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“ANALYSIS OF FINANCIAL PERFORMANCE OF TEA INDUSTRY IN INDIA”

A THESIS

SUBMITTED TO THE
SAURASHTRA UNIVERSITY
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
(FACULTY OF COMMERCE)

SUBMITTED BY
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RAJKOT – 360 005

AUGUST– 2005
CERTIFICATE

This is to certify that the thesis entitled “ANALYSIS OF FINANCIAL PERFORMANCE OF TEA INDUSTRY IN INDIA” has been prepared by Mr. Kanak N. Atkotiya, Research Scholar, Saurashtra University, Rajkot under my guidance and supervision. This is an original research work and is being submitted to the Saurashtra University, Rajkot for the award of the degree of Doctor of Philosophy in Commerce.

Date: August, 2005  (Dr. Sanjay J. Bhayani)
DECLARATION

I, the undersigned hereby declare that the research work carried out is my own work and has been carried out under the supervision of Dr. Sanjay Bhayani, Associate Professor of Department of Business Management of Saurashtra University.

This work has not been previously submitted to any other university for any other examination.

Date: August, 2005 (Kanak N. Atkotiya)
Place: Rajkot
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In the long history of human civilization, man has selected and improved three important non-alcoholic beverages from nature's rich storehouse of plant resources - the extract of tealeaves, the extract of coffee beans and the extract of cocoa beans. Tea, Coffee and Cocoa are true stimulants and have been satisfying the palate demands of human beings for centuries. Of the three beverages, tea is the oldest-known and is now the most popular beverage. It leads the other two in the total amount of beverage consumed, and it is less expensive compared to coffee and cocoa. Today, the plant is cultivated on a larger scale compared to coffee and cocoa being adapting to a wide range of agro climatic conditions. As one of the widely preferred global beverages, tea has the scientific name of Camellia Sinuses.

Based on a survey, tea accounts for 90%, filter coffee 4%, malted health beverages 2%, instant coffee 2% and carbonated soft drinks just above 1% of total consumption. Squashes, concentrates, mineral water account for a minuscule part of the consumption.

Tea is unique in that, besides being an agricultural crop, it has also provided an industrial base. The cultivation, maintenance, harvesting and processing of tea is labour-
intensive and provides a regular employment to millions. The Tea Industry is one of the major traditional industries in the Indian history, ageing almost 185 years. The first tea plant was discovered in 1815. Tea industry is also one of the chief foreign-exchange earners in some of the third world countries.

India plays a significant role in world tea trade, being the world's largest producer, consumer and exporter. Hence fluctuations in India's tea production, consumption and exports are enough to disturb the international tea trade.

In India, there are 1,120 tea estates, out of that 700 belong to big companies and about 300 belong to small companies. Big plantations have in-campus tea processing facilities, where the tea grown in the plantations are processed immediately. The market size of the industry was Rs.10,000 crores approximately in the lat year.

The Indian Tea Industry has two major tea producing regions known as northeast and south. The northeast accounts for 75 % of the tea production covering 80 % of the total land coverage producing tea.

Tea is indigenous to India and is an area where the country takes a lot of pride. This is mainly because of its pre-
eminence as a foreign exchange earner and its contributions to the country's Gross National Product.

In all aspects of tea production, consumption and export, India has emerged to be the world leader, mainly because it accounts more or less for 31% of global production. It is perhaps the only industry where India has retained its leadership over the last 150 years. Tea production in India has a very interesting history.

The range of tea offered by India - from the original Orthodox to CTC and Green Tea, from the aroma and flavour of Darjeeling Tea to the strong Assam and Nilgiri Tea - remains unparalleled in the world. In addition to that today India is producing approximately 650 million kgs. of CTC type tea, covering 80% of total production, and Orthodox type producing 160 million kgs.

The biggest player is Hindustan Lever Ltd. which has a market share of 25 % followed by Tata Tea Ltd. with 13%. The other leading companies are Duncans Tea Ltd., Goodricke Group Ltd., George Williamson Tea Ltd. and Warren Tea Ltd.

For the purpose of analysis of Financial Performance of a particular industry, i.e. the Tea Industry has been chosen for the following reasons:
The total turnover of the tea industry is around Rs. 10,000 crores.

Since independence tea production has grown over 250%, while land area has just grown by 40% only.

There has been a considerable increase in export too in the past few years.

Total net foreign exchange earned per annum is around Rs.1847 crores.

The labour intensive tea industry directly employs over 1.1 million workers and generates income for another 10 million people approximately.

Women constitute 50% of the workforce.

The present study entitled “Analysis of Financial Performance of Tea Industry in India” has been undertaken with the object of analyzing and evaluating the financial performance of the tea industry in India.

The study covers ten reputed tea companies of India. The present study obtains an insight into the financial position of the selected companies of tea industry in India, and to judge, their financial performance and financial strength. The financial performance of selected companies during the years from 1997-1998 to 2002-2003 is thoroughly examined. The Present study includes the following ten companies of Tea Industry, namely AFT Ind. Ltd., Dhunseri

The study undertaken has been organized into eight chapters. The first chapter titled Conceptual Framework of Financial Performance deals with concept of financial Performance and Efficiency, objectives of financial analysis, process of financial appraisal, tools of financial appraisal adopted in the study and significance of financial appraisal in the tea industry.

The second chapter titled Profile of the Tea Industry in India enumerates the historical background and the history and development of the tea industry in India. It throws light on the production, consumption, market capitalization, cost dynamics, past trend, import and export scenario, critical success factors, policy of the government, global scenario, demand supply scenario and profile of the tea board.

The third chapter titled Research Design pertains to the research design plan, relevance of the topic in the present context, problem, objective the of study, hypothesis, universe of the study, sampling design, sources of data and period of
the study, tools and techniques for the study and limitations of the study.

The fourth chapter titled Analysis of Profitability deals with the study of the concept of profit and profitability, profitability analysis from the view point of management and from the view point of shareholders.

The fifth chapter titled Financial Structure of tea industry deals with the concept of financial structure, factors determining financial structure and analysis of financial structure through ratios.

The sixth chapter titled Analysis of Working Capital deals with concept of working capital, importance of working capital, analysis of working capital and liquidity position of the through ratios.

The seventh chapter titled Analysis of Activity deals with nature and concept of fixed assets, analysis of activity in relation to total resources and conduct of activity.

The eighth and last chapter provides with Conclusions and Suggestions. The conclusions arrived at will help in preventing working disability, besides suggesting the way and means for improvement and evolving a scientific
approach to management. The study can be helpful for management, investors, bankers, creditors, government and others like economist, trader, employee etc.

There are people, some of them so wonderful that made this dream become a product that you are holding in your hand. I would like to thank all of them, and particular:

Dr. S. J. Bhayani, Associate Professor, Department of Business Management, my mentor, guru, friend, who encouraged me to take up this project. If he hadn’t motivated me all the way, I would have given up a long time ago. I thank him for his guidance, suggestions and undivided attention during the research period. Thank you SIR …

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Kiran, a wife who kept her calm, and faced the tough job of not upsetting her husband, Shailja and Drashti, our two daughter, for her wide rejuvenating smiles which instantly can lift the saddest of the moods.

In the end I thank the above almighty, who if looked up to is there for all.

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List of Abbreviations

AFTIL AFT Ind. Ltd.
DT&IL Dhunseri Tea & Ind. Ltd.
GGL Goodricke Group Ltd.
GT&EL Greenline Tea & Exports Ltd.
JST&IL Jay Shree Tea & Ind. Ltd.
PAIL Parry Agro Ind. Ltd.
RIL Rossell Ind. Ltd.
TTL Tata Tea Ltd.
WTL Warren Tea Ltd.
WTAL Williamson Tea Assam Ltd.
EBIT Earning Before Interest and Tax
EBT Earning Before Tax
EPS Earning per Share
DPS Dividend per Share
S.D. Standard Deviation
C. V. Co-efficient of variance
CHAPTER – 1

CONCEPTUAL FRAMEWORK OF FINANCIAL PERFORMANCE

\( \checkmark \) Introduction
\( \checkmark \) Concept of Financial Performance and Efficiency
\( \checkmark \) Objectives of Financial Analysis
\( \checkmark \) Process of Financial Appraisal
\( \checkmark \) Tools of Financial Appraisal Adopted in the Study
\( \checkmark \) Significance of Financial Appraisal in the Tea Industry
\( \checkmark \) References
CHAPTER – 1
CONCEPTUAL FRAMEWORK OF FINANCIAL PERFORMANCE

Introduction

Financial Performance is the snapshot of a position of concern and ability to withstand the ever-changing environment. It is the blueprint of the financial affairs of the concern and reveals how a business has prospered under the leadership of its management personnel. In fact, it can be said that financial performance is the medium of evaluation of management performance.

The overall objective of a business is to earn satisfactory returns on the funds invested in it. Consistent with maintaining a sound financial position, an evaluation of such performance is done in order to measure the efficiency of operations or the profitability of the organisation and to appraise the financial strength as compared with a similarly situated concern.

Thus, Financial Appraisal is generally directed towards evaluating the liquidity, stability and profitability of a concern which put together symbolizes the financial efficiency of a concern.
Concept of Performance and Efficiency:

Performance is the execution or accomplishment of work feats etc. or a particular, action, deed or proceeding is refers as performance. However, the manner in which or the efficiency with which something reacts or fulfils its intended purpose is defined as performance. Performance may thus, mean different things to different businesses. Success or failure in the economic sense is judged in relation to expectations, return on invested capital and the objective of the business concern.

In understanding the term performance, a clear distinction needs to be drawn between Performance Measures and Performance Indicators. Performance measures need to be based on cat evaluation of the causes and effects of policy intervention whereas a performance indicator is less precise and usually provides only intermediate measure of achievement.

The word efficiency as defined by the Oxford dictionary states that: "Efficiency is the accomplishment of or the ability to accomplish a job with minimum expenditure of time and effort".

It refers to the internal process that leads to output. It focuses on the means to achieve the desired end.
As expressed by Peter Drucker "Doing the things the right way is Efficiency." This denotes the fulfillment of the objective with minimum sacrifice of the available scarce resource.

Faultless and speedy compliance to the process or system procedure is a measure of efficiency providing a specified volume and quality of service with the lowest level of resources capable meeting that specification, performance measures and or indicators are required. These include measures of productivity, unit of volume of service etc. These measures help in minimising of the resources in achieving the organisational objectives i.e., things rightly.

**Objectives of Financial Appraisal**

Financial appraisal is a technique to evaluate past, current and projected performance of a concern. Generally financial appraisal is concerned with the analysis of financial statements. This analysis can be applied to any kind of detailed information of financial data. The main purpose of this analysis is to evaluate past performance, financial position, liquidity position, future prospects for earnings, ability to pay interest and debt on maturity and profitability of a concern. R. F. Salmanson, R. H. Hermanson and J. D. Ewards have stated that, "a modern
business firm has many objectives or goals including some social objectives such as providing job opportunities and comfortable working conditions for its employees.

A study in order to be useful should be object oriented. Objectives work as a compass for an analyst. Thus appraisal of financial statements should always be turned to the objectives.

In the words of R. N. Anthony, "The overall objective of a business is to earn a satisfactory return on the funds invested in it, consistent with maintaining a sound financial position.

According to S. K. Das, "The primary objectives of appraisal of financial statements are to determine the measure of efficiency of operations or the profitability from its income statement and to appraise financial strength as compared with similarly situated concern." Financial appraisals are intended to give an accurate picture of the financial condition of a concern in condensed form.

**Process of Financial Appraisal**

Financial appraisal is generally directed towards evaluating the liquidity, stability and profitability of a concern. The financial appraisal of a concern involves the following steps:
(i) Collection of financial data
(ii) Classification and tabulation of financial data
(iii) Application of appropriate techniques

(i) **Collection of Financial Data:**

Collection of financial data is the first step in evaluating the performance of an enterprise.

According to R. I. Levin, "A collection of data is called a data set, and a single observation a data point." Generally the sources used to collect the information are broadly classified into two parts: (a) Primary data and (b) secondary data.

(a) **Primary Data:**

"The term primary data refers to the statistical material which the investigator originates for the purpose of the inquiry in hand."

In the words of John C. G. ' Boot and Edwin in B. Cox: "When the data used in an analysis are specifically created for that analysis, they are referred to as primary data."

(b) **Secondary Data:**

"The term secondary data refers to the statistical material which is not originated by the investigator himself, but which he obtains from someone else's records."

Similarly, in the words of Boot and Cox, "Secondary data are data which were not gathered specifically to meet
the needs of the problem at hand" Secondary data can be obtained from:
(i) Government,
(ii) Semi-government bodies
(iii) Trade associations,
(iv) Trade journals,
(v) Periodicals, and
(v) Magazines and Newspapers etc.

The present study of the Tea Industry of India is based on secondary data. The raw data for the present analysis have been obtained from the annual reports of tea industry and CMIE Prowess database, i.e. ‘Center for Motoring Indian Economy Pvt. Ltd.’. This information is supplemented by various other journals.

The data so obtained by secondary sources have been recast and reduced to the relevant information.

(ii) Classification and Tabulation of Data:

The next step in the process of financial appraisal is to classify and tabulate the financial data.

Hersic and Pluck observe: "The statistician's first task is to reduce and simplify the detail into such a form that the salient features may be brought out, while still facilitating the interpretation of the assembled data. This procedure is known as classifying and tabulating the data."
Financial data which have been obtained from secondary data sources are classified and tabulated in such a manner that the results may be easily interpreted. This has been done in the present study also.

(iii) **Application of Appropriate Techniques:**

The third step in the process of financial appraisal is the use and application of appropriate techniques. Many analyses have a favorite procedure for coming to some generalisation about the firm being analysed. The tools used to assess the financial condition and performance of the firm is financial ratios. The second factor, analytical tools used to assess the financial appraisal includes source and use of funds statement and the cash budget. The third factor, business risk, relates to the risk inherent in the operations of the enterprises. All three factors should be used in determining the financing needs of the firm. But the analyst should use some other factors in determining the funds need of the firm. The following are the more commonly used tools of financial appraisal:

(i) Ratio Analysis  
(ii) Trend Analysis  
(iii) Comparative Statement Analysis  
(iv) Common Size Analysis  
(v) Funds Flow and Cash Flow Analysis.
The most commonly used tool of financial appraisal is Ratio Analysis which is as under:

**Ratio Analysis**

Ratio analysis means the process of computing, determining and presenting relationship of items and groups of items in the financial appraisal. Ratios express the numerical relationship between two figures. Accounting ratios are used to describe significant relationships which exist between figures shown on a balance sheet, in a profit and loss account, in a budgetary control system or in any other part of the accounting organisation. Analysis and interpretation of various ratios should give an experienced and skilled analyst a better understanding of the financial condition and performance of the firm than what he would have obtained from the analysis of the financial data alone.

Remarkably, the analysis of financial ratios involves two types of comparisons. First, the analyst can compare the present ratio with the past as also expected future ratios for the same company. This is known as the internal or intra-comparison. The second method of comparison involves comparison of the ratios of one firm with those of similar firms or with the industry averages for a specified period of time. Such a comparison gives insight into the relative financial condition and performance of the firm and it is usually termed as inter-firm comparison.
Types of Ratios:

For the purpose of financial appraisal, financial ratios can be divided into four categories, viz., liquidity, debt-equity, profitability and coverage ratios. Whereas the first two types are computed from the balance sheet, the last two are obtained from the income statement and sometimes derived from both the income statement and balance sheet.

It is important to note that no one ratio gives us sufficient information to evaluate financial condition and performance of a firm. It is only when one analyses a group of ratios that one is able to make reasonable judgments about the operational efficiency of a firm.

It may further be noted that there are a large number of financial ratios. However, here the discussion is confined to the ratios which are of greater functional utility.

(i) Liquidity Ratios:

Liquidity ratios are used to judge a firm's ability to meet short-term obligations. Much insight can be obtained into the present cash solvency of the firm and its ability to remain solvent in the event of adversities. In the liquidity group, the most general and the most frequently used of these ratios are the current ratio, acid-test ratio, liquidity of receivables, duration of payables and liquidity of inventories etc.
(ii) Debt - Equity Ratios:

For the purpose of analysing the long-term liquidity of the firm (i.e. its ability to meet long-term obligations), several debt ratios may be used. The debt to net worth ratio is computed by simply dividing the total debt of the firm (including current liabilities) by its net worth.

(iii) Profitability Ratios:

Profitability ratios are of two types—those showing profitability in relation to sales, and those showing profitability in relation to investment. Together, these ratios give us indication of the firm's efficiency in operation.

(iv) Coverage Ratios:

Coverage ratios are designed to relate the financial charges of a firm to its ability to service them. One of the most traditional coverage ratios is the interest coverage ratio. Simply, it is the ratio of earnings before interest and taxes for a particular reporting period to the amount of interest charges for the period.

(iv) Activity Ratio:

The activity of every enterprise is the sale of its product. Hence, the significance of every enterprise activity is judged in relation to its contribution towards sales. The generally used activity ratios are inventory turnover ratio,
debtor's turnover, fixed assets turnover, total assets turnover and expense ratio, etc.

These ratios are simple to calculate. There is a tendency to overemploy them which leads to accumulation of mass data.

Trend Analysis
For the purpose of financial appraisal of a business firm, an effective use of financial ratios can be done by observing the behavior of ratios over a period of time. As one of the management tools, the importance of looking into trends and tendency of events between the financial statements prepared at different periods cannot be ignored. Where the business was, where the business is and where the business will be, all these can be clearly examined through the trend analysis.

Significantly, the trend analysis is a guide to follow the changes that occur in the business from time to time. When comparison is made between financial statements of different periods trend relationships occur. In other words, trend relationship signifies the ratio analysis and interpretation of the items of the comparative financial statements of different periods.
For purposes of analysis and comparison the comparative figures of the financial statements are analysed by calculating percentages. Usually, a particular past year is chosen as a base year and all items of the financial statements for the year are reckoned as 100. There is no doubt that expressing the figures in terms of percentages is a more practical approach for the analysis and interpretation of the financial data. Trend analysis can be prepared and presented in tabular form or in the form of graph or chart.

**Comparative Statement Analysis:**

Balance sheet and income statement are historical rather than prophetic in nature. They present a record of the financial performance of business enterprises. Comparative balance sheets and comparative income statements exhibit trends; a clear understanding of these trends based upon sound ratio studies may convey some premonition regarding the immediate future of a particular business enterprise provided management policies do not change radically.

The implications of the conduct of a business are reflected in its balance sheet in the form of an increase or decrease in the various assets and liabilities including the proprietary equity or capital. These changes can be observed by a comparison of the balance sheets at the beginning and the end of a period and such observation of ten
yields a considerable amount of information which is of value informing an opinion regarding the progress of the enterprise.

