From the above it clearly follows that the HSEB is more inefficient than the PSEB, although there is a need for both the boards to reduce the cost of electricity generation and the amount of operating expenses, particularly in the HSEB.

VI.3.2. Net Surplus To Capital Employed

It is true to say that proprietors invest money in a business concern to obtain a satisfactory return on their capital. The nature of this return is influenced by factors such as the type of industry, type of risk involved, the risk of inflation, and the fluctuations in the external economic conditions. For this purpose the success of a concern can be measured in the terms of surplus related to capital employed. The term capital employed refers to the long term funds supplied by the creditors and owners od the firm. It can be computed in two ways. First, it is equal to non-current liabilities plus owner's equity. Alternatively, it is equivalent to net working capital plus the net fixed assets. Here the second alternative has been used. This ratio provides sufficient insight into how efficiently the long term funds are being used. The higher the ratio, the more efficient is the use of capital employed. Table VI.2 shows that a similar trend is followed here also as was followed in Net Surplus Ratio in the case of PSEB i.e. it decreased till 1992-93 and

VI.3.4. Net Surplus to Total Assets

The ratio of net surplus to total assets is very important measure of the productivity of assets. total assets include all current and fixed assets. As table VI.2 shows that once again the ratio follows a similar trend as in the case of net surplus to capital employed ratio. It decreased till 1992-93 and increased in the subsequent years in the case of PSEB. In the year 1990-91 it was -0.685 percent and was -3.90 percent in 1992-93 which increased to -2.25 percent in 1994-95. In the case of HSEB it decreased throughout the period of study i.e. till 1994-95. In 1990-91 it was -1.15 percent and decreased to -6.85 percent in 1994-94.

Table VI.2
PROFITABILITY RATIOS

Particulars	1990-91		1991-92		1992-93		1993-94		1994-95	
	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB	PSEB	HSEB
Net Surplus Ratio	-5.86	-7.91	-13.6	-24.1	-24.4	-35.9	-18.3	-44	-10.7	-34.1
Net Surplus To Capital Employed	-1.5	-2.55	-3.70	-8.58	-8.07	-15.42	-8.0	-21.08	-6.1	-23.16
Net Surplus To Net Worth	-9.43	-4.6	-21.42	-14.5	-41.03	-16.61	-35.15	-21.55	-20.97	-20.93
Net Surplus to Total Assets	-0.685	-1.15	-1.96	-3.52	-3.90	-5.62	-3.54	-6.46	-2.25	-6.85

CHAPTER VII

CONCLUSION AND FINDINGS

In the end it would be desirable to have a relook at the various aspects of this study discussed under different chapters to be able to put together the important points by way of conclusions and findings. In other words, here we propose to throw a fresh light on the major observations as made during the course of analysis of this study and put forward a few suggestions based on the findings. The suggestions primarily made aim at improving the profitability and liquidity position of the Punjab and the Haryana State Electricity Boards.

The analysis of financiaal statements of the two Boards aimed at screening the financial position, profitability, and their future prospects of growth. Such an analysis is useful to the management in the internal decision-making as well as to the outside parties such as banks, creditors, and investors who have directly or indirectly some financial stake in any organisation. In the case of the two Boards the analysis of financial statements has been carried out to have a deeper insight in their functioning by bringing out, in general as also in particular, the position obtaining from the similarities and differences in respect of the financial structure, revenue account, and working capital position. It covers a period of five years and is based on the published annual accounts data.

One of the most important point that has emerged from the analysis carried out in the various chapters is that the financial position of both the Boards from long-term point of

view has not been sound. The behaviour of the ratios of net worth to total assets, net block to net worth, long-term funds to fixed assets all indicate the dependence of the two Boards on long-term funds. The ratio of long-term funds to fixed assets was 102.14 percent in 1990-91 and 130.85 percent in 1994-95 in the PSEB as against 105.10 percent in 1990-91 and 114.28 percent in 1994-95 in the HSEB. This shows that both the Boards have been using long-term funds in financing their fixed assets. Similarly, a part of net working capital is also being supplied through long-term funds. What follows is that the managements of the two Boards must give considerable thought to the existing pattern of utilisation of funds. They ought to design a policy whereunder short-term funds should be utilised for short-term needs and long-term funds for long-term needs.