Comparative balance sheet analysis is the study of the trend of the same items, groups of items, and computed items in two or more balance sheets of the same business enterprise on different dates, and the study of the trend of the proportions, computed from these figures as of the different dates. The great advantage in comparative analysis is that it portrays the trends of particular features of a business enterprise and of the enterprise as a whole.

Common Size Analysis

In addition to the financial ratio over time, often it is useful to express balance sheet and income statement items as percentage. The percentage can be related to totals, such as total assets or total sales, or to some base year, called common size analysis. Thus evaluation of trends in financial statement, percentages offer to the analyst an insight into the underlying movement of funds. While a good portion of this insight is revealed by source-and-use of funds statements, a deeper and broader understanding of firm’s funds flow is possible when the analysis is extended to include the above considerations.

The common size analysis is a vertical analysis depicting a static view of the qualitative relationship between
the items of balance sheet and the profit and loss account. In the common size analysis, we express the various components of a balance sheet as percentage of a corporation's total assets. In addition, this can be done for the profit and loss account, but here items are related to sales. The gross and net profit margins, which we took up earlier, are examples of this type of expression, and this can be extended to all of the items on the profit and loss account or income statement. The expression of individual financial statement items as percentage of totals usually offers insight generally not yielded by a review of the raw figures.

**Funds Flow and Cash Flow Analysis:**

The tools of financial analysis and planning deals with the analysis of fund flows of financial forecasting. A funds flow statement is a valuable aid to a financial manager or a creditor in evaluating the uses of funds by a firm and in determining how those uses are financed. In addition to studying past flows, the analyst can evaluate future flows by means of a funds statement based upon forecasts. Such a statement provides an efficient method to the financial manager in assessing the firm's growth and its resulting financial needs, and in determining the best way to finance that needs.
A cash budget involves a projection of future cash receipts and cash disbursements of the firm over a given interval of time. It reveals to the financial manager the timing and amount of expected cash inflows and outflows over the period studied. With this information, he is better able to determine the future cash needs of the firm, plan for the financing of these needs, and to exercise control over the cash and liquidity of the firm.

Tools of Financial Appraisal Adopted in the Study:

The data used in the financial appraisal of the Tea Industry in India during the period under study have been obtained from the annual reports of the selected tea companies and provace data and CMIE Prowess database i.e. ‘Center for Motoring Indian Economy Pvt. Ltd.’. However, they have been supplemented with the secondary data wherever needed and found useful.

For the purpose of financial appraisal the balance sheet and profit and loss account have been completely rearranged and presented in a 'condensed form'. The condensed profit and loss accounts and 'balance sheet' in a standard form have been given the appendices.
Significance of Financial Appraisal in Tea Industry:

It may be noted that the analysis and interpretation of financial statements represent the last of the four major steps in the realm of accounting. The first three steps, which involve the work of the accountant in the accumulation and summarization of financial and operating data and in the construction of financial statements, are as follows:

1. Analysis of each transaction to determine the accounts to be debited and the measurement valuation of each transaction to determine the amounts involved.
2. Recording the information in the book of original entry, summarization in ledger, and preparation of trial balance.
3. Preparation of financial statements.
4. The fourth step of accounting the analysis and interpretation of financial statements results in the presentation of information in a manner that will enable business executives, investors and creditors to draw meaningful inferences. The analyst will have a more complete understanding of the significance and meaning of the financial data.

Opinions differ regarding the relative importance of income statement and the balance sheet. To some, it is the income statement, which is more significant, while for others the balance sheet is of greater importance. The fact is that
both these financial statements are equally useful in studying and evaluating the results of business activity and their impact upon the financial position of a concern.

A study of any of these statements without referring to the others is futile. The worth of a business is what it earns. But the adequacy of earnings is always judged in relation to the total investments. Hence, a study of earnings without investments or conversely of investments without earnings is devoid of purpose.

In fact, the data appearing in the income statement are intimately tied up with the data reported in the balance sheet. The inflow of assets resulting from the sale of products and services is measured in revenue accounts. The outflow of assets is measured in expenses accounts. The difference in revenue and expenses is known as net income and net loss, which is reflected either in the increase or decrease in net assets. Hence, both these financial statements are of interlocking nature and together help in effective articulation.

Obviously, therefore, none can be relegated to inferior status vis-a-vis the other. Due to this financial statements are of varying importance according to different needs. The accountant has to try to reconcile these various needs of different users so as to achieve the optimum
functional utility. It is, therefore, an accepted management policy to supplement the financial statements with the various schedules, diagrams and graphs, etc. so that these statements bring out the strength of the corporation in an effective manner.

The need and importance of the financial appraisal of the Tea Industry can be emphasized keeping in view of the above objectives.

REFERENCES:


2. B. Roy Choudhary; Analysis and Interpretation for Financial Statements through Financial Ratios, Orient Longmans, 1970

3. B. L. Verma “Analysis of Financial statement”


5. B. R. Choyal “Financial Management of State Enterprises”
15. N. L. Hingorani and A. R. Ramanathan: Management Accounting, Delhi, S. Chand.
17. R. D. Kennedy and S.Y. Mc Muller, Financial Statements
18. Robert H. Wessel; Principles of Financial Analysis

20. S. B. Choudhary; Analysis of Company Financial Statement, New Delhi, Asia Publishing House.


22. Sudha Nigam “Financial Efficiency”

23. Weston and Brigham; Managerial Finance, Holt, Rin-chert, Winston.
CHAPTER– 2

PROFILE OF THE TEA INDUSTRY IN INDIA

v Introduction
v Types of Tea
v History and Development of Tea Industry in India
v Production and Consumption of Tea in India
v Demand Drivers & Tea Prices
v Market Capitalization of Tea Industry in India
v Cost Dynamics and Merger & Acquisition Trend
v Past Trend, Current Scenario & Global Scenario
v Import - Export Scenario
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CHAPTER – 2
PROFILE OF THE TEA INDUSTRY IN INDIA

Introduction:

In the long history of human civilization, man has selected and improved three important non-alcoholic beverages from nature's rich storehouse of plant resources - the extract of tea-leaves, the extract of coffee-beans and the extract of cocoa-beans. Tea, Coffee and Cocoa are true stimulants and have been satisfying the palates demands of human beings for centuries. Of the three beverages, tea is the oldest-known and is now the most popular beverage. It leads the other two in the total amount of beverage consumed, and it is less expensive compared to coffee and cocoa. Today, the plant is cultivated on a larger scale compared to coffee and cocoa is adopted to a wide range of agro-climatic conditions.

Based on a survey, tea accounts for 90 %, filter coffee 4 %, malted health beverages 2%, instant coffee 2% and carbonated soft drinks just above 1% of total consumption. Squashes, concentrates, mineral water account for a minuscule part of the consumption.

Tea penetration is at a level 77 % with 89 % in urban area and 73% in rural areas.
Tea is unique in that, besides being an agricultural crop, it has also provided an industrial base. The cultivation, maintenance, harvesting and processing of tea are labour-intensive and provide a regular employment to millions. Tea industry is one of the chief foreign-exchange earners in some of the third world countries.

India plays a significant role in world tea trade, being the world's largest producer, consumer and exporter. Hence fluctuations in India's tea production, consumption and exports are enough to disturb the international tea trade.

Tea is indigenous to India and is an area where the country takes a lot of pride. This is mainly because of its pre-eminence as a foreign exchange earner and its contributions to the country's Gross National Product.

Types of Tea:
Tea is normally classified based on the processing, leaf size and grade. Basically, there are three types of tea - black, green and Oolong tea. Fermentation is the major process and creates two major classifications, black and green tea.

Black tea is the most popular type of tea. It is produced from the top two leaves and the bud of the tea plant. Black tea is further classified into CTC (cut, tear and curl) and
Orthodox tea. Consumers in different parts of the country have varied tastes. Black tea is popular in India and is manufactured in two different ways, namely CTC (Crush Tear and Curl) and orthodox methods. CTC method requires a CTC machine to crush and break the leaves. The orthodox method requires the tea leaves to be rolled in a roller to break and release the chemicals. Black tea manufactured by the orthodox method is preferred in West Asia, North Africa and CIS countries for its strong colour and taste.

Oolong is a semi-oxidized whole-leaf tea. This type of tea is not produced in India.

Green tea is non-fermented, and produces a clear, aromatic, delicately flavored tea, traditionally popular in China and Japan. This is considered to be the healthiest among all varieties of tea. Based on the region they are classified as Darjeeling, Assam and Nilgiri, each having its own colour, strength and flavor.

India produces some of the world’s finest teas, as also the largest variety. Among the famous specialty flavors are Darjeeling tea and Assam tea from the North and Nilgiri tea from the South.

**Organic Tea:**

The Indian organic tea has a good potential global market. India leads in the arena also by exporting an
estimated 10 million-kg of certified organic tea. To capitalise further on the huge potential, the industry is seriously considering the opportunities. The Government has already drafted a broad framework for national standards for organic foods and it is formally approved.

At present, the world market is expected to be $15 billion and in the next five years it is expected to be $100 billion. China, which is also vigorously entering into this area, is posing a threat to our country.

A recent Study by ITC revealed that the market for organic products in US is US $ 4.2 billion, while in Germany it was estimated at US $ 1.8 billion. The retail sale of organic foods in Europe, US and Japan accounted for US$ 11 billion in 1996 and US$ 13 billion in 1998. The consumer demand for organic products is expected to reach 5 to 10 % of the total food sales by 2005. Of this Coffee and Tea are fast emerging as sources of organic foods.

Considering the excellent potential for Organic Tea, the government has decided to set up a working group of scientists from producing and consuming countries to examine the issues of minimum residual levels (Marls) of pesticides. The findings of the working group will assist
existing international bodies like Codex Alimentarias to arrive at harmonised and universally acceptable standards. India's focus on Organic Tea got a fillip, when the Common Fund for Commodities under Food and Agriculture Organisation approved a funding of $3.5 million for a joint project for development of organic tea in India and China.

**History and Development of Tea Industry in India:**

The Tea Industry is one of the major traditional industries in the Indian history, ageing almost 185 years. The first tea plant was discovered in 1815. As one of the widely preferred global beverages, tea has the scientific name of Camellia Sinensis.

In India, there are 1,120 tea estates, out of that 700 belong to big companies and about 300 belong to small companies. Big plantations have in-campus tea processing facilities, where the tea grown in the plantations are processed immediately.

India is the largest consumer and producer of tea. In terms of employment, it is the second largest industry by employing more than a million people directly and 2 million people indirectly, of which 50% are women.
The main tea producers are India, Sri Lanka, Kenya, Malawi, Indonesia and China. The Tea Industry is also the one of the country’s major for export earner. India has long held the title of being the largest tea producer and consumer in the world. Though traditionally exports have been the engine for growth (and profits), the collapse of India's biggest customer (USSR) exposed India's competitive weaknesses vis-à-vis producers in Sri Lanka and Kenya, whose tea gardens are much newer. Interestingly, despite the loss of major export markets, Indian companies have been somewhat insulated thanks to faster growing domestic consumption.

Tea trading in the domestic market is done in two ways - Auction and private selling. Market reports are received from the six major auction centers in India, namely, Calcutta, Guwahati, Siliguri, Cochin, Coonoor, Coimbatore and N. I. teauction.com. Bulk trading is done through the auctions held in these centers.

The Indian Tea Industry has two major tea producing regions known as northeast and south. The northeast accounts for 75 % of the production covering 80 % of the total land coverage.
Total Area under tea, production and yield of tea in total India, and Average number of labour employed in tea plantation of India have been depicted in the following tables:

Table No. - 2.1

Area under Cultivation and Plucked Area, Production and Yield of Tea in India.

<table>
<thead>
<tr>
<th>Year</th>
<th>Area under Tea (Hectare)</th>
<th>Plucking Area (Hectare)</th>
<th>Production (Th Kgs.)</th>
<th>Yield (Kg/plucked Hect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>420470</td>
<td>407576</td>
<td>754192</td>
<td>1850</td>
</tr>
<tr>
<td>1992</td>
<td>420289</td>
<td>407539</td>
<td>732322</td>
<td>1796</td>
</tr>
<tr>
<td>1993</td>
<td>418363</td>
<td>405658</td>
<td>760826</td>
<td>1875</td>
</tr>
<tr>
<td>1994</td>
<td>425966</td>
<td>412232</td>
<td>752895</td>
<td>1826</td>
</tr>
<tr>
<td>1995</td>
<td>427065</td>
<td>414367</td>
<td>756016</td>
<td>1824</td>
</tr>
<tr>
<td>1996</td>
<td>431245</td>
<td>414733</td>
<td>780140</td>
<td>1881</td>
</tr>
<tr>
<td>1997</td>
<td>434294</td>
<td>418007</td>
<td>810031</td>
<td>1939</td>
</tr>
<tr>
<td>1998</td>
<td>474030</td>
<td>419873</td>
<td>874108</td>
<td>2081</td>
</tr>
<tr>
<td>1999</td>
<td>490200</td>
<td>426045</td>
<td>825935</td>
<td>1939</td>
</tr>
<tr>
<td>2000</td>
<td>507196</td>
<td>429114</td>
<td>846483</td>
<td>1972</td>
</tr>
<tr>
<td>Averag</td>
<td>444912</td>
<td>415514</td>
<td>789295</td>
<td>1898</td>
</tr>
<tr>
<td>%Incre 20.63%</td>
<td>5.28%</td>
<td>12.24%</td>
<td>6.59%</td>
<td></td>
</tr>
</tbody>
</table>

Source: The Journal of the Tea Board (India), Tea Digest-2001, Pl 1

Table No.-2.1 shows the area under cultivation of tea, Plucked area, production and yield of tea in total India during the period 1991 to 2000. On an average area under tea was 4.45 lakhs hectare during the last ten years. The average area under plucking and production are 4.15 lakhs hectare and 7892.95 lakhs kgs. respectively. During the study period, area under tea, plucked area, production and yield in total India rose up to 20.63%, 5.28%, 12.24% and 6.59%
respectively. During this period average yield was 1898 kg. per hectare.

Table No. - 2.2

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>996735</td>
<td>-0.50</td>
<td>991704</td>
<td>-0.07</td>
<td>1028694</td>
<td>3.8</td>
<td>1028787</td>
<td>0.009</td>
<td>1029651</td>
<td>0.08</td>
<td>1032267</td>
<td>0.25</td>
</tr>
<tr>
<td>1992</td>
<td>991019</td>
<td></td>
<td>1028787</td>
<td></td>
<td>1029651</td>
<td></td>
<td>1032267</td>
<td></td>
<td>1045401</td>
<td></td>
<td>1188815</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>1028787</td>
<td></td>
<td>1029651</td>
<td></td>
<td>1032267</td>
<td></td>
<td>1045401</td>
<td></td>
<td>1188815</td>
<td></td>
<td>1210055</td>
<td></td>
</tr>
</tbody>
</table>

Source: The Journal of the Tea Board (India), Tea Digest-2001, P.2

Table No.-2.2 shows the average no. of labour employed in tea plantation of India during the period 1991 to 2000. The percentile improvement in labour force during the last ten years was the indicator of great employment opportunity. Average no. of labour employed in tea plantation of India went up by 21.4% during the last ten years.

As the tea is an agricultural product, it provides employment mainly to the backward classes and tribals and improves their living conditions. It is only because of tea industry that the communication, transport, education, health-care and other facilities that have reached to these rural areas. No other industry can think for backward areas, like tea industry. The tea industry of India provides employment nearest to 10.61 lakhs of employees on an average during the
last ten years. India shows a rapid progress in respect of labour employed in tea plantation during the last decade.

A profile of trends in production, retention and export of tea during the period 1991 to 2000 enlighten the fact that the total production of tea increased to 846483 Th. kgs. in 2000 from 754192 Th. kgs in 1991, indicating an overall rise of about 12.24 % during the same period. Although, the export of tea also slightly increased to 206816 Th. kgs in 2000 from 202918 Th. kgs. in 1991, the proportion of export in relation to production decreases from 26.9% to 24% during the same period. Again it is also proved from the above data that the Indian tea exports have been stagnating at around 150000-210000 Th. kgs. during the last decade and the additional consumption being utilised by a fact growing domestic market. Actually, domestic consumption of India in the last ten years captured at about 77% of total global production. Many in the industry believed that by 2005, there will be a shortage of tea for the domestic market. At the same time, production of tea cannot be increased sharply due to scarcity, of land. Also, Indian companies have not invested adequately in replanting. Hence, to satisfy the domestic demand India has to import a bulk quantity of tea within a few years.

However, recent moves to liberalize imports from the SAARC region have belied the hope of producers that prices will rise sharply. Further, when India lifts quantitative
restrictions, the market will be further hit by cheaper tea products from Vietnam, Indonesia, and China. This has led Indian producers to invest in plantations outside India.

World tea production in the last decade has grown at an annual rate of 1.81% p.a. and consumption has kept pace at a slightly higher growth rate of 2.05% p.a. After India, the second largest producer is China but they mainly produce green tea, while India produces mainly black tea. World tea exports have grown by almost 2% over the last decade. Sri Lanka is the largest exporter followed by Kenya, China and India. World imports grew yearly at 1.2% over the last decade. The largest importers are the CIS, UK and Pakistan followed by the United States, Egypt and Japan.

The market size of the industry was Rs10,000 crore approximately. Of the total Indian tea market, branded packaged teas account for 33.35% by volume. Hindustan Lever Ltd. (HLL) leads with around 43.45% market share of the packaged tea market, while Tata Tea is the No.- 2 with around 17.18% market share. Apart from these two players and Duncans, the market is extremely fragmented with many smaller or regional players.

In all aspects of tea production, consumption and export, India has emerged to be the world leader, mainly because it accounts more or less for 31 % of global production. It is
perhaps the only industry where India has retained its leadership over the last 150 years. Tea production in India has a very interesting history.

The range of tea offered by India - from the original Orthodox to CTC and Green Tea, from the aroma and flavour of Darjeeling Tea to the strong Assam and Nilgiri Tea - remains unparalleled in the world. In addition, today India produced approximately 650 million kgs of CTC type covering 80% of total production, and Orthodox type produced by India 160 million kgs.

Here are some brief statistical facts about Indian Tea Industry:

- The total turnover of the tea industry is around Rs. 10,000 crores.
- Since independence tea production has grown over 250%, while land area has just grown by 40% only.
- There has been a considerable increase in export too in the past few years.
- Total net foreign exchange earned per annum is around Rs. 1847 crores.
- The labour intensive tea industry directly employs over 1.1 million workers and generates income for another 10 million people approximately.
- Women constitute 50% of the workforce.
Production & Consumption of Tea in India:

Category wise and month wise production of Tea have been depicted in the following tables:

**Table No.-2.3**

<table>
<thead>
<tr>
<th>Category</th>
<th>North India</th>
<th>South India</th>
<th>All India</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.T.C.</td>
<td>166217</td>
<td>175062</td>
<td>80367</td>
</tr>
<tr>
<td>Orthodox</td>
<td>19692</td>
<td>16552</td>
<td>16977</td>
</tr>
<tr>
<td>Others</td>
<td>660</td>
<td>680</td>
<td>708</td>
</tr>
<tr>
<td>Total</td>
<td>186569</td>
<td>192294</td>
<td>98052</td>
</tr>
</tbody>
</table>

Figures in thousand kilograms; Source: Calcutta Tea Traders Association

**Table No.-2.4**

<table>
<thead>
<tr>
<th>MONTH</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan.</td>
<td>21.35</td>
<td>19.88</td>
<td>19.07</td>
</tr>
<tr>
<td>Feb.</td>
<td>14.21</td>
<td>12.54</td>
<td>13.16</td>
</tr>
<tr>
<td>March</td>
<td>45.15</td>
<td>41.72</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>76.22</td>
<td>53.06</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>65.99</td>
<td>61.69</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>90.66</td>
<td>91.52</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>105.86</td>
<td>104.01</td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>115.48</td>
<td>108.67</td>
<td></td>
</tr>
<tr>
<td>Sept.</td>
<td>102.37</td>
<td>104.98</td>
<td></td>
</tr>
<tr>
<td>Octo.</td>
<td>95.71</td>
<td>99.08</td>
<td></td>
</tr>
<tr>
<td>Nov.</td>
<td>76.43</td>
<td>75.98</td>
<td></td>
</tr>
<tr>
<td>Dec.</td>
<td>47.13</td>
<td>47.05</td>
<td></td>
</tr>
</tbody>
</table>

Source: Capital Market Indian Economy Review, April-2005

Tea production increased by 5% to 13.157 million kg in February 2005, after recording 4% fall to 19.071 million kg in
January 2005, over the corresponding previous year period. However, exports in February rose by 23.6% to 14.43 million kg. Exports of south Indian tea continued to dominate by an impressive 66.8% rise to 10.22 million kg, although at lower realisation of 15.2% to Rs 56.21 per kg. However, exports from the north fell sharply by 24.1% to 4.21 million kg, but fetched 4.1% higher prices at Rs 113.34 per kg.

In the two months ended February 2005, the tea production decreased by 1% to 32.228 million kg. The fall was mainly in the south, which witnessed a 5.5% lower output to 23.24 million kg, while the north came up with a 14.8% rise to 8.99 million kg. Exports in this period recorded a rise by 7.2% to 27.30 million kg, mainly due to a 40.3% rise to 18.60 million kg in exports from the south. Exports from the north were 28.8% lower to 8.69 million kg in this period.

Table No. - 2.5
Region wise Production of Tea

<table>
<thead>
<tr>
<th>Region</th>
<th>QTY. (MILLION KG.)</th>
<th>QTY. (MILLIONKG.)</th>
<th>Y-O-Y% CHANGE</th>
<th>Y-O-Y% CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN-FEB</td>
<td>2005</td>
<td>2004</td>
<td>2005</td>
<td>2004</td>
</tr>
<tr>
<td>South India</td>
<td>23.24</td>
<td>24.59</td>
<td>-5.49</td>
<td>-8.62</td>
</tr>
<tr>
<td>All India</td>
<td>32.23</td>
<td>32.42</td>
<td>-0.59</td>
<td>-8.84</td>
</tr>
</tbody>
</table>

Source: Capital Market Indian Economy Review, April-2005
In February 2005, tea production showed a rise of 4.9% to 13.16 million kg over the corresponding month of the previous year (-11.8%). Detailed analysis shows that the rise in production was recorded in both north Indian tea and south Indian tea, which showed a rise of 21.5% or 0.23 million kg to 53 million kg and 3.4% or 0.39 million kg to 11.87 million kg, respectively, over the corresponding month of the previous year (27.65. and -14.2%).

Table No. - 2.6

Estimated Domestic Consumption of Tea in India

<table>
<thead>
<tr>
<th>Year</th>
<th>Packet Tea</th>
<th>Loose Tea</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>100.36</td>
<td>285.64</td>
<td>386</td>
</tr>
<tr>
<td>1984</td>
<td>104.40</td>
<td>295.60</td>
<td>400</td>
</tr>
<tr>
<td>1985</td>
<td>108.73</td>
<td>306.27</td>
<td>415</td>
</tr>
<tr>
<td>1986</td>
<td>113.09</td>
<td>317.91</td>
<td>431</td>
</tr>
<tr>
<td>1987</td>
<td>117.74</td>
<td>328.26</td>
<td>446</td>
</tr>
<tr>
<td>1988</td>
<td>128.60</td>
<td>333.40</td>
<td>462</td>
</tr>
<tr>
<td>1989</td>
<td>145.00</td>
<td>335.00</td>
<td>480</td>
</tr>
<tr>
<td>1990</td>
<td>160.00</td>
<td>340.00</td>
<td>500</td>
</tr>
<tr>
<td>1991</td>
<td>180.00</td>
<td>340.00</td>
<td>520</td>
</tr>
<tr>
<td>1992</td>
<td>190.00</td>
<td>350.00</td>
<td>540</td>
</tr>
<tr>
<td>1993</td>
<td>200.00</td>
<td>360.00</td>
<td>560</td>
</tr>
<tr>
<td>1994</td>
<td>210.00</td>
<td>370.00</td>
<td>580</td>
</tr>
<tr>
<td>1995</td>
<td>218.00</td>
<td>377.00</td>
<td>595</td>
</tr>
<tr>
<td>1996</td>
<td>227.00</td>
<td>391.00</td>
<td>618</td>
</tr>
<tr>
<td>1997</td>
<td>240.00</td>
<td>393.00</td>
<td>633</td>
</tr>
<tr>
<td>1998</td>
<td>218.00</td>
<td>427.00</td>
<td>645</td>
</tr>
<tr>
<td>1999</td>
<td>228.00</td>
<td>405.00</td>
<td>633</td>
</tr>
<tr>
<td>2000</td>
<td>245.00</td>
<td>408.00</td>
<td>653</td>
</tr>
<tr>
<td>2001</td>
<td>238.00</td>
<td>436.00</td>
<td>674</td>
</tr>
<tr>
<td>2002</td>
<td>242.00</td>
<td>438.00</td>
<td>680</td>
</tr>
</tbody>
</table>

Table No. - 2.6 show the internal consumption of tea in India as well as the consumption of packet tea and loose tea. Internal consumption of tea in India increases during the last ten years by 27.8%. and also indicates an increasing trend. Consumption of packet tea and loose tea increases by 39.2% and 21.8% respectively during the last ten years.

**Demand Drivers & Tea Prices:**

**Table No.- 2.7**

**Index of Tea Price (Base Year 1993-1994=100)**

<table>
<thead>
<tr>
<th>MONTH</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan.</td>
<td>116.78</td>
<td>110.75</td>
<td>129.10</td>
</tr>
<tr>
<td>Feb.</td>
<td>121.0</td>
<td>106.1</td>
<td>117.0</td>
</tr>
<tr>
<td>March</td>
<td>112.53</td>
<td>101.92</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>116.62</td>
<td>119.15</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>111.22</td>
<td>133.1</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>111.9</td>
<td>137.93</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>110.53</td>
<td>131.56</td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>108.43</td>
<td>141.18</td>
<td></td>
</tr>
<tr>
<td>Sept.</td>
<td>103.38</td>
<td>145.80</td>
<td></td>
</tr>
<tr>
<td>Octo.</td>
<td>110.40</td>
<td>144.72</td>
<td></td>
</tr>
<tr>
<td>Nov.</td>
<td>103.16</td>
<td>138.35</td>
<td></td>
</tr>
<tr>
<td>Dec.</td>
<td>112.02</td>
<td>135.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Capital Market Indian Economy Review, April-2005

The average tea prices in the six auction houses in February 2005, from an average of Rs.49.45 per kg in 2004,
they went up to Rs.55.04 per kg in February showing a rise of 11.3% over the corresponding previous year. In south India, the average auction price up to Rs.49.82 per kg from Rs.41.61 in the previous year and In north India it went up to Rs.57.22 per kg from Rs.53.75 per kg. Total sales through auctions in February 2005 showed a rise of 39.9% to 35.13 million kg over the last year.

The average prices firmed up by 11.3% to Rs 55.04 per kg. The rise in production came from north Indian gardens, which witnessed a 21.5% jump in output to 1.29 million kg (1.06 million kg). The average price in the north recorded a 6.5% rise to Rs.57.22 per kg. However, in the south, the production increased by only 3.4% to 11.87 million kg.

None the less, the average auction price surged by 19.7% to Rs.49.82 per kg as compared to Rs.41.61 per kg in the corresponding previous month. Consequently, in value terms, north Indian players registered a 62.5% growth to Rs.141.80 crore (Rs.87.25 crore) in February, while south India gained a 39.5% rise in revenue to Rs.51.57 crore (36.97 crore).

Remarkably, January-2005 witnessed a poor turnout at auction centers and in the export markets as domestic tea production and exports declined by 4.07% to 19.07 million kg
and 6.74% to 12.87 million kg, respectively. Despite better crop, the lower output is believed to be deliberate withholding of stock by players due to the inconsistency and anomaly in the value-added tax (VAT). However, as things are getting clearer on the VAT issue, the turnout is better.

January is off season for the tea industry and production generally comes down in this period. However, industry watchers see another reason for lower auction in this month. They say the output may have suffered due to the uncertainty prevailing over the implementation of VAT, which is set to replace the existing sales tax regime.

Though India is the major producer and consumer of tea, its per capita consumption is a far cry from global standards. India’s per capita consumption is 600 gms, which is far below the global standards, and this offers immense potential for growth. The health consciousness of drinking tea as promoted by the industry may yield good result in medium term. Organic teas, ready to drink teas, flavoured teas etc have immense potential for increasing demand for teas, but the domestic industry has made little inroads into this segment. With growing awareness on health, the potential of these niche segments are likely to raise faster, both in domestic and international markets.
Graph No.-2.1
Showing Average Auction Tea Prices at Kolkatta, Colombo, Mombasa and World Average (2003 to 2005)

Source: World Bank Development Prospects Pinksheet
Note: International prices have been converted at an exchange rate of Rs 43.8
In the last few months, prices have started declining at Colombo and Kolkata auctions while; prices at Mombassa auctions have registered an increase. However, on yoy basis, tea prices at Colombo and Kolkata auctions have risen by 20.2% yoy and 26.2% yoy respectively while, tea prices at Mombassa auctions have declined by 7.2% yoy. The world average tea prices increased by 10 % to 13% yoy during December, 2004 and January, 2005. In February 2005, tea prices at Kolkata auctions have firmed up by 2 to 3%.

Prices of tea were continuously rising in the year. In 2005, the Wholesale Price Index (WPI) of tea show of 10.27% to 117, over the corresponding month previous year (-12.3 1%). In January-February 2005, for tea registered a rise of 22.35% to 133.97corresponding period of the previous year (-7.37%).

**Market Capitalisation of Tea Industry:**

Currently, HLL is the market leader with 30% market share and Tata Tea follows it with 19% market share of packed tea. Other leading players in packed tea segment include Godfrey Phillips India, Eveready Industries, Duncans and Gujarat Tea Processors.
Table No.- 2.8

Market Capitalization of the Tea industry

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>LATEST M.CAP AS ON 31-3-05</th>
<th>LATEST PRICE</th>
<th>ONE MONTH</th>
<th>THREE MONTH</th>
<th>SIX MONTH</th>
<th>TWELVE MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RS.(CRORE)</td>
<td>Rs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4324.57</td>
<td>-3.35</td>
<td>10.58</td>
<td>27.42</td>
<td>71.40</td>
<td></td>
</tr>
<tr>
<td>Tata Tea</td>
<td>2948.46</td>
<td>524.45</td>
<td>-5.08</td>
<td>10.82</td>
<td>22.89</td>
<td>54.18</td>
</tr>
<tr>
<td>Bombay Burmah</td>
<td>224.9</td>
<td>161.1</td>
<td>34.31</td>
<td>41.14</td>
<td>84.01</td>
<td>194.53</td>
</tr>
<tr>
<td>Parry Agro Inds.</td>
<td>222.78</td>
<td>592.5</td>
<td>12.21</td>
<td>40.99</td>
<td>136.9</td>
<td>342.2</td>
</tr>
<tr>
<td>Williamson Tea</td>
<td>193.78</td>
<td>136.8</td>
<td>-7.13</td>
<td>-5.85</td>
<td>1.98</td>
<td>66.32</td>
</tr>
<tr>
<td>Goodricke Group</td>
<td>146.56</td>
<td>67.85</td>
<td>3.59</td>
<td>14.9</td>
<td>25.19</td>
<td>97.25</td>
</tr>
<tr>
<td>Harr. Malayalam</td>
<td>128.57</td>
<td>69.95</td>
<td>-6.64</td>
<td>11.7</td>
<td>62.73</td>
<td>175.31</td>
</tr>
<tr>
<td>Assam Company</td>
<td>102.07</td>
<td>45.85</td>
<td>-19.92</td>
<td>2.57</td>
<td>54.11</td>
<td>119.35</td>
</tr>
<tr>
<td>Jay Shree Tea</td>
<td>97.31</td>
<td>91.2</td>
<td>-10.59</td>
<td>-0.98</td>
<td>0.83</td>
<td>71.93</td>
</tr>
<tr>
<td>Warren Tea</td>
<td>95.23</td>
<td>89</td>
<td>-1.66</td>
<td>-13.04</td>
<td>20.44</td>
<td>102.06</td>
</tr>
<tr>
<td>Apeejay Tea</td>
<td>55.62</td>
<td>92.7</td>
<td>-12.34</td>
<td>-9.07</td>
<td>-6.97</td>
<td>50.12</td>
</tr>
<tr>
<td>Dhunseri Tea</td>
<td>40.36</td>
<td>57.65</td>
<td>-11.57</td>
<td>-16.2</td>
<td>6.27</td>
<td>130.10</td>
</tr>
<tr>
<td>Others</td>
<td>68.1</td>
<td>-4.54</td>
<td>1.72</td>
<td>30.38</td>
<td>64.97</td>
<td></td>
</tr>
</tbody>
</table>

The market capitalisation of the tea industry showed a decline of 3.35% over the month to reach Rs 4324.57 crore as on 31 March 2005. Tata Tea controlled more than 68% of the market capitalisation. Share prices of most tea companies showed a declining trend, except Bombay Burmah, Parry Agro Industries and Goodricke Group. Bombay Burmah was the highest gainer, showing a rise of 34.3 1 % over the month, followed by Parry Agro Industries, which rose 12.21 %.
In the three months ended 31 March 2005, the market capitalisation of tea companies showed a rise of 10.58%. All major companies showed a rise in share prices, except Williamson Tea, which showed a decline of 5.85% in this period. The highest gainer in this period was Bombay Burmah, which showed a rise of 41.14% over the period, followed by a 40.99% rise in Parry Agro Industries.

In March 2005, the market capitalisation of the tea industry showed a rise of 71.40% over the corresponding month of the previous year. All tea companies showed an upward trend in their share prices.

Cost Dynamics and Merger & Acquisition Trend:

The cost structure of the industry is as follows. The labour cost works out to be higher at 46%, while the global standard of labour cost is much lower. Within the domestic market, labour cost in south India is much more than in north India. The selling expenses are 12 %, power and fuel 7%, stores and spares 9%, repair and maintenance, 5% and others 21%.

The industry is adversely affected by steep fall in auction prices in the past few years, which has resulted in the prices not even covering the production cost. The fall in realisations has been steep in South India, resulting in many
plantations closing down or opting to sellout. But with the industry’s fundamentals in disarray, there are no takers for the distressed plantations. Even after permitting 100% FDI in tea plantations (subject to restrictions) things have not changed for better for the industry.

The phase of consolidation has also started. Consolidation helps to improve production processes with reduced cost of production and to explore untapped markets with value-added products.

The recent acquisition of Tetley group by Tata Tea opened up many doors to the latter for its products. Another acquisition, by Unilever, of Rossel industries is also providing for technology upgradation. Many smaller teagardens are willing to offer themselves for sale, provided the right prices offered.

In Jan-2002, Duncans Industries reported that it has decided to transfer its tea business to its group company Shubh Shanti Services, which will be subsequently merged with Santipara Tea Company.

In February - 2002, the shareholders of Jay Shree Tea & Industries approved the merger of its subsidiary Shiva Groups Limited with itself.
Past Trend, Current Scenario & Global Scenario:

Past Trend:

Food and Agriculture Organisation (FAO) reported that the average black teas were hovering around US cents 189 per kg in the period between 1996-98, but the same fell by 7.9% to US cents 174 per kg in 1999. The organisation reported that there was some recovery in the prices in 2000, resulting in the FAO composite price improving by 3.4% to US cents 180 per kg. But the year 2001 witnessed a steep fall in tea prices by 12.8% to US cents 157 per kg.

Over a period of 40 years, the domestic demand for tea has grown a CAGR of 4.4%, while domestic supply at 2.7%. But the demand growth had slowed down to 3% of late. The per capita consumption had grown by 2.2%.

The auction sales have registered a CAGR of 2.5% from over a period of 40 years. The hectare under tea cultivation had grown at a CAGR of 0.8% over a period of last 100 years.

Current Scenario:

The current rate of growth of expansion of area under tea cultivation is still lower at 0.6%.
Tea production fell by 3.5% to 702.12 million kg in the ten months ended Oct'02. Category wise, CTC production fell by 4.1% to 617.17 million kg, Orthodox production increased by 2.4% to 81.14 million kg and production of other teas fell sharply by 25.2% to 3.81 million kg during the above period.

Tea production in North India fell by 3.1% to 540.86 million kg while in South India the fall was steeper at 5.1% to 161.26 million kg in the ten months ended Oct'02 over the corresponding period of the previous year. CTC production fell by 4.1% to 484.45 million kg in North India and by 4.0% to 132.73 million kg in South India. Orthodox tea production surged by 9.1% to 53.56 million kg in North India, but fell sharply by 8.6% to 27.58 million kg in South India.

The Calcutta Tea Traders Association reported that in the 49 weeks ended 10th Dec'02, the average auction prices of CTC tea fell by 10.5% to Rs65.98 per kg, Orthodox tea prices fell by 3.7% to Rs.76.50 per kg and that of Darjeeling tea fell by 11.3% to Rs.130.54 per kg over the corresponding previous year period.

The Indian tea industry is worried, as the domestic tea consumption growth was dismally low 4-5% in the past few years. The year 2001 saw a dismal 1.54% growth in
domestic tea consumption from 650 million kg in 2000 to 660 million kg in 2001.

As a result, the Consultative Committee of Plantations Association (CCPA) being the apex body of all Indian tea producers, spent about Rs.2 crore since October-2001 in advertising in print media bringing out the medicinal qualities of tea. In March-2002, the association plans to bring out generic television commercial to reposition tea as a lifestyle product, at a cost of Rs.8 to 10 crore.