The changes in the ratio of total liabilities to net worth are indicative of the interests of the creditors not being safe in both the Boards. Fortunately, the ratio of net worth to total assets increased from 7.26 percent in 1990-91 to 10.71 percent in 1994-95 in the case of PSEB and from 27.43 percent to 32.71 percent in case of HSEB over the same time period, which shows some improvement in the financial position, alothough its financial position on the whole has not been very sound. Though the position of PSEB is relatively better, yet it is necessary for both the Boards to make efforts to increase their net worthh. As per provisions Electricity (Supply) Act, 1948, Electricity Boards are entitled to raise capital by issue of shares. It will be in the fitness of things if both the Boards

can increase own funds by issuing share capital so that their dependance on outside funds is reduced.

The position obtained in respect of solvency and liquidity reveals that the short-term liquidity of both the Boards has slightly improved over the period under study. Further, that the value of sundry debtors in the HSEB has been much higher than in PSEB, from which it seems to follow that the HSEB has not been very effective in realising the recoveries to be made from the beneficiaries of its services. In other words, it means that PSEB has been relatively more effiecient in realising the funds blocked up in debts. In both the Boards inventories have been low in proportion to total current assets. This implies that huge amounts of funds where not blocked in holding inventories. As regards the liquidity of paying interest on government loans, the HSEB has not been able to pay interest on such loans regularly, primarily bacause of absence of surplus.

The current ratio increased from 0.72 in 1990-91 to 0.80 in 1994-95 in PSEB after following a fluctuating, while it decreased from 1.03 to 0.67 over the corresponding period in HSEB. It is suggestive of liquidity position being more sound in HSEB in the begining, but deteiorated in the subsequent years. However, the liquidity position of both the Boards can be held as very poor, inspite the fact that service concerns can afford a lower current ratio than the trading and manufacturing concerns. Quick ratio has followed a declining trend in HSEB and a fluctuating trend in PSEB. On the whole, a similar position has been obtained as was obtained for current ratio. This ratio was more for HSEB than PSEB in all the years except in 1994-95.

Although the ratio was declining, yet the financial position was sound in the case of Boards as in service industries the standard of 1:1 can be relaxed. This seems to imply that the two Boards should employ the idle current assets in productive uses. The cash ratio being miserably low in both the Boards is pointer to the fact that both the Boards have insignificant cash in hand, and thier liquid funds remain tied up in other current assets.

The sundry debtors turnover ratio has registered an increasing trend in both the Boards, the increase being from 5.43 to 6.76 in the PSEB from 1990-91 to 1994-95. This indicates that timelag between credit sales and cash collection is becoming shorter in the Board. This ratio was 1.38 in 1990-91 and increased to 3.5 in 1994-95. Since this ratio is lower in the HSEB, it means that the HSEB should try to collect its debt more expeditiously. Thus the analysis of the various current assets clearly shows that the performance of the two Boards in regards to solvency and liquidity has been poor and steps should be taken to improve the same.

It is clear from the analysis of revenue account of the two Boards that both of them have improved the volume of net sales. The annual average rate of increase in sales was 25.07 percent for the PSEB and 18.99 percent for the HSEB. In absolute terms, the sales revenue from electricity was less in the case of HSEB than what it was in PSEB, apperently owing to less installed capacity, less production and subsequent less sales in the case of former. The HSEB would do better if it takes urgent steps to increase its generation capacity. Cost of electricity sold has

also experienced an increasing trend in both the Boards. Gross surplus has undergone a fluctuating trend in both the Boards. The ratio of gross surplus to sales decreased from 50.9 percent in 1991 to 30.5 percent in 1994-95 in the PSEB whereas, it decreased from 28.3 percent in 1991 to -11 percent in 1994-95 in HSEB. The point follows is that both the Boards should reduce the percentage of cost of electricity sold to sales by utilising its resources economically and effectively so that the overall profitability may experience an increasing trend. The operating expenses have shown an increasing trend in both the Boards, the average rate of increase being 17.78 percent in the PSEB and 23.32 percent in the HSEB. The position seems to suggest that the management has not being efficient in controlling these expenses. Due to heavy operating expenses and higher cost of electricity sold, the surpluses have been low in PSEB, and more so in HSEB. In 1990-91 the PSEB was undergoing a loss of Rs. 43.6 Cr. which deteriorated to RS. 193 Cr. in 1994-95. Similarly, the HSEB was suffering net losses during all the years. The figures of operating surplus and net surplus of both the Boards provide warning signals, requiring them to take corrective measures to improve upon their opertions. If this situation persists, it would reflect adversely on their efficiency. The net surplus ratio decreased fron -1.15 percent in 1990-91 to -6.85 percent in 1994-95 in the HSEB which is indicative of overall inefficiency of the Board. In PSEB also this ratio has been negative in all the years reflecting an overall inefficiency in the Board.

The other profitability ratios - net surplus to capital employed, net surplus to net worth, and net surplus to total

assets, have not also not shown any improvement. Therefore, on the basis of profitability analysis, it follows that the two Boards have not shown a satisfactory performance in terms of profitability. This is, therefore, necessary for both them to heavily improve their working by better utilisation of their generating capacity. Under-utilisation of installed capacity has been the main reason for the losses incurred by the two Boards during the entire reference. Thus, improvement in operational efficiency is what is urgently needed which the managements should immediately try to achieve for improving their profitability. This is particularly true for HSEB. The HSEB was not availing the subvention from the State government on account of rural electrification losses. The State government should, therefore, provide subvention to the HSEB.

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ANNEXURE A

A.1 The State Electricity Boards

Keeping in view different dimensions of the problem of generation & supply of electricity in the magnitude & directions desired, all the state governments have constituted State Electricity Boards which are the most important operating organs responsible for the generation & distribution of electricity in India. statutory, these boards have been vested with the general duty of promoting the co-ordinated development of generation, supply and distribution of electricity within the state in most efficient & economic manner, with particular reference to such development in the areas not for the time being served or adequately served by any licensee. The boards were set up at a time when the power supply industry was more or less in the early stages of development. The specific objective in setting up these boards at that time was to integrate the power supply system in the respective states. In the execution of this task, were given the necessary autonomy & authority by large, the boards have been able to integrate power systems existing in the states, but there is general feeling that with the passage of time that the electricity boards have started facing not only organizational and managerial problems, but also operational difficulties leading to heavy financial losses. On the one hand they are expected to play a dominant role in the socio-economic development of the state, while, on the other hand they are heavy drain on the states exchequer.

Since our study concerns a comparative study of Punjab & Haryana State Electricity Boards, a brief profile of the two in point which follows below:

A.1.1 Punjab State Electricity Board:

The Punjab State Electricity Board, hereafter referred to as PSEB, was constituted on the 1st day of February, 1959 under section 5(1)of the Electricity (supply) Act 1948. Consequent upon bifurcation of the erstwhile state of Punjab, carving into Haryana as an independent state, the PSEB as it exists at present came into effect from the first day of May, 1967 with its headquarters at Patiala, the PSEB is charged with the overall responsibility of promoting the co-ordinated development of the generation, supply and distribution of electricity within the state of Punjab in the most efficient and economical manner. The board exercises overall control on different activities through its four wings:Board, Secretaries, Technical, Accounts and Audit organisations.

Immediately after its inception in 1967, the board addressed itself to the gigantic task of providing efficient service to consumers, improving the existing supply position, increasing the tempo of electrifying villages, and providing tubewell connections in as many number as possible. All efforts were made during the year 1967-68 to complete the construction of new transmissions, and augment the various overload substations. This resulted in easing the overall supply position to a very great extent, making it possible

for Board to remove restrictions on the consumptions of power in a number of important cities.

A committee known by the name of District Rural Electrification Co-ordination Committee was constituted in each district by the State Government on 1st January, 1968. The basic function of this committee was to advise the board in the matter of implementation of the programme of rural electrification, use of electricity for agricultural purposes and in small scale/ cottage industries and to suggest ways and means against misuse or unauthorized use of electricity by the consumers. The committee was also charged with the task of advising the board in regard to providing relief to consumers of any particular category consequent upon any natural calamities such as floods, droughts,etc.

Through deliberation & meetings of such committees, the board came to acquire the first hand information about several aspects having bearing on the distribution policy to be pursued by the Board in the overall interest of users. One of the most important policy decisions taken by the Board on the basis of feedback received from such deliberations was to encourage the farmers and agro-based industry to make increasing use of maize thrashers, cane-crushers, and other power operating farm machinery for which temporary connections were allowed to prospective consumers for working day and night. It was this decision which promoted mechanisation of farming operations, leading to efficiency and prosperity in the agriculture sector of the state.In this regard it is significant to note that despite all constraints, the board ensured regular supply of power to the agricultural sector, quite often at heavily subsidized rates involving financial loss, yet the board and the government have all

along been following the policy of top priority to the agricultural sector, keeping in view the larger interest of the country.