The Indian tea industry is also worried by a continuous fall in average tea prices by 4.75% in 1999 and further sharply by 15.23% in 2000. The average auction prices in India slipped from Rs 76.43 per kg in 1998 to Rs 72.80 per kg in 1999 and further down to Rs 61.71 per kg in 2000.

The sharp fall in average prices, was witnessed in South Indian tea, which slipped from Rs.68.79 per kg in 1998 to Rs.57.10 in 1999 and further down to Rs.44.64 in 2000. On the other hand, North Indian tea prices increased from Rs.80.22 per kg in 1998 to Rs.80.57 in 1999 but it was reduced to Rs.70.35 per kg in 2000.

As a result of continuous fall in tea prices, the domestic customers moved away from packed tea to loose tea for the past two years upto Oct’01. However, there are signs of
recovery and the packed tea market was flat in Nov'01 and grew by 1% in Dec'01. The industry hopes that further incremental shift away from packed tea is unlikely and that hence there will not be further fall in sales of packed tea.

The tea industry is more concerned about a steep fall in tea prices, than the fall in production. The Index of Industrial production fell sharply by 19.21% from 114 in the week ended 24th March 2001 to 92.1 in the week ended 23rd March 2002.

The tea production in calendar year 2001 increased marginally by 0.85% to 853.71 million kg. Region wise, North Indian tea production increased by 1.37% to 650.76 million kg while South India tea production fell by 0.77% to 202.95 million kg during the above period.

Category wise, CTC production fell marginally by 0.09% to 757.94 million kg while Orthodox tea production rose sharply by 11.19% to 89 million kg while other tea production fell by 13.5% to 6.77 million kg in the calendar year 2001. Considering the better prospects of exports for Orthodox tea, the industry is consciously shifting towards Orthodox tea production.

As mentioned earlier in the table No.-2.1, Region wise, CTC production increased marginally by 0.09% to 591.49
million kg in North, while South registered a 0.74% fall in production to 166.45 million kg in the calendar year 2001.

During the year, Orthodox tea production surged ahead by 20.38% to 54.20 million kg in North but fell by 0.62% to 34.81 million kg in South. Production of other teas during the above period fell sharply by 15.51% and 6.87% to 5.07 million kg and 1.69 million kg in Northern and Southern regions respectively.

**Global Scenario:**

Along with India other major global producers are Sri Lanka, Kenya, Indonesia and China and while the major consumers are China, Russia and Pakistan. The global market consists 44% of trading and 56% of own consumption by tea producing countries.

The key tea producing countries have witnessed fall in production in the two months ended Feb'01. India witnessed a sharp 11.62% fall in production to 32.7 million kg during the above period from 37 million kg in the same period of the previous year. Similarly, Kenya witnessed a steep 5.7 million kg fall in tea production during the above period. As a result, the world tea production fell by 8.56% from 172.8 million kg to 158 million kg during the above period.
Table No.-2.9

Global Tea Production

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>820</td>
<td>29.2</td>
<td>806</td>
<td>27.8</td>
<td>846</td>
<td>28.5</td>
</tr>
<tr>
<td>China</td>
<td>647</td>
<td>23.0</td>
<td>699</td>
<td>24.1</td>
<td>700</td>
<td>23.6</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>272</td>
<td>9.7</td>
<td>284</td>
<td>9.8</td>
<td>308</td>
<td>10.4</td>
</tr>
<tr>
<td>Kenya</td>
<td>257</td>
<td>9.1</td>
<td>249</td>
<td>8.6</td>
<td>236</td>
<td>7.9</td>
</tr>
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<td>Indonesia</td>
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<td>165</td>
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<td>159</td>
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<tr>
<td>Japan</td>
<td>88</td>
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<td>89</td>
<td>3.1</td>
<td>89</td>
<td>3.0</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>54</td>
<td>1.9</td>
<td>47</td>
<td>1.6</td>
<td>52</td>
<td>1.7</td>
</tr>
<tr>
<td>Argentina</td>
<td>53</td>
<td>1.9</td>
<td>57</td>
<td>2.0</td>
<td>57</td>
<td>1.9</td>
</tr>
<tr>
<td>Malawi</td>
<td>41</td>
<td>1.5</td>
<td>39</td>
<td>1.3</td>
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<td>1.4</td>
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<tr>
<td>Tanzania</td>
<td>22</td>
<td>0.8</td>
<td>24</td>
<td>0.8</td>
<td>24</td>
<td>0.8</td>
</tr>
<tr>
<td>Others</td>
<td>395</td>
<td>14.1</td>
<td>438</td>
<td>15.1</td>
<td>459</td>
<td>15.4</td>
</tr>
<tr>
<td>World</td>
<td>2811</td>
<td>100.0</td>
<td>2897</td>
<td>100.0</td>
<td>2972</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Figures in thousand tonne; * Annual average production for the years 1996-98
Source: Commodities and Trade Division of Food and Agricultural (figures for some countries are available for shorter period)

Though India continues to be the largest tea producer in the world, its share has been steadily coming down in the recent years. Further cause for concern is that the share of Indian exports to total tea exports has been drastically coming down from about 30% in 1970s to about 12% in 2000. This decline in India’s market share is primarily due to the country loosing important markets like USSR, Pakistan, and UAE to countries like Kenya and Sri Lanka.
With the entry of Indonesia and China, the scenario worsened for the domestic industry. India and China are the top two tea producing and consuming countries, which control more than half of the market. Meanwhile, Kenya has reported the fastest increase in tea production in 2001 after a marginal fall in 2000. Its tea production surged by a spectacular 32.42% to 241 million kg in the ten months ended Oct’01, while global production during this period increased by 5.41% to 1423 million kg.

At global front, the current year witnessed mixed trend. As per the latest available figures, the global production was short only by 3.26 million kg to 1443.48 million kg up to November, representing 0.2% decline (figures for some countries are available only up to September and October). Owing to good crop in Sri Lanka and Kenya, the production for the year is very likely to turn positive over previous year figures.

On the other hand, global demand has increased due to multiple factors like normalcy in Iraq, reduction of customs duty by some of the Asian countries, devaluation of Vietnam’s currency leading to cheaper availability of tea etc. This is evident from the growth in global export by around 4.25% to 969.41 million kg (929.84 million kg) up to November.
Therefore, the demand-supply mismatch may not be substantial to impact the price materially in global market in short term. The fall in Indian production and consequent rise in export activities mainly by merchant trader further added the rise in global export. However, Indian price has been almost immune from the global price fluctuation as the substantial import of tea in India is made on re-export basis, leaving the domestic equation intact.

**Table No.- 2.10**

**Global Tea Exports**

<table>
<thead>
<tr>
<th>Country</th>
<th>1996-98#</th>
<th>% share</th>
<th>1999</th>
<th>% share</th>
<th>2000</th>
<th>% share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sri Lanka</td>
<td>252</td>
<td>20.9</td>
<td>264</td>
<td>21.1</td>
<td>281</td>
<td>21.4</td>
</tr>
<tr>
<td>Kenya</td>
<td>235</td>
<td>19.5</td>
<td>242</td>
<td>19.3</td>
<td>217</td>
<td>16.5</td>
</tr>
<tr>
<td>China</td>
<td>200</td>
<td>16.6</td>
<td>203</td>
<td>16.2</td>
<td>231</td>
<td>17.6</td>
</tr>
<tr>
<td><strong>India</strong></td>
<td><strong>190</strong></td>
<td><strong>15.7</strong></td>
<td><strong>192</strong></td>
<td><strong>15.3</strong></td>
<td><strong>201</strong></td>
<td><strong>15.3</strong></td>
</tr>
<tr>
<td>Indonesia</td>
<td>79</td>
<td>6.5</td>
<td>98</td>
<td>7.8</td>
<td>106</td>
<td>8.1</td>
</tr>
<tr>
<td>Argentina</td>
<td>52</td>
<td>4.3</td>
<td>52</td>
<td>4.2</td>
<td>47</td>
<td>3.6</td>
</tr>
<tr>
<td>Malawi</td>
<td>42</td>
<td>3.5</td>
<td>43</td>
<td>3.4</td>
<td>38</td>
<td>2.9</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>25</td>
<td>2.1</td>
<td>15</td>
<td>1.2</td>
<td>18</td>
<td>1.4</td>
</tr>
<tr>
<td>Tanzania</td>
<td>20</td>
<td>1.7</td>
<td>21</td>
<td>1.7</td>
<td>23</td>
<td>1.7</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>12</td>
<td>1.0</td>
<td>15</td>
<td>1.2</td>
<td>17</td>
<td>1.3</td>
</tr>
<tr>
<td>Others</td>
<td>101</td>
<td>8.4</td>
<td>108</td>
<td>8.6</td>
<td>136</td>
<td>10.3</td>
</tr>
<tr>
<td>World*</td>
<td>1208</td>
<td>100.0</td>
<td>1253</td>
<td>100.0</td>
<td>1315</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*excludes re-exports;

Figures in thousand tonne; #Annual average exports for the years 1996-98.

Source : Commodities and Trade Division of Food and Agricultural Organisation
However, concern is raised over the fact that the cheap import from countries like Vietnam for blending, packing and re-exporting under Indian brand name may endanger the Indian quality brand image in one side and restricting the Indian produce in export market on the other. However, given the higher cost of production in India as compared to Sri Lanka and Kenya and relatively lower global prices, has made the Indian producer to intensify domestic focus. But merchant exporter who otherwise would have sourced the stuff from India, now find it convenient to source cheaper teas from Vietnam etc.

**Import and Export Scenario:**

**(A) Import Scenario:**

Imports were undertaken on re-export basis and under the free trade agreement (FTA) with Sri Lanka. More importantly, the unit price realisation came down in year 2004 by 21.7% to Rs 45.68 per kg and in January 2005 by 23% to Rs 44.40 per kg. Therefore, the increased volume of import does not exactly correspond to the forex outgo. Tea imports into India jumped to 26mn kg during Jan-Oct ’04 from 7.7mn kg in Jan-Oct 03, due to domestic production shortfall and higher export demand. A major part of imports of 15.3mn kg has come from Vietnam in the current year.

Tea imports showed a significant improvement in calendar year 2004, when they registered a three-fold
growth, going up to 30.52 million kg from 9.86 million kg in calendar year 2003. Vietnam is the major exporter of tea to India. In 2004, Vietnamese imports reached 17.28 million kg, from 1.11 million kg in the previous year. However, the average import price came down from Rs 58.32 per kg to Rs 45.68 per kg in 2004.

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>M.KG</th>
<th>RS./KG.</th>
<th>M.KG.</th>
<th>RS./KG.</th>
<th>IN QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>2.65</td>
<td>57.73</td>
<td>2.8</td>
<td>56.61</td>
<td>84.54</td>
</tr>
<tr>
<td>Nepal</td>
<td>2.86</td>
<td>58.82</td>
<td>2.55</td>
<td>49.24</td>
<td>102.06</td>
</tr>
<tr>
<td>CHINA</td>
<td>1.67</td>
<td>37.35</td>
<td>0.35</td>
<td>68.96</td>
<td>459.72</td>
</tr>
<tr>
<td>VIETNAM</td>
<td>17.28</td>
<td>32.56</td>
<td>1.11</td>
<td>32.07</td>
<td>1550.26</td>
</tr>
<tr>
<td>KENYA</td>
<td>3.3</td>
<td>82.25</td>
<td>1.22</td>
<td>83.28</td>
<td>260.24</td>
</tr>
<tr>
<td>TOTAL</td>
<td>30.52</td>
<td>45.68</td>
<td>9.86</td>
<td>58.32</td>
<td>299.59</td>
</tr>
</tbody>
</table>

**Table No.- 2.12**

Imports of Tea in India

<table>
<thead>
<tr>
<th>Countries</th>
<th>Jan-Oct 04</th>
<th>Jan-Oct 03</th>
<th>Inc/Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(mn kg)</td>
<td>(Rs/kg)</td>
<td>(mn kg)</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.0</td>
<td>57.4</td>
<td>2.5</td>
</tr>
<tr>
<td>Nepal</td>
<td>2.9</td>
<td>58.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>0.3</td>
<td>94.3</td>
<td>0.4</td>
</tr>
<tr>
<td>Vietnam</td>
<td>15.3</td>
<td>31.3</td>
<td>0.7</td>
</tr>
<tr>
<td>Kenya</td>
<td>2.7</td>
<td>82.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Others</td>
<td>1.8</td>
<td>146.6</td>
<td>1.4</td>
</tr>
<tr>
<td>Total</td>
<td>26.0</td>
<td>45.0</td>
<td>7.7</td>
</tr>
</tbody>
</table>
Imports spurted in 2004 by an impressive 209% to 30.52 million kg (against a mere 9.86 million kg in 2003). In January 2005, too, imports kept pace and rose by 112% to 2.68 million kg (against 1.26 million kg in January 2003).

From 1 April 2001 the quantitative restrictions on imports of tea has been removed. However, it has not made any significant impact on the imports. Further, to arrest sharp rise in imports, the import duty was doubled from 70% to 100% in the Budget 2002.

The tea imports surged by 23.43% to 16.576 million kg in 2001 as against 13.429 kg in 2000. However, the average prices of tea imports fell by 11.4% to Rs.55.78 per kg from Rs.62.96 per kg during the above period. As a result, tax imports in value increased by 9.34% to Rs.92.46 crore in 2001 from Rs.84.56 crore in 2000.

The tea imports for four months ended Apr’02 fell by 12.6% to 4.15 million kg. As the unit import price also fell by 26.1% to Rs.49.63 per kg, the total import value fell sharply by 35.5% to Rs.20.59 crore during the above period.

Traditionally most of the import was for re-export only. However, of late, the import for domestic consumption has increased. For instance, in the four months ended Apr’01, the import for domestic consumption was 0.01 million kg,
which was just 0.2% of the total import during the above period. However, the import for domestic consumption has surged to 0.28 million kg, which was about 6.7% of the tea imports during the four months ended Apr’02.

Exports Scenario:

India’s share in world export, Region wise, Country wise and year wise exports of tea from India depicted in the following tables:

Table No.- 2.13

India's Share in World Export (In Million Kgs.)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total World Export</td>
<td>1071.17</td>
<td>1013.89</td>
<td>1195.92</td>
<td>1033.71</td>
<td>1083.53</td>
<td>1128.09</td>
<td>1206.52</td>
<td>1307.94</td>
<td>1265.26</td>
<td>1334.06</td>
</tr>
<tr>
<td>Export from India</td>
<td>202.92</td>
<td>174.96</td>
<td>175.32</td>
<td>150.70</td>
<td>168.00</td>
<td>161.70</td>
<td>203.00</td>
<td>210.34</td>
<td>191.72</td>
<td>206.82</td>
</tr>
<tr>
<td>% Share of India</td>
<td>18.9</td>
<td>17.3</td>
<td>14.7</td>
<td>14.6</td>
<td>15.5</td>
<td>14.3</td>
<td>16.8</td>
<td>16</td>
<td>15</td>
<td>15.5</td>
</tr>
</tbody>
</table>

Source: The Journal of the Tea Board (India), Tea Digest-2001

Table No.- 2.14

Region wise Exports of Tea

<table>
<thead>
<tr>
<th></th>
<th>QTY. (MILLION KG.)</th>
<th>QTY. (MILLION KG.)</th>
<th>Y-O-Y% CHANGE</th>
<th>Y-O-Y% CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN-FEB</td>
<td>2005</td>
<td>2004</td>
<td>2005</td>
<td>2004</td>
</tr>
<tr>
<td>North India</td>
<td>8.7</td>
<td>12.2</td>
<td>-28.8</td>
<td>10.4</td>
</tr>
<tr>
<td>South India</td>
<td>18.6</td>
<td>13.3</td>
<td>-40.26</td>
<td>42.69</td>
</tr>
<tr>
<td>All India</td>
<td>27.3</td>
<td>25.5</td>
<td>7.16</td>
<td>25.14</td>
</tr>
</tbody>
</table>

Source: The Journal of the Tea Board (India), Tea Digest-2001
### Table No.– 2.15

Country wise Exports of Tea From India

<table>
<thead>
<tr>
<th>Countries</th>
<th>Jan-Oct 04 (mn kg)</th>
<th>Jan-Oct 04 (Rs/kg)</th>
<th>Jan-Oct 03 (mn kg)</th>
<th>Jan-Oct 03 (Rs/kg)</th>
<th>Inc/Dec (mn kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>28.3</td>
<td>63.8</td>
<td>34.8</td>
<td>64.6</td>
<td>(6.48)</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>7.1</td>
<td>98.6</td>
<td>10.6</td>
<td>92.9</td>
<td>(3.46)</td>
</tr>
<tr>
<td>Total CIS</td>
<td>36.6</td>
<td>70.5</td>
<td>47.1</td>
<td>71.3</td>
<td>(10.55)</td>
</tr>
<tr>
<td>UK</td>
<td>13.9</td>
<td>94.5</td>
<td>16.7</td>
<td>88.6</td>
<td>(2.85)</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2.4</td>
<td>114.2</td>
<td>2.6</td>
<td>131.9</td>
<td>(0.16)</td>
</tr>
<tr>
<td>Germany</td>
<td>3.9</td>
<td>202.5</td>
<td>4.5</td>
<td>213.0</td>
<td>(0.58)</td>
</tr>
<tr>
<td>Poland</td>
<td>4.3</td>
<td>68.3</td>
<td>4.5</td>
<td>53.2</td>
<td>(0.22)</td>
</tr>
<tr>
<td>USA</td>
<td>5.4</td>
<td>138.2</td>
<td>7.1</td>
<td>136.8</td>
<td>(1.78)</td>
</tr>
<tr>
<td>UAE</td>
<td>18.1</td>
<td>106.2</td>
<td>18.6</td>
<td>118.9</td>
<td>(0.53)</td>
</tr>
<tr>
<td>Iran</td>
<td>2.1</td>
<td>105.8</td>
<td>1.0</td>
<td>60.3</td>
<td>1.11</td>
</tr>
<tr>
<td><strong>Iraq</strong></td>
<td><strong>20.7</strong></td>
<td><strong>52.1</strong></td>
<td><strong>5.0</strong></td>
<td><strong>62.9</strong></td>
<td><strong>15.74</strong></td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>0.6</td>
<td>101.4</td>
<td>0.9</td>
<td>84.4</td>
<td>(0.32)</td>
</tr>
<tr>
<td>ARE</td>
<td>0.1</td>
<td>34.0</td>
<td>0.0</td>
<td>84.5</td>
<td>0.09</td>
</tr>
<tr>
<td>Turkey</td>
<td>1.2</td>
<td>49.0</td>
<td>0.2</td>
<td>121.1</td>
<td>0.98</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>2.1</td>
<td>53.5</td>
<td>2.2</td>
<td>51.8</td>
<td>(0.16)</td>
</tr>
<tr>
<td><strong>Kenya</strong></td>
<td><strong>9.5</strong></td>
<td><strong>45.8</strong></td>
<td><strong>2.1</strong></td>
<td><strong>40.8</strong></td>
<td><strong>7.36</strong></td>
</tr>
<tr>
<td>Japan</td>
<td>2.7</td>
<td>238.4</td>
<td>2.3</td>
<td>211.6</td>
<td>0.37</td>
</tr>
<tr>
<td>Pakistan</td>
<td>3.1</td>
<td>43.7</td>
<td>3.8</td>
<td>43.2</td>
<td>(0.67)</td>
</tr>
<tr>
<td>Others</td>
<td>16.5</td>
<td></td>
<td>13.3</td>
<td></td>
<td>3.18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>143</strong></td>
<td><strong>86</strong></td>
<td><strong>132</strong></td>
<td><strong>95</strong></td>
<td><strong>11.01</strong></td>
</tr>
</tbody>
</table>

(Source: Indian Tea Association)
Table No.- 2.16

Export of Tea from India (From 1980-1981 TO 1998-1999)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Tea (Excluding Instant Tea)</th>
<th>Instant Tea</th>
<th>Total Tea (Including Instant Tea)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Qty. (th.kgs.)</td>
<td>Value (th.Rs.)</td>
<td>Qty. (th.kgs.)</td>
</tr>
<tr>
<td>1980-81</td>
<td>231736</td>
<td>4352730</td>
<td>761</td>
</tr>
<tr>
<td>1981-82</td>
<td>224200</td>
<td>4068252</td>
<td>832</td>
</tr>
<tr>
<td>1982-83</td>
<td>194090</td>
<td>3694482</td>
<td>799</td>
</tr>
<tr>
<td>1983-84</td>
<td>202312</td>
<td>5575549</td>
<td>1049</td>
</tr>
<tr>
<td>1984-85</td>
<td>217401</td>
<td>7713889</td>
<td>1138</td>
</tr>
<tr>
<td>1985-86</td>
<td>214234</td>
<td>6479796</td>
<td>938</td>
</tr>
<tr>
<td>1986-87</td>
<td>196232</td>
<td>5794784</td>
<td>1134</td>
</tr>
<tr>
<td>1987-88</td>
<td>201830</td>
<td>5277688</td>
<td>861</td>
</tr>
<tr>
<td>1988-89</td>
<td>204075</td>
<td>6352799</td>
<td>733</td>
</tr>
<tr>
<td>1989-90</td>
<td>210615</td>
<td>9047231</td>
<td>1147</td>
</tr>
<tr>
<td>1990-91</td>
<td>198240</td>
<td>10620939</td>
<td>925</td>
</tr>
<tr>
<td>1991-92</td>
<td>215166</td>
<td>11964625</td>
<td>1283</td>
</tr>
<tr>
<td>1992-93</td>
<td>178950</td>
<td>10316425</td>
<td>1740</td>
</tr>
<tr>
<td>1993-94</td>
<td>153427</td>
<td>10398935</td>
<td>1121</td>
</tr>
<tr>
<td>1994-95</td>
<td>150836</td>
<td>9635458</td>
<td>1320</td>
</tr>
<tr>
<td>1995-96</td>
<td>166239</td>
<td>12184298</td>
<td>1230</td>
</tr>
<tr>
<td>1996-97</td>
<td>167172</td>
<td>12568167</td>
<td>1868</td>
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<tr>
<td>1997-98</td>
<td>208773</td>
<td>19453208</td>
<td>2483</td>
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<tr>
<td>1998-99*</td>
<td>202852</td>
<td>21247570</td>
<td>2340</td>
</tr>
</tbody>
</table>

(Source: Indian Tea Association)

India is the largest producer of tea and ranks fourth in terms of total tea exporters in the world. Tea exports
declined by 13.9% yoy to 173mn kg in 2003 due to drastic fall in shipments to Iraq under the "oil for food" program and weak demand from Russia, UAE and UK. Indian exports rose by 8.3% yoy during Jan-Oct 2004 to 143mn kg because of resurgence in exports to Iraq however, in value terms exports declined by 1.8% yoy to Rs124mn. Kenya too has emerged as a significant importer from India.

A close look at the above table reveals that India contributes on an average 15.9% of total export of the world. Table 5 also shows that there is a decreasing trends in export of tea during the last ten years. As this industry is the great foreign exchange earner, the Government of India has to play a vital role in promoting export of tea. In the counting during the last ten years exporting tea rises of about 1.92%, which is a alarming situation in case of an export-oriented industry. The department of export promotion, Tea Board, Trade Development Authority (T.D.A.) should lake definite measures for expansion and growth of global tea market.

**Reasons for declining export and the Remedies:**

After independence for a few decades India had been occupying the first position for exporting tea in the world. But later it began to decline steadily due to certain causes:

1. Continuous price cut by the competitor countries.
(II) Absolute dependence on some specific countries for export.

In order to boost export the following steps should be considered:
1. Export market diversification and thrust on orthodox markets.
2. New markets are to be explored.
3. Information dissemination.
4. Niche segment and value addition.

Tea board has already introduced some schemes to revive the export through capital subsidy scheme and transport subsidy scheme. After all, a long term planning is necessary for increasing the export of tea. Control of cost and quality upgradation is the primary need for increasing export.

However, India’s export share to three biggest international tea markets- Russia, UK and Pakistan has been on a decline. Sri Lanka and Kenya have been eating into India’s market share.

Indian tea is loosing the overseas tea market to competitors like Kenya and Sri Lanka. The fall of the USSR made things difficult for the Indian tea. Tea import gained a significant boost from the policy of permitting imports from
the SAARC countries at a lower import duty. Sri Lanka will pose a threat by using this route. Previously, tea was under the negative list and imported tea would re-exported after the value addition.

The tea exports increased marginally by 1.9% to 137.10 million kg in the nine months ended Sept'02 over the corresponding previous year period. However, due to steep fall in realisations, the exports in value terms actually fell by 7.4% to Rs 1161.7 crore during the above period.

In March-2002, the Union Ministry of Commerce and Industry has directed the Tea Board to grant transport subsidy @ Re 1 per kg of tea exported from ICD, Amingaon with effect from 1.1.02.

Tea exports fell sharply by 13.07% in the calendar year 2001 to 179.79 million kg from 206.82 million kg exported in the year 2000. In value terms, the tea exports in 2001 fell sharper by 15.49% to Rs 1604.423 cr. The export realisation per kg fell by 2.79% during the above period from Rs91.8 in 2000 to Rs 89.24.

The dismal export performance is partially on account of steep fall in exports to Russia, UAE, Poland and UK. Exports to Iraq, Libya, Turkey, Japan and Australia have also
fallen. Also certain policy matters of importing African countries impacted Indian tea exports.

The industry is trying to explore new markets in US and UAE. As a result, tea exports to US which were hovering around 2 million kg hitherto, has leapfrogged to 5 million kg in 2001. Nevertheless, the sharp decline in exports to its traditional markets like Russia, United Kingdom, Iran, Iraq, Poland and Egypt has adversely affected the volume and value of tea exports.

As Indian tea exports have been gradually losing its market worldwide, the Indian Tea Board is aggressively campaigning the specialties of Indian tea. Recently, such efforts in London, in collaboration with British Tea Company Twining, appear to have achieved a major breakthrough. As a result, Indian teas are being displayed in popular departmental stores in UK. Indian teas had a dominant share in UK market until 1980s, which the Tea Board is trying to restore, by increasing exports to UK.

The Tea Board has drawn up ambitious plan to increase India's tea exports by 50% over the next five years. Accordingly, the countries will not only give thrust to its traditional markets like Russia, it will also give greater thrust to tea markets in UK, Middle East and Afghanistan.
The Tea board expects India’s tea exports to reach 275 million kg, and for this, the country will get the right product mix in tune with the changes in international demand, also cut cost and improve quality and packaging. The tea board is also promoting India Tea Festivals in key markets like UK, to garner greater market share.

After registering a decline in January 2005, tea exports showed a rise of 23.6% to 14.43 million kg over the corresponding period of the previous year (16.6%). In January-February 2005, tea exports showed a rise of 7.16% to 27.3 million kg over the corresponding period of the previous year (25.14%).

CRITICAL SUCCESS FACTORS:

Quality is one of the key components for success for the industry as evidenced by Kenya and Sri Lanka who are grabbing the global tea market. As labour cost is a major one, cost reduction holds another key for the success of the industry. Value-added products, better distribution, packaging and promotion are some other success factors. Branding, strong retail network and acquisitions are other critical factors for success.

The industry has to operate on a twin objective of reducing labour and production costs on the one side, and
improve realisations by expanding the market through plain and value added products. With other countries like Kenya and Sri Lanka becoming cost effective and still giving quality teas, the industry has to fast address itself of the twin problems, to regain its market share in the global market.

The industry has to improve quality of the tea produced in the country, and at the same time control costs, to regain global competitiveness. Further, considering the better prospect for orthodox teas, the industry has to switch over to Orthodox teas, which is likely to arrest the downfall in Indian tea exports.

In the domestic market, the industry has to highlight the health benefits of tea. Further, it has to introduce variants and value added teas to bring back the customers, particularly the younger ones that have switched to carbonated drinks and health drinks.

Climatic conditions, rainfall and the soil determine the quality and output of the bushes. The bushes will have better prospects in equatorial regions, in acidic soil where the climate is warm and humid, with average annual rainfall ranging from 100 to 800 cms.

The availability of land for tea cultivation in India is slowing down in the last ten years. It is one of the great
obstacles to increase in tea production. But global scenario is different, particularly in Kenya. Another limiting factor is the age of the bushes and hence the productivity. In India, the age of the bushes is high. The other major factor is the quality that will decide the survival in the competitive scenario.

The south Indian tea is always inferior in quality compared to north India products and the collapse of USSR put the prices of this tea at low levels.

The increasing popularity of aerated and artificial drinks poses a threat to tea consumption.

**Tea Board of India & Government Policies:**

Tea Board of India, an independent body under the Ministry of Commerce, Government of India, is responsible for the implementation of the Government's' regulations and policies. To help develop the Indian tea industry, the Board promotes tea research and exports of tea worldwide, collects and disseminates statistical data as well as encourages labour welfare programmes, among a host of other activities all aimed at ensuring the health and vibrancy of the world's largest producer of tea.
Tea Board India is headed by the Chairman, appointed by the Government of India. The Board was established in 1953 by an Act of Parliament, and is headquartered at Calcutta.

The Union Budget 2003 has replaced the Re 1 per kg excise duty with Re 1 of cess. The industry realised that it cannot claim draw back of cess for tea exports, while hitherto it was permitted to claim draw back of excise duty. As a result, while the levy has not been abolished, the beneficial impact for exporters has virtually been withdrawn.

Further, the tea marketing and control order provides for various restrictions and disclosures by both sellers and buyers. While the sellers are hopeful that this will improve the price discovery mechanism, the buyers apprehend that lot of controls and disclosures are against their right to business secrecy.

In June - 2002, the government permitted 100% FDI in tea industry. However, the FDI approval will be subject to compulsory divestment of 26% equity of the company in favour of an Indian partner / Indian public within five years. This move is considered significant in attracting investment in the Indian tea industry, which accounts for 27.7% of the global tea production and 15% of the world tea trade.
Tea is mainly governed by the Tea Act 1953, which is the basis for the planting area, distribution system and the prices. As per Section 12 of the Tea Act, no company can plant tea on any land, which is not already planted with tea without the permission of the Tea Board. The Land Ceiling Act of the government also restricts the expansion of plantation area by Indian tea companies. These companies are also required to obtain permission from the Tea Board for planting tea.

The industry also suffers from the high incidence of taxes - being subject to both agricultural income taxes at the states level (60% of the income) as well as income tax levied by the Centre (40% of the income). Section 33A of the Income Tax Act provides for the taxation of 40% of the income. According to the provisions of Section 25 of the Tea Act 1953, a cess of 30 paise per kilogram of tea produced is collected. In addition to this, excise and sales tax have to be paid.

The Union Budget 2002 partially addressed the industry's problems. It reduced the excise duty on tea from Rs 2 per kg to Re 1 per kg. Further, the import duty on tea has been increased from 70% to 100%.

The tea board has recently approved a 25% capital subsidy for purchase and installation of orthodox machinery.
As a result, the consultative committee of plantation associations (CCPA) targets an incremental 20million kg production of orthodox tea from north Indian gardens in 2002.

The CCPA has urged the government to increase the duty entitlement passbook (DEPB) rate on orthodox and green teas from 2% to 10%.

The government has allowed futures trading in Tea. The Forward Markets Commission (FMC) has given in-principle approval to Bombay Commodity Exchange (BCE) for opening a futures exchange for tea, subject to BCE getting no-objection certificate from the Tea Board. The FMC found that First Commodity Exchange of Kochi and United Planters’ Association of Southern India (UPASI) have some inherent strengths and weaknesses. As a result, FMC is exploring the possibility of harnessing the mutual strengths of these two to form a joint platform for tea futures.

**Demand Supply scenario:**

**Table No.-2.17**

<table>
<thead>
<tr>
<th>Region wise Production &amp; Exports of Tea In India</th>
<th>Jan-Nov 04</th>
<th>Jan-Nov 03</th>
<th>yoy %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Production</td>
<td>Exports</td>
<td>Production</td>
</tr>
<tr>
<td>North India</td>
<td>604</td>
<td>70.0</td>
<td>631</td>
</tr>
<tr>
<td>South India</td>
<td>170</td>
<td>85.9</td>
<td>179</td>
</tr>
</tbody>
</table>
Table No. 2.17 shows Indian tea production during Jan-Nov 2004, however, has been lower by 4.5 % yoy at 773mn kg. Production has been lower in both the northern (4.3 % yoy) as well as southern (5.3 % yoy) regions. On the other hand, exports have increased by 1.7 % yoy to 155.9 mn kg during the period, thus creating a demand supply mismatch and pushing up domestic prices. Domestic prices (Kolkata auctions) for the year have increased by 17.5 % yoy to Rs 74.9 per kg from Rs 63.7 per kg in 2003.

According to Mr. C.K Dhanuka, Eastern Regional Chairman of FICCI, explained from the table no.-2.18 that Indian tea exports for 2004 are likely to increase to 190mn kg from 173mn kg in 2003 while, tea imports are expected to increase to 20mn kg as against 7mn kg in the last year. Domestic tea production for the year is likely to fall by 27mn kg to 830mn kg.

The unit value of exports of north Indian tea and south Indian tea in the period January-February 2005 was Rs 117.5 per kg and Rs.56.21 per kg, respectively, showing a rise of 11.2% and decline of 11 %, respectively, over the corre period of last year. As a result, there was an overall decline
unit value by 9.3%, due to the decline in unit value 83.53 per kg in January - February 2004 to Rs 75.73 January-February 2005.

Table No.-2.18
Production, Exports & Price Statistic of Tea

<table>
<thead>
<tr>
<th>TEA STATISTICS</th>
<th>Feb'05</th>
<th>Feb'04</th>
<th>Var. %</th>
<th>Jan-Feb'05</th>
<th>Jan-Feb'04</th>
<th>Var.%</th>
<th>Jan-Dec'04</th>
<th>Jan-Dec'03</th>
<th>Var.%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Production</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North India</td>
<td>1.29</td>
<td>1.06</td>
<td>21.5</td>
<td>8.99</td>
<td>7.83</td>
<td>14.8</td>
<td>634.50</td>
<td>663.60</td>
<td>-4.4</td>
</tr>
<tr>
<td>South India</td>
<td>11.87</td>
<td>11.48</td>
<td>3.4</td>
<td>23.24</td>
<td>24.59</td>
<td>-5.5</td>
<td>185.70</td>
<td>193.50</td>
<td>-4.0</td>
</tr>
<tr>
<td>Total</td>
<td>13.16</td>
<td>12.54</td>
<td>4.9</td>
<td>32.23</td>
<td>32.42</td>
<td>-0.6</td>
<td>820.20</td>
<td>857.10</td>
<td>-4.3</td>
</tr>
<tr>
<td><strong>Average domestic price</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North India</td>
<td>57.22</td>
<td>53.75</td>
<td>6.5</td>
<td>57.2</td>
<td>55.4</td>
<td>3.2</td>
<td>71.52</td>
<td>61.31</td>
<td>16.7</td>
</tr>
<tr>
<td>South India</td>
<td>49.82</td>
<td>41.61</td>
<td>19.7</td>
<td>49.4</td>
<td>41.8</td>
<td>18.2</td>
<td>46.79</td>
<td>39.93</td>
<td>17.2</td>
</tr>
<tr>
<td>Total</td>
<td>55.04</td>
<td>49.45</td>
<td>11.3</td>
<td>55.1</td>
<td>51.4</td>
<td>7.2</td>
<td>64.57</td>
<td>64.57</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Export</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North India</td>
<td>4.21</td>
<td>5.55</td>
<td>-24.1</td>
<td>8.69</td>
<td>12.21</td>
<td>-28.8</td>
<td>88.632</td>
<td>92.198</td>
<td>-3.9</td>
</tr>
<tr>
<td>South India</td>
<td>10.22</td>
<td>6.13</td>
<td>66.8</td>
<td>18.60</td>
<td>13.26</td>
<td>40.3</td>
<td>95.003</td>
<td>81.486</td>
<td>16.6</td>
</tr>
<tr>
<td>Total</td>
<td>14.43</td>
<td>11.68</td>
<td>23.6</td>
<td>27.30</td>
<td>25.47</td>
<td>7.2</td>
<td>183.635</td>
<td>173.684</td>
<td>5.7</td>
</tr>
<tr>
<td><strong>Average export price</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North India</td>
<td>113.34</td>
<td>108.87</td>
<td>4.1</td>
<td>117.5</td>
<td>105.6</td>
<td>11.2</td>
<td>118.62</td>
<td>115.5</td>
<td>2.7</td>
</tr>
<tr>
<td>South India</td>
<td>56.21</td>
<td>66.29</td>
<td>-15.2</td>
<td>56.2</td>
<td>63.2</td>
<td>-11.0</td>
<td>65.49</td>
<td>64.46</td>
<td>1.6</td>
</tr>
<tr>
<td>Total</td>
<td>72.87</td>
<td>86.51</td>
<td>-15.8</td>
<td>75.7</td>
<td>83.5</td>
<td>-9.3</td>
<td>91.13</td>
<td>91.56</td>
<td>-0.5</td>
</tr>
</tbody>
</table>

**Conclusion:**
The industry has a long way to go, to come out of the present mess that it finds itself in. The domestic player needs to ensure that the quality of the teas is upgraded, while their cost of production needs to be considerably reduced. While they need to become globally competitive for exports, innovative strategies are needed for increasing domestic consumption.