Based on the realisation that 80% of the Punjab population lived in villages and that development of the state depended to a large extent on the development of rural areas, the board by way of a long term policy, laid special emphasis on rural electrification and energisation of tubewells in maximum number and at an accelerated pace. The result of this was obvious. The number of power run tubewells which was 46,020 in 1967-68 rose to 703374 in 1994-95. A detailed picture of the increase in number of tubewells energized after 1967-68 is given in table A.1

TABLE A.1

Tubewells Energized in Punjab.

Year	No.of tubewells energized.	Year	No.of tubewells energized.
1967-68	46020	1984-85	406276
1968-69	59112	1985-86	440950
1970-71	90877	1986-87	491454
1972-73	109527	1987-88	513704
1975-76	140403	1988-89	535608
1977-78	196515	1989-90	556647
1979-80	262267	1990-91	600884
1980-81	283246	1991-92	621463
1981-82	307392	1992-93	656776
1982-83	333272	1993-94	687766
1983-84	380817	1994-95	703374

It was eventually felt that rural electrification was not a viable project as the revenue earned therefrom was not sufficient to meet even its operation and maintenance expenses yet the board decided to pursue the policy of rural electrification treating it as the most important means of socio-economic change resulting in increased farm production and improvement in the economic condition of the rural population.Thus out of a total of 12188 villages, as many as 3,938 villages had been developed upto the end of march 1967. The target of complete electrification was achieved by May,1976. Thereafter the main emphasis was placed by the Board on providing round the clock electricity supply to all villages so that maximum number of

connections could be provided at the farm and the house for mechanization of as many agricultural operations as possible. To achieve this goal, the Board made maximum efforts, both directly and indirectly, to have maximum financial help provided to the rural population through the Rural Electrification Corporation, the Agricultural Refinance and Development Corporations, and various commercial banks under the participating as well as non-participating schemes. The highlights of the achievements made in the task of rural electrification right from the new PSEB coming into effect are shown in Table A.2

TABLE A.2

Year Wise Achievement in Village Electrification.

Village Electrification	Year 1967-68	1968-69	1969-70	1970-71	1971-72
(a) No. of inhabited villages in the state.	12188	12188	12188	12188	12188
(b) No. of electrified villages.	4510	5018	5809	6170	6366
(c) Percentage of total.	37.00	41.17	47.66	50.62	52.23

Year Wise Achievement in Village Electrification.

Village Electrification	Year 1972-73	1973-74	1974-75	1975-76	1976-77
(a) No. of inhabited villages in the state.	12188	12188	12188	12188	12126
(b) No. of electrified villages.	6626	7078	7717	9926	12126
(c) Percentage of total.	54.36	58.07	63.32	81.44	100.00

*Out of total 12188 inhabited villages, 62 villages have been declared as uninhabited vide deputy secretary to Govt. Punjab, Revenue Dept.No. 3085-R/11/76/6764, Chandigarh, dated 7-5-1976 addressed to the Director General and Commissioner Census Operations, Govt. of India, New Delhi.

A.1.1.1 Availability of Energy in Punjab :-

The generating capacity available with the PSEB can be grouped into two categories. The first contains the Board's own generating stations at Shanau, U.B.D.C., the Mukerian Hydel Project, Talwara, the Guru Nanak Dev Thermal Plant, Bathinda and the Ropar Thermal Plant. The second category includes the PSEB'S share in generating capacity in such projects as Bhakra Nangal Complex, Dehar and Pong Dam schemes Table 1.4 gives the year wise energy availability in Punjab.