While the government and the industry has taken various steps in this regard, given the ground realities, the same may not be enough for the industry to shrug off negatives plaguing the industry, at least in the short to medium term.

Tea industry being an export-oriented industry, plays a significant role for the earning of foreign exchange. It provides a great employment opportunity mainly for the backward classes and tribals. To improve the Indian economic position, Government should take appropriate steps to increase the export of tea and develop the industry as well. In order to boost export and improved economic condition following strategies can be recommended:

1. Quality improvement through different types of research and development programmes.
2. Cost reduction in every segment of operation.
3. Infrastructural development and improvement in service levels. Above all Indian Government should nourish it with proper care and attention to recover the tea industry to its former position, if possible.

References:

1. Tea Digest, Tea Board of India, Government of India.


CHAPTER– 3

RESEARCH DESIGN

- Introduction
- Research Design Plan
- Relevance of the topic in the present context
- Survey of Existing literature
- The Problem
- Objective the of Study
- Hypothesis
- Universe of the study
- Sampling Design
- Sources of Data and Period of the study
- Tools and Techniques for the study
- Limitations of the study
- Chapter Plans
- References
CHAPTER– 3
RESEARCH DESIGN

Introduction:

Research methodology includes the assumptions and values, which is useful for interpreting data and reaching to conclusions.

Any project requires a basic plan of action, or a series of actions chalked out, in order to accomplishes the objective efficiently and effectively within a time framework, without deviating from the original target. In other words we can say that, from where we are and where we want to go, the process involved is carefully transformed into a blueprint called the research design.

Research Design Plan:

“According to Bernard S. Philips, "The research design constitutes the blueprint for the collection, measure and analysis of data." The definition highlights that research design includes the methods of research, viz. Survey, observation, experiment, the content analysis or their combinations. It also includes the types of data (quantitative or qualitative) data to be collected, questionnaire or schedule (structures or unstructured) and also about the size and technique of sampling.
Different authors have defined the research design differently. The most popular book on research methodology among the students of social sciences is that of Claire Selitiz and others. "A research design is the arrangement of the condition for collection and analysis of data in a manner that aims to combine relevance to research purpose with economy in procedure."

Fred N. had opined that, "Research design is the plan (an overall outline from beginning to the end), structure and strategy (variables, and their operations, objectives, problems and solutions) of investigation conceived so as to obtain answers to each question and to control variance."

According to Paul E. Green and Donald S. Tull, "A research design is the specification of methods and procedures for acquiring the information needed."

Thus, according to the authors, the research design is the overall framework of research project and which mentions about the types and sources of information and procedure to be followed in collecting it. All the above definitions point towards the mention of entire work to be done by the researcher from the beginning to the end.
Relevance of the topic in the present context:

The Tea industry is one of the major traditional industries in the Indian history, ageing almost 185 years. The first tea plant was discovered in 1815. There are 1120 tea estates out of that 700 belong to big companies and about 300 belong to small companies. Big plantations have in-campus tea processing facilities, where the tea grown in the plantations are processed immediately. The market size of the industry was approximately Rs.10000 Crore. India plays a significant role in world tea trade, being the world's largest producer, consumer and exporter. In terms of employment, it is the second largest industry by employing more than a million people directly and 2 million people indirectly, of which 50% are women.

Survey of Existing literature:

Very much literature on Tea Industry in relevance to its long history and economic importance is available. Plenty of analytical literature is before us on problems associated with profitability and financial performance.

B. Subramaniam write one important book in 1995 “Tea in India” in which he elaborated all the facts regarding various aspects of the industry which was published by Directorate of Information and Publishing, Government of India, New Delhi.
Tea Association of India and other Regional Tea Association have also made efforts to study the general problems of the industry. One important article published in the Journal of Indian Tea Association, titled “Indian Tea Scenario” highlighting tea industry.

Prof. Amit Mallick and Debasish Sur made an effort to make an empirical study of AFT Industries Ltd., a tea producing enterprise in Assam for assessing the impact of working capital on its profitability during the period from 1986-1987 to 1995-1996.


- Cost reduction in every segment of operation.
- Quality improvement through different types of research and development programmes
- Infrastructural development and improvement in service levels.

Several other researchers have been also research on the tea industry in their study viz., S. K. Dutta written an article on “Indian Tea Industry an appraisal”, Kar, A. P. written an article on “Need for Cost and Management Control in Indian Tea Industry”.

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THE PROBLEM:

The subject of research is “Analysis of Financial Performance of Tea Industry in India.”

The performance of the business enterprise reveals the overall financial position of the business. The cost of production affects the profitability heavily. If the company exercises control over the elements of production, its productivity will be high. In recent years the cost of almost all elements of production like cost of raw-materials like fertilizers, pesticides etc., labour cost, excise duty, power and fuel cost, interest burden, administrative expense, marketing expenses etc., have been increased heavily. On the other hand selling price of tea is decreasing continuously.

In these circumstances to run business enterprise successfully is very essential for management. Present environment of increasing cost and decreasing revenue, demands various cost control techniques over expenditures and output for obtaining maximum profit.

Financial analysis can be classified on the basis of persons interested in the analysis. Generally external and internal analysts are interested in such analysis. Objectives of both these analysts are different. An External analyst has to depend upon the published information of financial statements, which are not enlightening themselves. While
internal analysts know every thing regarding the information provided in financial statements.

Different analysts always make analysis of financial performance objectively. Generally external analysts analysis the information as per their requirements. Financier is interested in the financial position. A Shareholder is interested in the profitability. Management is interested in the operational efficiency and profitability position. Thus the various stakeholders of business enterprises like management, investors, bankers, financial institutions, creditors, employees, government, economist, prospective investor's etc., look at financial position of the business concern.

**Objectives of the Study:**

The purpose of the study is to analyse the Financial Performance of Tea companies of India.

The objectives of this study are as under:

1. To examine position of tea industry.
2. To measure the profitability of the tea industry.
3. To evaluate the financial strength of the tea industry.
4. To study the liquidity position of the tea industry.
5. To analyse tendency of cost and cost of production of the Tea Industry.
6. To assess sales trends of the tea industry.
7. To suggest an appropriate strategy for the tea industry.
It seeks to examine the changes that have occurred in it over the period of time from 1997-1998 to 2002-2003 and to judge the financial strength and changes therein with the help of comparison of industry ratios and results with standard ratios and also the individual company's ratios with the standard ratios as well as industry ratios. The performance of the tea industries for six years has been examined and appraisal made which will provide guidelines to management, government, investors, creditors, workers and consumer's and enables them to take decisions.

**Hypothesis of the study:-**

According to C. William Emory, "A hypothesis refers to propositions formulated for empirical testing." in almost the same words Goode and Hatt state that, “A hypothesis is a proposition, which can be put to test to determine its validity."

G. A. Lund Berg corroborates that, "A hypothesis is a tentative generalization the validity of which remains to be tested. In its most elementary stage, the hypothesis may be any hunch, guess or imaginative idea, which becomes the basis for action or investigation." the definition rightly specifies that the hypothesis provides the basis for the research work and the entire research work is oriented towards the hypothesis.
A hypothesis may be descriptive, which identifies the existence, form, size or distribution of the variables for their analysis.

The testable hypothesis may also be relational. It describes relationship between variables. This relation may or may not be cause-effect relation. However, the explanatory hypothesis always shows a cause effect relationship.

Hypothesis for the study are as follows:--:

1. The production and sales activity of Tea industry is satisfactory.
2. Financial efficiency of Tea Industry is satisfactory.
4. Financial Strength of Tea Industry is Sound.

Hypothesis for Profitability

1. There is no significance difference between the operating to gross sales ratio of selected tea group.
2. There is no significance difference between the net profits to sales ratio of selected tea companies.
3. There is no significance difference between the return on capital employed to sales ratio of selected tea companies.
4. There is no significance difference between the return on net worth to sales ratio of selected tea companies.
5. There is no significance difference between the return on equity to sales ratio of selected tea companies.

6. There is no significance difference between the return on dividend per share ratio of selected tea companies.

7. There is no significance difference between the return on equity per share ratio of selected tea companies.

Hypothesis for Activity Analysis:

1. There is no significance difference between the current assets turnover ratio.

2. There is no significance difference between the operating expenses ratio of the tea companies.

3. There is no significance difference between the materials to sales ratio of selected tea companies.

4. There is no significance difference between the power and fuel to sales ratio of selected tea companies.

5. There is no significance difference between the wages and salaries to sales ratio of selected tea companies.

6. There is no significance difference between the depreciation to sales ratio of selected tea companies.

7. There is no significance difference between the selling & marketing to sales ratio of selected tea companies.

8. There is no significance difference between the financial charges to sales ratio of selected tea companies.
UNIVERSE OF STUDY:-

The universe of study consists of all the limited Tea companies working in India and listed in Stock exchanges of India.

Sampling Design:-

There are 1120 tea estates out of that 700 belong to big companies and about 300 belong to small companies. There are about 150 such companies, which are working in India and have been listed in Stock exchanges; researcher has selected 10 companies as the sample for this study. The sample has been selected considering following factors:-

1. The data which are available for the period of study i.e. from 1997-1998 to 2002–2003.
2. The companies, which are engaged in cultivation and production of tea.
3. The company should be organized by private sector in India.
4. The company should be listed in Stock exchanges of India.

Following ten companies have been selected for the study is as follows:

1. AFT Industries Ltd.
2. Dhunseri Tea & Ind. Ltd.
3. Goodricke Group Ltd.
4. Greenline Tea & Exports Ltd.
5. Jay Shree Tea & Ind. Ltd.
6. Parry Agro Ind. Ltd.
7. Rossell Ind. Ltd.
8. Tata Tea Ltd.
9. Warren Tea Ltd.
10. Williamson Tea Assam Ltd.

**Sources of Data and Period of the study:**

The study is based on secondary data taken from published annual reports of Tea companies and CMIE Prowess database, i.e. ‘Center for Motoring Indian Economy Pvt. Ltd’. The published annual reports of companies have been collected from the registered and corporate offices of respective companies.

The present study is made for a period of six years from 1997-98 to 2002-03. Various publications of Tea Manufacturer’s Association, Tea Board of India, Stock Exchange Official Directory and individual companies have been used for this purpose. Other information related to the industry have been collected from The Economics Times, Financial Express, R.B.I. Bulletin, other periodicals, journals and other various documents of companies.
Tools and Techniques for the Analysis:

The collected data are duly edited, classified and analysed using all type of relevant statistical techniques and employing the most appropriate parametric and non-parametric test. The data are presented through simple classification and with the help of percentage, average dispersion and the hypothesis are tested at 5% level of significance by employing Kruskal Wallis one way analysis of variance test.

There have been certain controllable and uncontrollable factors affecting profitability of the industry. It is hypothesized that by controlling at least the controllable factors, the industry can improve its profitability. In this industry the profitability is quite low and the profit position has been unsatisfactory and unstable since the very initial years of growth. There are many techniques, which may be, used for analysing the financial position, these techniques have been classified as follows:

1. Ratio Analysis:

Ratio analysis means the process of computing, determining and presenting relationship of items and groups of items in the financial appraisal. Ratios express the numerical relationship between two figures. Accounting ratios are used to describe significant relationships, which
exist between figures shown on a balance sheet, in a profit and loss account, in a budgetary control system or in any other part of the accounting organization.

2. Statistical Tools and Techniques:

(A) Arithmetic Mean

It is called as the average of difference of the values of items from some average of the series. According to Guerin, “the most commonly used average is the arithmetic mean, briefly referred to as the mean” (20) the mean has been found by adding all the variables and dividing it by the total number of years taken.

(B) KRUSKAL WALLIS TEST:

Stevenson W. J. States, “It is a one way analysis of variance test that employs ranks rather than actual measurement, and its assumptions concerning the data are relative weak. The calculations are accomplished by converting each observation to rank. While ranking the observations, all the values are treated as if they belong to one sample the ranks are given from the lowest number to the highest number. As such the lowest number is ranked as 1 the next lowest as 2 and so on until all observations have been ranked if there happens to be case of tie that is resolved by giving them the average values of ranks”. The sum of rank in each sample size, and the total number of observations are used to compute the statistics.
Limitations of the study:-

1. This study is based on secondary data taken from published annual reports and accounts of selected companies and as such its findings depends entirely on the accuracy of such data.

2. There are different methods to measure the profitability of an industry in this connection views of experts differ from one -another.

3. The present study is largely based on Ratio Analysis; such analysis has its own limitations, which also applies to the study.

4. The different views have been applied in the calculation of the elements of cost by the different units.

5. The analysis of financial performance of business entity gives diagnostic indicators.

Researcher being outside external analyst obviously has no assessed to internal data. Therefore, inside view of the organization could not characterised in the study.

The data used for the study for six years is related to accounting period of 12 months. There are no uniform policies for accounting period in all units. Some units have presented their accounts year December ending instead of March ending. The reporting period is not uniform. Hence, the comparison of data has its own limitations. No changes in accounting period have made for the purpose of the study.
Despite taking care of the various components of research methodology, as suggested by the learned authors, limitations are there. Perfection is said to be relative and impossible in this world. The research work is based on the result provided by the companies in their financial reports. The gouging of financial item has been done according to the accounting policy followed by the respective company. Thus to regroup the financial figures utmost care has been taken to adopt a common base among all the selected companies.

Accounting records are financial statements derived there from are based on a set of principles, assumptions and conventions some of which make the company reports unreliable. "Analyzing companies is like slicing potatoes. Different angles give different shapes, and no single slice can give the complete picture. The slice may not reveal the rotten bits, and there is a natural tendency to assume that what they do reveal applies to the potato as a whole.

Book value of assets differs from the market value, thus making the comparison redundant as far as the going market rate is to derive beneficial interpretation of financial records of the companies.
OUTLINE OF CHAPTER PLAN:

The present study is divided into eight chapters, which are as under:

**Chapter –1**
**Conceptual Framework of Financial Performance**

This chapter deals with introduction - concept of financial performance and efficiency - objectives of financial analysis - process of financial appraisal - tools of financial appraisal adopted in the study - significance of financial appraisal in the tea industry

**Chapter –2**
**Profile of the Tea Industry in India**

This chapter deals with the - Types of Tea - History and Development of Tea Industry in India - An overview of the Indian Tea Industry - Production and Consumption of Tea in India - Market Capitalization of Tea Industry in India - Cost Dynamics - Past Trend - Import - Export Scenario – Critical Success Factors - Government policy for the industry - Global Scenario - Demand Supply Scenario - Tea Board
CHAPTER–3
Research Design

This chapter deals with Research Design - Relevance of the topic in the present context - Survey of existing literature - The Problem - Objective of the study – Hypothesis - Universe of the study - Sampling Design - Sources of Data and Period of the study - Tools and Techniques for the study - Limitations of the study - Chapter Plans

CHAPTER–4
Analysis of Profitability

This chapter deals with analysis of profitability of selected tea companies. It has been done with the help of different analytical tools such as ratio, Kruskal Wallis one way analysis of variance Test.

CHAPTER–5
Analysis of Financial Structure

This chapter covers concept of financial structure – Analysis of Assets and Capital structure – Analysis of Long Term and Short Term Funds - Analysis of Various Capital Structure ratios.
CHAPTER–6
Analysis of Working Capital

This chapter deals with concept, sources, significance and requirement of working capital and analysis of working capital structure with the help of ratios.

CHAPTER–7
Analysis of Activity

This chapter deals with concept of activity, growth of activity, Activity in relation to total resources - Calculation and analysis of operating expenses ratio and its elements like - Raw Material expenses, Wages and Salaries, Depreciation - Power and Fuel (energy), Selling and Distribution (Marketing), and other like - Financial charges to total sales.

CHAPTER–8
Conclusion and Suggestions

This chapter gives its emerging conclusion based on the analysis carried out and points out the variations if any from the literature. Besides, it also gives concrete suggestions for enhancing profitability, for financial soundness, for cost reduction and control and liquidity position
References:

CHAPTER- 4

ANALYSIS OF PROFITABILITY

Ⅷ Concept of Profitability
Ⅷ Profit and Profitability
Ⅷ Analysis of Profitability of Selected Tea Companies of Tea Industry in India:
(A) Profitability Analysis from the view point of Management
   1. Gross Profit Ratio
   2. Operating Profit Ratio
   3. Net Profit Ratio
   4. Return on Capital Employed
(B) Profitability Analysis from the view point of Shareholders
   1. Return on Owner’s Fund
   2. Return on Equity Share Capital
   3. Dividend per Share
   4. Earning Per Share
   5. Dividend Pay out Ratio
Ⅷ Conclusion
Ⅷ References
CHAPTER– 4
ANALYSIS OF PROFITABILITY

Concept of Profitability:-
Profitability is the ability to earn profit from all the activities of an enterprise. It indicates how well management of an enterprise generates earnings by using the resources at its disposal.

In the other words the ability means to earn profit e.g. profitability. The Word ‘profitability’ is composed of two words ‘profit and ‘ability’. The word ‘profit’ represents the absolute figure of profit but an absolute figure alone does not give an exact idea of the adequacy or otherwise of increase or change in performance as shown in the financial statement of the enterprise. The word ‘ability’ reflects the power of an enterprise to earn profits it is called earning performance. Earning is an essential requirement to continue the business. So we can say that a healthy enterprise is that which has good profitability.

According to Hermanson Edward and Salmonson “Profitability is the relationship of income to some balance sheet measure which indicates the relative ability to earn income on assets employed”
Profit and Profitability:

Profits are the soul of the business without which it is lifeless. For accounting purpose the profit is the difference between total revenue and total expenditure over a period of time.

Profits are the cream of the business without it may not serve the purpose its true that “profits are useful intermediate beam towards which capital should be detected”

West on and Brighan mentioned that “to the financial management profit is the test of efficiency and a measure of control, to the owners a measure of the worth of their investment, to the creditors the margin of safety, to the government a measure of taxable capacity and a basis of legislative action and the country profit is an index of economic progress national income generated and the rise in the standard of living”, while profitability is an outcome of profit. In the other words no profit derived towards any profitability. “It may be remarked that the profit making ability might denote a constant or improved or deteriorated state of affairs during a given period. Thus, profit is an absolute connotation where as profitability is a relative concepts.”

As outcome of above statement it can be said that profitability is broader concept comparing to the concept of profit levels of profitability helps in establishing quantitative relationship between profit and level of investment or sales.
Profitability indicates the capacity of management to generate surplus in the process of business operations. Sometimes the terms ‘profitability’ and ‘profit’ are used synonymously but there is difference between the two. Profitability has a sense of relativity, whereas the term profit is used in absolute sense.

**Analysis of Profitability of Selected Tea Companies of Tea Industry in India:**

Profitability is the result of financial as well as operational efficiency. It is the outcome of all business activities. Measurement of profitability is a multi-stage concept. A measure of ‘profitability’ is the overall measure of efficiency.”