Compared with the real experience regarding the actual availability position brings out that 1970-71 & 1972-73 were the two years which can be described as the period of acute shortage of power in Punjab. On account of this shortage the board had to make efforts to meet the increasing gap between demand & supply by means of borrowing & making purchase of electricity from Madhya Pardesh via. Rajasthan, Himachal Pardesh, Jammu-Kashmir, and Beas project at Sansarpur, besides generating additional electricity through diesel sets. Power cuts varying from 40% to 60% had to be imposed Despite this the board made stupendous efforts to ensure that the various development activities going on in the state did not suffer, although the board was facing various bottlenecks in its day to day operations on account of various factors such as paucity of funds, huge financial liabilities on account of repayment of loans and interest thereon, etc. Although power position had improved during the year 1976-77, the board has to resort to applying cuts varying from 10% to 20% on certain categories of consumers because of reduced availability of power from the Bhakra Nangal complex and other

sources, and increased demand from the agriculture due to the failure of winter rains. However from 1983-84 the energy availability position has been more or less satisfactory because of larger sale of energy available from the Mukerian Project and the commencing of new Thermal Project at Ropar.

Pattern of Consumption:-

Table **A.3** gives the year wise details of electricity consumption according to various sector uses.

TABLE A.3

Pattern of Electricity Consumption in PSEB (in %)

Year	Domestic	Commercial	Industrial	Agriculture	Others
1989-90	17.12	5.97	53.87	6.26	16.76
1990-91	10.77	5.95	55.10	6.33	15.85
1991-92	17.11	6.44	56.46	6.77	13.22
1992-93	16.4	6.19	59.69	6.65	11.07
1993-94	14.8	5.44	55.75	9.00	15.00
1994-95	16.67	5.58	54.63	11.9	11.22

The analysis of the table shows that there has been a flutuating trend in the pattern of domestic consumption. It has decreased from 17.12% to 16.67%. Similar is the position for commercial consumption. Contrary to this the indusatrial consumption has increased from 53.87% in 1989-90 to 54.63% in 1994-95. There has ben a remarkable increase in the agricultural consumption i.e. 6.26% to 11.9%. For the others also there hasa been a decrease from 16.76% to 11.22%.

A.1.2 Haryana State Electricity Board.

The state of Haryana came into existence as a separate entity on 1st November, 1966. Within a short period of 20 years, the state of Haryana had earned a distinction of being the fastest growing state, acquiring for itself the unique place on the Agricultural, Industrial & Social map of the country. Its all round development had been due to various factors, but electric power has come to be seen as one of the most powerful instruments of social and economic change that the state of Haryana has undergone so fast. The Haryana state electricity board came into existence with effect from 2nd May 1967, with its headquarters at Chandigarh. The board is a statutory body constituted under the Electricity (supply) Act, 1948 with the object of co-ordinated development of the generation, transmission and distribution of electricity within the state of Haryana in the most efficient and economical manner and with particular reference to such development in the areas not for the time being served or adequately served by the licensee.

The Haryana State Electricity Board, hereafter referred to as HSEB, is the largest public enterprise in Haryana in terms of investment, production, service, and employment. The activities of the board are crucial for the economy of the state and its growth on account of services the board offers to agriculture, industry, domestic and commercial sectors. Right from its inception the board has contributed a lot to the development of all sectors, the agricultural sector particularly.

The south western areas of the state are marked by vast tracts of arid land and dunes. Droughts or near drought situations are frequently obtained which put the rural population into great amount of inconvenience specially because of the absence of irrigation facilities. The under-ground water in most parts is brackish, not suitable for drinking and irrigation. Other parts of the state are also not quite lucky in having adequate natural water streams and rain. This precisely been the reason that the state of Haryana has right from the beginning been a food deficient state, although 80% of its population is directly or indirectly engaged in agricultural activities. The only way of making the state self sufficient in agriculture production was to provide irrigation facilities. It is with this view that efforts have been made by the Haryana Government to make purposeful use of monsoon floods for drought affected areas, and special emphasis laid on the use of electricity for pumping out underground water through tubewells for irrigation purposes.

With the above approach in view, the board took upon itself the task of electrifying 2000 more villages and providing electric connections to 5000 more tubewells during the fourth plan. Although these targets were initially taken to be too difficult to achieve, these were, however, achieved well before the stipulated time as a result of massive efforts put in the job.

Realising that electricity was the basic primary input in all activities, serious efforts were made to accelerate the pace of rural electrification so as to provide energy for use in as many activities as possible. Ambitious schemes for energizing tubewells in large number were drawn up to have maximum benefit of green revolution and industrial revolution. High capacity sub- stations and transmission

lines were erected for feeding all types of consumers in the far flung rural areas of the state. Consequently, Haryana came to occupy the first place on the map of India to have 100% rural ectrification as early as on November 29, 1970. The highlights of the year-wise progress made in rural electrification are shown in Table 4.4

TABLE A.4

Year Wise Achievements in Village Electrification.

Village Electrification	Year 1967-68	1968-69	1969-70	1970-71	1971-72
No. of inhabited villages in the state	6669	6669	6669	6669	6731(*)
No. of electrified villages	1251	1464	3367	6669	6731
Percentage to total	18.70	21.95	50.49	100.00	100.00

(*) The total number of villages in the state of Haryana is 6731 according to 1971 census. According to 1961 census their number was 6669.

The HSEB generates power not only on its own, but it also a partner in Bhakra, Pong Dam and Dehar Hydro Projects. In the year 1994-95 the board generated / received 11470 MKWH from these sources. The energy available, energy sold, line losses, etc. in MKWH for the selected years is given in Table A.5, which clearly brings out the electricity supply positions in these respects.

One of the important points which follows from Table A.5 is that the growth in power generation was marked by fluctuations in all respects, such as energy available, sold and line losses.

TABLE A.5

DISTRIBUTION LOSSES

Year	Energy available	Energy sold	Line losses	% of losses to power generation (in MKWH)
1988-89	7526	5690	1836	24.4
1989-90	7928	5983	1945	24.5
1990-91	9025	6641	2384	26.4
1991-92	10553	7741	2812	26.7
1992-93	11558	8625	2933	25.4
1993-94	11168	8316	2852	25.5
1994-95	11472	8203	3269	28.5

It is also quite significant to note that power generation has increased by more than seventeen times in 1994-95 as compared to 1967-68. Power sold has also increased by fifteen times over the corresponding period. Further the line losses have also increased, despite improvement in Technology and expertise use in carrying electricity to different places.

A.1.2.1 Pattern of Consumption.

The pattern of consumption of electricity in Haryana has undergone a significant change over the years since 1988-89 The changes experienced so far are reflected in the data given in Table A.6, which gives electricity consumption in proportionate terms as between different sectors uses for selected years.

TABLE A.6

Pattern of Electricity Consumption in HSEB (in %)

Year	Domestic	Commercial	Industrial	Agriculture	Others
1989-90	15.8	5.4	55.1	15.9	8.1
1990-91	16.5	5.5	55.7	13.2	9.1
1991-92	17.7	5.8	54.8	11.6	10.3
1992-93	17.0	5.5	53.4	14.6	9.5
1993-94	17.2	5.6	48.8	16.6	11.8
1994-95	18.8	5.7	46.5	18.4	11.1

The proportion of electricity used for domestic purpose has, contrary to the position obtained in Punjab, increased from 15.5 percent to 18.3 percent. Commercial use of electricity has increased from 5.4 percent to 5.7 percent. The position of the proportion of electricity used for industrial purpose is that it has decreased from 55.1 percent to 46.5 percent. It has a fluctuating trend and the change is quite significant. The agricultural sector has a increasing trend in the share of electricity in proportionate terms. The consumption for other purposes has also shown a net increase in percentage from 8.1 percent to 11.1 percent. When compared with the position obtained in the case of Punjab, the position of Haryana in respect of consumption pattern has by and large been the same.

The increase in the number of consumers in Haryana has been as impressive as in Punjab. The total numbers of electricity connections which was 3,49,353 in 1967-68 rose to 30.68 Lac in 1994-95. The per capita consumption has also undergone a significant increase.

The transmission and distribution network has also experienced tremendous expansion to cope with the sharp increase in demand for power and to improve the power supply system in the state. A number of augmentation and sub-transmission works have been carried out by the HSEB.

The increase in the circuit length of transmission and distribution lines has been extremely impressive, the emphasis being on the low tension lines. Other lines have also expanded, but the top priority has been given to 132KV lines, 66KV & 33KV lines being in low priority. The number of sub-stations have increased from 47 in 1967-68 to 293 in 1994-95. The progress in respect of distribution transformers has also been quite remarkable.

The Haryana State Electricity Board started with an installed capacity of 5,05,203 KW in 1968-69. By 1994-95, the installed capacity increased to 1761.5 MW, consisting of 884 MW through Hydel (Hydro sources), 877.5 MW from thermal sources and none from Diesel or micro hydel sources.