Profitability is a concept based on profits but since it is a relative concept, profits are to be expressed in relation to some other variables. Several ratios can be computed to measure the extent of profitability in quantitative terms. Profitability ratios are calculated to measure the operating efficiency of an enterprise. Profits can be related mainly to sales and investment to determine profitability. An enterprise should be able to produce adequate profit on each rupee of sales. If sufficient profits are not generated through sales, it becomes problematic for an enterprise to cover its operating costs and the interest burden.
An appraisal of the financial position of any enterprise is incomplete unless its overall profitability is measured in relation to the sales, assets, capital employed, net worth and the earning per share. For making policy decision under different situations, measurement of profitability is essential.

According to Murthy V. S. “The most important measurement of profitability of a company is ratio e.g. profitability of assets, variously referred to as earning power of the company, Return on total investment or total resources committed to operations. Profitability ratios are calculated to measure the operating efficiency of the firm.

According to Block and Hirt “the income statement is the major device for measuring the profitability of a firm over a period of time” measurement of profitability is as essential as the earning of itself for the business concern. Some managerial decision like rising of additional finance, further expansion, problems of bonus and dividend payments rest upon this measurement. It can be measured for a short term and as well as for a long term. The relation to sales is the good short-term indication of successful growth while profitability in relation to investment is the healthier for long growth of the business.

Profitability provides overall performance of a company and useful tool for forecast measurement of a company’s performance. “The overall objective of a business is to earn a
satisfactory return or profit on the funds invested in it, while maintaining a sound financial position profitability measures financial success and efficiency of management.

The importance of analysis of profitability performance can be seen from the reality that besides the management and owners of the company, financial institutions, creditors, bankers also look at its profitability. Appraisal of performance as regards to profitability can be drawn from interpreting various ratios. However there are few factors affected to the firm’s profitability. Each factor in turn will affect the profitability ratio. In present study profitability ratios can be measured through two parts i.e. (A) profitability from the view point of Management and (B) Profitability from the view point of shareholder’s.

(A) **Profitability from the view point of Management**

(1) **Gross Profit Ratio:**

“The excess of the net revenue from sales over the cost of Merchandise sold is called gross profit, gross profit on sales or gross margin.”

It is a ratio expressing relationship between Gross Profit earned and Net Sales. It is a useful indication of the
profitability of business. This ratio is usually expressed as a percentage.

This ratio calculated by dividing gross profit by net sales and is usually expressed as a percentage. The formula of gross profit ratio is given below:

\[
\text{Gross Profit Ratio} = \left( \frac{\text{Gross Profit}}{\text{Net Sales}} \right) \times 100
\]

The gross profit ratio highlights the efficiency with which management produces each unit of products as well as it indicates the average spread between the cost of goods sold and the sales revenue. Any fluctuation in the gross profit ratio is the result of a change in cost of goods sold or sales or both. A high gross profit ratio is a mark of effectiveness of management. The gross profit ratio may increase due to any of the below factors:

- Lower cost of goods sold where sales prices remaining constant.
- Higher sales prices where cost of goods sold remaining constant.
- An increase in the proportionate volume of higher margin items.
- A combination of variations in sales prices and costs.

While in the case of low profit ratio it may be reflected higher cost of goods sold due to firm’s inability to purchase at
favorable terms, over investment in plant and machinery etc. Secondly this ratio will also be low due to a decrease in price in the market.

The ratio shows whether the mark-up obtained on cost of production is sufficient. There is no standard showing reasonableness of gross profit ratio. However, it must be enough to cover its operating expenses. In many industries, there are more or less recognised gross profit ratios and the business should strive to maintain this standard.

If this ratio is low, it indicates that the cost of sales is high or that the purchasing is inefficient. Alternatively, it may also mean that due to depression, the selling price is reduced but there may be no corresponding reduction in cost of sales. In such a case, the management must investigate the causes and try to bring up this ratio.

This ratio expresses the relationship of gross profit to net sales in terms of percentage. The determinants of this ratio are the gross profit and sales, which means net sales, obtained after deducting the value of goods returned by the customers from total sales. This ratio is of vital importance of judging business results. The financial Manager must be
### Table No. - 4.1
**Gross Profit Ratio in Tea Industry in India**  
*(From 1997-1998 to 2002-2003)*  
(In Percentage)

<table>
<thead>
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<td>16.4</td>
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<td>10.85</td>
<td>41.54</td>
<td>12.95</td>
<td>39.06</td>
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</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 4.1
Gross Profit Ratio of Tea Industry in India

GROSS PROFIT RATIO = G.P./NET SALES X 100
able to detect the causes of a falling gross profit ratio and initiate action to improve the situation. A high gross profit ratio is a sign of good and efficient management.

In the AFT Ind. Ltd. the gross profit ratio was satisfactory but it showed downward trend during the study period. The ratio varied from 16.12 percent in 2002-2003 to 45.51 percent in 1997-1998. The average ratio was 27.61 percent, which was higher than the average ratio of tea industry. The ratio was satisfactory but in the last two years of study period the ratio showed a downward trend, which was not good sign for the firm.

The Dhunseri Tea & Ind. Ltd. had an average ratio of 29.71 percent ranging from 22.29 percent in 2001-2002 to 42.09 percent in 1998-1999. The ratio showed a fluctuated trend during the study period. However, the ratio was satisfactory but the trend was downward due to decrease in sales.

In the Goodricke Group Ltd., the gross profit ratio has been on an average 23.48 percent ranging from 14.21 percent in 2001-2002 and 31.56 percent in 1998-99. The ratio showed the downward trend but the gross profit ratio was satisfactory. However, the management had not controlled the cost of goods sold.
Gross profit ratio of Greenline Tea & Exports Ltd. is seen in the above table. The ratio showed the trend towards downward. The ratio decreased from 48.96 percent in 1997-1998 to 40.48 percent in 1998-1999. The ratio further decreased to 23.42 percent in 1999-2000 and 6.3 percent in 2000-2001. The ratio rose to 12.23 percent in 2001-2002 and then declined to 5.56 percent. The average ratio of the company was 22.83 percent which was lower than the average ratio of the tea industry. The ratio was satisfactory.

The Jay Shree Tea & Ind. Ltd. had an average of 19.81 percent ranging from 9.96 percent in 2001-2002 to 48.96 percent in 1997-1998. The ratio showed the decreasing trend during the study period due to increase in cost of the goods sold. The company should control the cost of goods sold.

Table No. 4.1 showed the gross profit ratio of Parry Agro Ind. Ltd. The gross profit ratio of this company showed the decreasing trend during the study period. The ratio varied from 4 percent in 2002-2003 to 36.79 percent in 1997-1998. The average ratio of the company was 20.51 percent, which was less than the average ratio of tea industry. The ratio was not considered satisfactory.

The gross profit ratio of Rossell Ind. Ltd. is manifested in the above table. The gross profit ratio registered mix and
decreasing trend during the study period. The ratio rose from 32.36 percent in 1997-1998 to 34.66 percent in 1998-1999. The ratio declined to 24.96 percent in 1999-2000 to 8.57 percent in 2000-2001, then it rose to 20.14 percent but in the last year, it was minus 11.15 percent. The average ratio was 18.26 percent, which was below the combined average of selected tea companies under the study. The gross profit ratio was not satisfactory.

The gross profit ratio of Tata Tea Ltd. is seen in the above table. The gross profit ratio showed the decreasing trend. The ratio was varied from 27.21 percent in 2002-2003 to 36.19 percent in 1998-1999. The average ratio of the company was 30.53 percent which was higher than the average ratio of the tea industry. The gross profit ratio was good.

The Table No.-4.1 shows the gross profit ratio of Warren Tea Ltd. tea. The ratio marked a deceasing trend during the study period. The ratio ranged from 16.40 percent in 2002-2003 and 43.05 percent in 1998-1999. The average ratio of the company was 30.64 percent. The average ratio was the second highest among the selected tea companies. The ratio of this company was satisfactory.
The above table shows gross profit ratio of Williamson. The ratio showed downward trend during the study period. The ratio varied from 21.09 percent in 2002-2003 to 50.52 percent in 1998-1999. The average ratio of the company was 37.90, which was the highest ratio of among the selected tea companies under the study. The ratio was considered being good.

As regards this ratio, the Williamson Tea Assam Ltd. showed good profitability followed by Warren Tea Ltd., Tata Tea Ltd., Dhunseri Tea & Ind. Ltd., AFT Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd., Parry Agro Ind. Ltd., and other selected units.

Table No. - 4.1 shows the gross profit in terms relative terms as percent of net sales. As regards the Tea industry, the gross profit ratio ranged from 18.27 percent in 2002-2003 to 39.06 percent in 1997-1998. It showed a decreasing trend from 1997-1998 to 2002-2003 with an average of 26.13 percent. The management was very much interested in this ratio.

(2) Operating Profit Ratio:-

This ratio indicates the relationship between operating profit and net sales in the form of percentage. Operating profit arrived at by adjusting all non-operating expenses and
incomes in net profit in the other words we can say profit before depreciation and taxes. A consistently high ratio tells us the effective and efficient operation of the business.

This ratio helps find out the profit arising out of pure production process i.e. the main business of production and sales. There by reflecting the effect of other incomes and expenses included in net profit.

\[
\text{Operating Profit Ratio} = \frac{\text{Operation Profit}}{\text{Net Sales}} \times 100
\]

Operation Profit = Sales - (Cost of goods sold + operational expenditure)

The operating profit ratio of AFT Ind. Ltd. was seen in the above table. The ratio was marking a decreasing trend during the study period. The ratio declined from 35.30 percent in 1997-1998 to 22.60 percent in 1998-1999. The ratio rose to 23.42 percent in 1999-2000 and sharply declined to 7.28 times in 2000-2001. Then after the ratio increased to 8.13 percent in 2001-2002 and it was very lowest in 2002-2003. Thus, it can be said the position of operating profit ratio was not good.
## Table No.- 4.2
Operating Profit Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003)(In Percentage)

<table>
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Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.- 4.2
Operating Profit Ratio in Tea Industry in India

OPERATING PROFIT RATIO = PBT/NET SALES X 100 (Manuual)
The above table shows the profit ratio of Dhunseri Tea & Ind. Ltd. The operating profit ratio shows declining trend during the study period. The operating profit ratio declined from 20.98 percent in 1997-1998 to 17.76 percent in 1998-1999. The ratio was raised to 20.74 percent in 1999-2000 then it sharply declined to 10.94 percent in 2000-2001. The ratio during the last two years was 3.61 percent in 2001-2002 and 2.60 percent in 2002-2003 respectively. The operating ratio had been on an average of 12.77 percent which was below the average ratio of tea industry. The ratio was not satisfactory.

Table No.- 4.2 show the operating profit ratio of Goodricke Group Ltd. The ratio of Goodricke Group Ltd. shows the downward trend during the study period. The ratio varied from 2.60 percent in 2002-2003 to 20.98 percent in 1997-1998. The average ratio was 4.86 percent, which was lower than the ratio of the tea industry. The C.V. was 65.18 percent which showed high fluctuation in the operating profit ratio of the company. The operating profit ratio was not satisfactory. The firm is advised to increase the operating profit ratio.

The above table shows the operating profit ratio of Greenline Tea & Exports Ltd. The operating profit ratio indicated the downward trend during the study period. The
ratio declined from 5.21 percent in 1997-1998 to 1.49 percent in 1998-1999. The ratio, thereafter, increased to 6.16 percent in 1999-2000. It was minus 63.78 percent in 2001-2002 and 21.30 percent in 2002-2003. In the last two years, the ratio showed minus and downward trend due to increase in cost of goods sold. The average ratio was minus 23.45 percent. Thus, it can be said that the operating profit ratio was satisfactory.

The operating profit ratio of Jay Shree Tea & Ind. Ltd. reveals the trend was towards decrease. The ratio declined from 25.98 percent in 1997-1998 to 19.68 percent in 1998-1999. It further declined up to 10.67 percent in 1999-2000 and was minus 0.56 percent in 2000-2001. It was minus 1.47 percent in 2001-2002 but increased to 5.25 percent in the last years. The average ratio was 9.93 percent, which was very low and indicated the operating profit ratio as very poor. The C.V. Was 111.76 percent indicating the variations in the ratio.

The operating profit ratio of Parry Agro Ind. Ltd. is seen in the above Table No.- 4.2. The operating profit ratio registered a declining trend during the study period. The ratio varied from minus 4.04 percent in 2002-2003 to 11.19 percent in 1997-1998 with an average of 4.31 percent. The
operating profit ratio of this company was very lower than the average of tea industry. The ratio was not good.

The above table reveals the operating profit ratio of Rossell Ind. Ltd. The ratio, which was an average, had been minus 20.71 percent. The ratio ranged between 89.90 percent in 2002-2003 to 7.86 percent in 1997-1998. The operating ratio in most of the years was minus except in first years. The ratio showed poor picture of the company.

In Tata Tea Ltd. the operating profit ratio shows the decreasing trend during the study period. The ratio declined from 16.67 percent in 1997-1998 to 13.60 percent in 2002-2003. The average ratio was 16.36 percent. The average ratio was above the tea group. The ratio was satisfactory.

The above table shows the operating profit ratio of Warren Tea Ltd. indicating the downward trend during the study period. The ratio varied from 2.05 percent in 2002-2003 to 25.70 percent in 1997-1998 with average of 13.69. The average ratio was above the combined average of selected companies under the study. The average ratio was good.

The above table shows operating ratio of Williamson Tea Assam Ltd. The ratio registered fluctuating trend during the study period. The ratio ranged between minus 8.16 percent in 2002-2003 to 24.10 percent in 1997-1998. The average ratio was 10.29 percent. The average ratio was
higher than the average ratio of selected companies under the study. The c.v was 76.04 percent.

The Tea industry showed downward trend of operating profit ratio during the study period. The average ratio of tea industry fluctuated from 20.47 percent in 1997-1998 to minus 9.51 percent in 2002-2003. The average of average ratio was 4.65 percent. The tea companies such as AFT Ind. Ltd., Dhunseri Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd., Tata Tea Ltd., Warren Tea Ltd., and Williamson Tea Assam Ltd. showed higher than the average ratio of the tea industry where as Jay Shree Tea & Ind. Ltd. and Rossell Ind. Ltd. had the lower ratio from the average ratio of the tea industry.

**Operating Profit Ratio of Tea Industry and Kruskal Wallis: one way analysis of Variance test:**

Null hypothesis: There is no significance difference between the Operating Profit Ratio of selected tea companies.

Alternative Hypothesis: There is significance difference between the Operating profit Ratio of selected tea companies.

Significance: 5 percent

Statistical test used: Kruskal Wallis one-way analysis variance test.

Critical value: 16.92
## Table No - 4.2.1

Kruskal Wallis one way analysis of variance test of Operating Profit Ratio of Tea Industry

| YEAR      | AFTIL | R1  | DT&IL | R2  | GGL | R3  | GT&EL | R4  | JST&IL | R5  | PAIL | R6  | RIL | R7  | TTL | R8  | WTL | R9  | WTAL | R10 |
|-----------|-------|-----|-------|-----|-----|-----|-------|-----|--------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1997-1998 | 35.3  | 60  | 20.98 | 50  | 19.7| 46  | 5.21  | 25  | 26     | 59  | 22.6 | 54  | 8.43| 31  | 16.67| 41  | 25.7 | 58  | 24.1 | 57  |
| 1998-1999 | 22.6  | 55  | 17.76 | 42  | 11.7| 35  | 1.49  | 17  | 19.7   | 45  | 21.4 | 51  | -8.1| 8   | 21.92| 52  | 20.23| 47  | 20.4 | 48  |
| 1999-2000 | 23.4  | 56  | 20.74 | 49  | 0.73| 14  | 3.16  | 22  | 10.7   | 32  | 12   | 37  | -50.7| 4   | 18.44| 44  | 17.9  | 43  | 22.39| 53  |
| 2000-2001 | 7.28  | 28  | 10.94 | 33  | 0.89| 16  | -63.8 | 3   | -0.6  | 12  | 2.56 | 20  | 0.82 | 15  | 15.84| 40  | 11.32| 34  | 12.71| 38  |
| 2001-2002 | 8.13  | 30  | 3.61  | 23  | 0.69| 13  | -65.5 | 2   | -1.5  | 11  | 1.55 | 18  | -26.5| 5   | 11.71| 36  | 7.93  | 29  | 6.33 | 27  |
| 2002-2003 | 4.8   | 24  | 2.6   | 21  | 4.6 | 9   | -2.13 | 6   | 5.25  | 26  | -4.06| 10  | -85.3| 1   | 13.6 | 39  | 2.05  | 19  | -8.16| 7   |
|           | 253   | 218 | 133   | 75  |     |     |       |     |       |     |      |     |     |     |     |     |     |     |     |     |

\[
H = \frac{12}{60(61)} \left( \frac{(253)^2}{6} + \frac{(218)^2}{6} + \frac{(133)^2}{6} + \frac{(75)^2}{6} + \frac{(185)^2}{6} + \frac{(190)^2}{6} + \frac{(64)^2}{6} + \frac{(252)^2}{6} + \frac{(230)^2}{6} + \frac{(230)^2}{6} \right) - \frac{3(61)}{63095.33} \times 183
\]

\[
H = 23.82
\]
On the basis of above the calculation value of \( H \) was the 23.82 which was greater than the table values of 16.92. Hence the Null Hypothesis is accepted and alternate negative Hypothesis is rejected. It can be said that there is no significance difference among the operating profit ratios of tea companies.

(3) Net Profit Ratio:-

The ratio is valuable for the purpose of ascertaining the over-all profitability of business and shows the efficiency of operating the business. It is the reverse of the operating Expense ratio. It is calculated as follows:

\[
\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Net Sales}} \times 100
\]

Generally, the ratio is computed on the basis of net profit earned from operation of business and non-operating expenses and incomes are excluded, e.g. income from investments of surplus funds of business is non-operating asset income and so it is to be excluded. Loss on sale of asset is non-trading loss and it is not taken into account. Generally, tax is deducted from profit while calculating this ratio.

This ratio indicates what portion of sales revenue is left to the proprietors after all operating expenses are met. The higher the ratio the better will be the profitability. In order to
have a better idea of profitability, the gross profit ratio and net profit ratio may be simultaneously considered. If the Gross Profit is increasing over last five years, but the net profit is declining, it indicates that administrative expenses are slowly rising.

This ratio indicates the net margin on sales after meeting all expense and making all provisions. Profitability ratios should also be studied over a period of time because the trend could be very significant. An increase in the ratio over the previous period reflects an improvement in the operational efficiency of the unit.

Different version of net profit margin is synonymous in different levels or stages of return which are as follows:

(a) Net Profit Margin = \( \frac{\text{Net Profit before interest and tax}}{\text{Sales}} \times 100 \)

(b) Net Profit Margin = \( \frac{\text{Net Profit after interest and tax}}{\text{Sales}} \times 100 \)

(c) Net Profit Margin = \( \frac{\text{Net Profit before interest and after tax}}{\text{Sales}} \times 100 \)
The net profit ratio of tea industry shows the decreasing trend during the study period. The net profit ratio of tea industry ranged from 11.09 percent in 2002-2003 to 13.56 percent in 1997-1998. The average net profit ratio was 1.58 percent. The average net profit ratio of tea industry was not satisfactory.

In the AFT Ind. Ltd. net profit ratio ranged from 3.24 percent in 2002-2003 to 24.27 percent in 1997-1998. It showed a decreasing trend during the study period. This ratio was satisfactory during first three years of the study period. In this company, the ratio had been on an average 11.53 percent. The C.V. Was 70.49 percent showed fluctuation in the ratio.

In the Dhunseri Tea & Ind. Ltd. the net profit ratio ranged from minus 0.67 percent in 2001-2002 to 12.34 percent in 1997-1998. The average ratio of the company was 7.07 percent. The ratio showed decreasing trend from 1997-1998 to 2001-2002 then after it increase to 1.71 percent. The C.V. was 77.23 percent. In this company, the net profit was quite satisfactory.

In the Goodricke Group Ltd. net profit ratio ranged from minus 3.15 percent in 2002-2003 to 12.97 percent in 1997-1998. The ratio was 7.16 percent in 1998-1999 and than
## Table No.- 4.3

Net Profit Ratio in Tea Industry in India


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<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
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<td>AFT IND. Ltd.</td>
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<td>5.26</td>
<td>5.88</td>
<td>3.24</td>
<td>11.53</td>
<td>8.12</td>
<td>-0.67</td>
<td>24.27</td>
<td>3.24</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>12.34</td>
<td>9.7</td>
<td>12.14</td>
<td>7.2</td>
<td>-0.67</td>
<td>1.71</td>
<td>7.07</td>
<td>5.46</td>
<td>77.23</td>
<td>-0.67</td>
<td>12.34</td>
</tr>
<tr>
<td>GOODRICKE</td>
<td>12.97</td>
<td>7.16</td>
<td>-0.53</td>
<td>0.36</td>
<td>-1.46</td>
<td>-3.15</td>
<td>5.26</td>
<td>6.21</td>
<td>242.65</td>
<td>-3.15</td>
<td>12.97</td>
</tr>
<tr>
<td>GREENLINE TEA</td>
<td>5.21</td>
<td>2.08</td>
<td>3.21</td>
<td>-62.99</td>
<td>-64.03</td>
<td>-21.3</td>
<td>-22.97</td>
<td>32.86</td>
<td>143.04</td>
<td>-64.03</td>
<td>5.21</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>15.59</td>
<td>12.72</td>
<td>4.59</td>
<td>-2.69</td>
<td>-3.65</td>
<td>-2.29</td>
<td>4.05</td>
<td>8.41</td>
<td>207.88</td>
<td>-3.65</td>
<td>15.59</td>
</tr>
<tr>
<td>PARRY AGRO</td>
<td>11.19</td>
<td>11.02</td>
<td>4.77</td>
<td>0.76</td>
<td>2.15</td>
<td>-4.04</td>
<td>4.31</td>
<td>5.99</td>
<td>139.09</td>
<td>-4.04</td>
<td>11.19</td>
</tr>
<tr>
<td>ROSSELL IND.</td>
<td>7.86</td>
<td>-8.31</td>
<td>-18.37</td>
<td>-1.34</td>
<td>-14.22</td>
<td>-89.9</td>
<td>35.16</td>
<td>169.73</td>
<td>-89.90</td>
<td>7.86</td>
<td></td>
</tr>
<tr>
<td>TATA TEA LTD.</td>
<td>11.71</td>
<td>15.12</td>
<td>12.66</td>
<td>10.87</td>
<td>7.11</td>
<td>7.3</td>
<td>10.80</td>
<td>3.12</td>
<td>28.95</td>
<td>7.11</td>
<td>15.12</td>
</tr>
<tr>
<td>WARREN TEA</td>
<td>17.64</td>
<td>14.04</td>
<td>12.54</td>
<td>7.98</td>
<td>1.22</td>
<td>-0.15</td>
<td>8.88</td>
<td>7.18</td>
<td>80.87</td>
<td>-0.15</td>
<td>17.64</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>16.84</td>
<td>17.39</td>
<td>15.7</td>
<td>8.46</td>
<td>5.68</td>
<td>-2.32</td>
<td>10.29</td>
<td>7.83</td>
<td>76.04</td>
<td>-2.32</td>
<td>17.39</td>
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<tr>
<td>Average</td>
<td>13.56</td>
<td>9.60</td>
<td>6.21</td>
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<td>-11.09</td>
<td>1.58</td>
<td>9.67</td>
<td>612.76</td>
<td>-11.09</td>
<td>13.56</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.- 4.3
Net Profit Ratio in Tea Industry in India
declined to minus 0.53 percent in 1999-2000. It further declined to 0.36 percent in 2000-2001 to minus 3.15 percent in 2002-2003. The average ratios was 2.56 percent, which was above the average ratio of the tea industry. The net profit ratio was not satisfactory.

In Greenline Tea & Exports Ltd., the net profit ratio had been on an average minus 22.97 percent ranging from minus 64.03 percent in 2001-2002 to 5.21 percent in 1997-1998. The ratios showed fluctuating trend during the study period. The ratio was negative in the last three years of study period. The average ratio was minus 22.97 percent which showed unsatisfactory return on net sale.

In the Jay Shree Tea & Ind. Ltd. the net profit ratio ranged from minus 3.65 percent in 2001-2002 to 15.59 percent in 1997-1998. The net profit ratio showed declining trend from 15.59 percent in 1997-1998 to 12.72 percent in 1998-1999. Then it was decreased to 4.59 percent in 1999-2000. The net profit ratio was negative during the last three years of the research period. The average ratio of the company was 4.05 percent which was more than the average ratio of the tea industry. The ratio was quite satisfactory.

The above table shows the net profit ratio of Parry Agro Ind. Ltd. The net profit ratio showed decreasing trend during
the study period. The ratio varied from minus 4.04 percent in 2002-2003 to 11.19 percent in 1997-1998 with an average of 4.31 percent. The net profit ratio was very quite satisfactory.

The net profit ratio of the Rossell Ind. Ltd. is seen in the above table. The ratio registered a negative and deceasing trend during the study period. The average ratio was minus 20.71 percent. In most of the years, the ratio was minus due to increase in administrative expanses. The ratio ranged between 89.90 percent in 2002-2003 to 7.86 percent in 1997-1998. The net profit was unsatisfactory.

The table No.- 4.3 shows the net profit ratio of Tata Tea Ltd. The ratio showed the trend towards increase from 11.71 percent in 1997-1998 to 15.12 percent in 1998-1999. The ratio declined to 12.66 percent in 1999-2000 and 10.87 percent in 2000-2001. The ratio dropped to 7.11 percent in 2001-2002 and during the last two years, it was showing the declining trend. The average ratio of the company was 10.80 percent. The c.v showed the 28.95 less fluctuations in the ratio. The ratio was quite satisfactory.

The table No.- 4.3 manifested net profit ratio of Warren Tea Ltd. tea. The ratio showed a trend towards decreasing. The net profit ratio varied from minus 2002-2003 to 17.64 percent in 1997-1998 with an average of 8.88 percent. The
ratio was very low in the last two years even though it was quite satisfactory. The C.V. was 80.87 indicating high variations in the ratios.

The net profit ratio of Williamson Tea Assam Ltd. registered a decreasing trend during the study period. The ratio varied from minus 2.32 percent in 2002-2003 to 17.39 percent in 1998-1999. The average ratio of the company was 10.29 percent, which was higher than the average of tea group. The C.V. Was 76.04 percent showing the fluctuation among the ratios for the period 1997-1998 to 2002-2003. The ratio was quite satisfactory.

On the whole, AFT Ind. Ltd. had shown the highest ratio of 11.53 percent on an average during the study period followed by Tata Tea Ltd., Williamson Tea Assam Ltd., Goodricke Group Ltd., Warren Tea Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd. and Greenline Tea & Exports Ltd. and Rossell Ind. Ltd.

Net Profit Ratio of Tea Industry and Kruskal Wallis: one way analysis of Variance test: Null hypothesis: There is no significance difference between the Net Profit Ratio of selected tea companies.
### Table No - 4.3.1

Kruskal Wallis one way analysis of variance test of Net Profit Ratio of Tea Industry

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AFTIL</th>
<th>R1</th>
<th>DT&amp;IL</th>
<th>R2</th>
<th>GGL</th>
<th>R3</th>
<th>GT&amp;EL</th>
<th>R4</th>
<th>JST&amp;IL</th>
<th>R5</th>
<th>PAIL</th>
<th>R6</th>
<th>RIL</th>
<th>R7</th>
<th>TTL</th>
<th>R8</th>
<th>WTL</th>
<th>R9</th>
<th>WTAL</th>
<th>R10</th>
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<tr>
<td>1997-1998</td>
<td>24.3</td>
<td>60</td>
<td>12.34</td>
<td>46</td>
<td>13</td>
<td>50</td>
<td>5.21</td>
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<td>17.64</td>
<td>59</td>
<td>16.8</td>
<td>57</td>
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<td>1998-1999</td>
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<td>40</td>
<td>7.16</td>
<td>34</td>
<td>2.08</td>
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<td>15.12</td>
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<td>14.04</td>
<td>51</td>
<td>17.4</td>
<td>58</td>
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<td>1999-2000</td>
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<td>45</td>
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<td>19</td>
<td>-63</td>
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<td>10.87</td>
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<td>14</td>
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<td>-3.7</td>
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<td>2.15</td>
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<td>7.11</td>
<td>33</td>
<td>1.22</td>
<td>21</td>
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<td>2002-2003</td>
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<td>1.71</td>
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<td>10</td>
<td>-21.3</td>
<td>4</td>
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<td>-4.04</td>
<td>8</td>
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</tr>
</tbody>
</table>

\[
H = \frac{12}{60(61)} \left( \frac{(254)^2}{6} + \frac{(204)^2}{6} + \frac{(144)^2}{6} + \frac{(86)^2}{6} + \frac{(164)^2}{6} + \frac{(165)^2}{6} + \frac{(71)^2}{6} + \frac{(255)^2}{6} + \frac{(234)^2}{6} + \frac{(253)^2}{6} \right) 3(61)
\]

\[
H=0.003278(62869.33)-183
\]

\[
H=23.08
\]
Alternative Hypothesis: There is significance difference between the Net Profit Ratio of selected tea companies.  
Significance: 5 percent  
Statistical test used: Kruskal Wallis one-way analysis variance test.  
Critical value: 16.92  

Above table describes that the calculated value of H equal to 23.08 which is greater than the table value of 16.92 hence, the null hypothesis based on Kruskal Wallis one-way analysis is rejected. The acceptance of alternative hypothesis described there is significance difference between the net profit ratio of the selected tea companies

(4) Ratio of Return on capital employed

It is an index of profitability of business and is obtained by comparing net profit (before interest and taxes) with capital employed. The ratio is normally expressed in the percentage. The term Capital Employed includes share capital, reserves and long term loans such as debentures. It must be remembered that in this ratio Net Profit is Profit before deducting Interest and Taxes (Earnings before interest and taxes). The formula for derivation of this ratio is:

\[
\text{Return on Capital Employed} = \frac{\text{Net Profit (EBIT)}}{\text{Capital Employed}} \times 100
\]
Where Capital Employed = Share Capital + Reserves + Long Term Loan

The success or otherwise of the enterprise is judged with the help of this ratio. It is perhaps the most important ratio from the viewpoint of management.

A high ratio would indicate that the firm is run on profitable lines. It would also reflect an efficient use of assets and the management’s skill in employing the funds invested in the company. This ratio should not only compare favorably with the rate of interest on funds in the market but also compensate for the risk involved in running the business.

The ratio is more appropriate for evaluating the efficiency of internal management. It enables the management to show whether the funds entrusted to the enterprise have been properly used or not. A high ratio is a test of better performance and low ratio is an indication of poor performance. This ratio is the most important for studying the management efficiency of the enterprise. It is used to study the operational efficiency the enterprise. It shows the earning capacity of the capital.

It is clear from the above Table No.- 4.4 that the Return on Capital Employed in AFT Ind. Ltd. was decreasing during the first four years of the study period. It was decreased from
Table No.-4.4
Capital Employed Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) In Percentage

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<td>AFT IND. LTD.</td>
<td>55.53</td>
<td>31.03</td>
<td>26.84</td>
<td>8.28</td>
<td>11.59</td>
<td>9.24</td>
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<td>18.28</td>
<td>76.95</td>
<td>8.28</td>
<td>55.53</td>
</tr>
<tr>
<td>DHUNSERI</td>
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<td>27.83</td>
<td>22.12</td>
<td>12.37</td>
<td>7.72</td>
<td>7.49</td>
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<td>8.81</td>
<td>52.15</td>
<td>7.49</td>
<td>27.83</td>
</tr>
<tr>
<td>GOODRICKE</td>
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<td>-0.11</td>
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<td>2.19</td>
<td>37.48</td>
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<td>-120.2</td>
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<td>50.19</td>
<td>198.21</td>
<td>120.20</td>
<td>16.79</td>
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<td>18.15</td>
<td>13.85</td>
<td>8.72</td>
<td>10.13</td>
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<td>10.39</td>
<td>54.65</td>
<td>8.72</td>
<td>33.84</td>
</tr>
<tr>
<td>WARREN TEA</td>
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<td>25.38</td>
<td>15.58</td>
<td>7.61</td>
<td>5.63</td>
<td>20.56</td>
<td>13.11</td>
<td>63.77</td>
<td>5.63</td>
<td>38.32</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>37.09</td>
<td>38.44</td>
<td>38.01</td>
<td>25.11</td>
<td>15.82</td>
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<td>14.59</td>
<td>55.68</td>
<td>2.79</td>
<td>38.44</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.-4.4
55.53 percent in 1997-1998 to 31.03 percent in 1998-1999, 26.84 percent in 1999-2000 and 8.28 percent in 2000-2001. Then it rose to 11.59 percent in 2001-2002 and dropped to 9.24 percent in 2002-2003. The average ratio of the company was 23.75 percent, which was higher than the average ratio of tea industry. The return on capital employed was satisfactory. The lowest ratio was 8.28 percent in 2000-2001 and the highest ratio was 55.53 percent in 1997-1998.

Dhunseri Tea & Ind. Ltd. recorded a decreasing trend during the study period with respect to the rate of return on capital employed in the company. It was 23.83 percent in 1997-1998 to 27.83 percent in 1998-1999 and then decreased to 22.12 percent in 1999-2000. It sill continued to declined to 12.37 percent in 2000-2001 and 7.72 percent in 2001-2002. It rose to 7.49 percent in 2002-2003. The average ratio was 16.98 percent showing the mix and fluctuation trend during the study period. The ratio was a good indication for the company from the point of view during the 1997-1998 to 1998-1999 then the ratio declined to the last years of study period. The ratio was satisfactory.

The rate of return on capital employed in Goodricke Group Ltd. represented a decreasing trend for the study period. It was decreased from 54.75 percent in 1997-1998 and 28.19 percent in 1998-1999. The ratio then declined to
3.77 percent in 1999-2000 and raised it to 6.36 percent in 2000-2001. The ratio during the last two years of study period was very low. The ratio in the first two years showed the good long-term capital management of the company. The average ratio of the company was 15.21 percent, which was lower than the average ratio of tea industry. The ratio was satisfactory; however in the last year it was declining which was not a good sign for the management.

Greenline Tea & Exports Ltd. registered decreased trend of return on capital employed. The ratio increased from 7.04 percent in 1997-1998 to 7.08 percent in 1998-1999. It further declined to 5.72 percent in 1999-2000 and then after the ratio was minus due to negative EBIT during the last three years of the study period. The average ratio of the company was 2.60 percent ranging from minus 2.12 percent in 2000-2001 to 7.08 percent in 1998-1999. The ratio was good in the first year two years of the study period.

The table No.4.4 showed the return ratio of Jay Shree Tea & Ind. Ltd. The ratio showed a decreasing trend during the study period. The ratio declined from 37.48 percent in 1997-1998 to 23.83 percent in 1998-1999. The ratio further declined to 12.51 percent in 1999-2000 and then it dropped to 3.21 percent in 2000-2001. The ratio during the last two years of the study period showed 2.19 percent in 2001-2002.
and 2.45 percent in 2002-2003. The average ratio of the company was 13.61 which were due to the higher ratio during the first two years of the study period. The average ratio of the company was more than the average ratio of the tea industry. The ratio was satisfactory, however the management should concentrate on declined trend of the return on capital employed ratio.

The percentage of the return on capital employed ratio in Parry Agro Ind. Ltd. witnessed a declined trend from 1997-1998 to 2002-2003. The average ratio of the company was 17.28 percent which varied from 4.64 percent in 2002-2003 to 40.95 percent in 1997-1998. The ratio during the first two years was good but then it declined. The average ratio of the company was more than the average ratio of the tea industry. The ratio was satisfactory.

The above table reveals the return on capital employed ratio of Rossell Ind. Ltd. The return on capital employed showed mix and declined trend during the study period. The ratio varied from minus 120.20 percent in 2002-2003 to 16.69 percent in 1997-1998 with an average of minus 25.32 percent. The C.V. was minus 198.21 percent with S.D. of 50.19 percent showing fluctuations in the ratio. The negative ratio was not satisfactory for the company.
The return rate on capital employed of Tata Tea Ltd. showed in the above table. The ratio marked a declining trend during the study period. The ratio showed the highest of 33.84 percent in 1998-1999 and the lowest in 8.72 percent in 2001-2002. The average ratio of the company was 19.02 percent, which was higher than the average ratio of the tea industry. The ratio was satisfactory. However, management should think about the declined trend of the ratio. The Standard Deviation was 10.39 percent with C.V of 54.65 percent.

Return on capital employed ratio of Warren Tea Ltd. was seen in the above table. The ratio of return on capital employed declined from 38.32 percent in 1997-1998 to 30.81 percent in 1998-1999. It was further declined to 25.38 percent in 1999-2000 and 15.58 percent in 2000-2001. It was 7.61 percent in 2001-2002 and 5.63 percent in 2002-2003 showing the declining trend. The average ratio of the company was 20.56 percent which was satisfactory due to the higher ratio during the first three years of the study period. However, the ratio was showing decreasing trend, so management should think about the ratio.

The above table showed return on capital employed of Williamson Tea Assam Ltd. The ratio showed increasing trend from 37.09 percent in 1997-1998 to 38.01 percent in
1999-2000. There after the ratio was declined to 25.11 percent in 2000-2001 and 15.82 percent in 2001-2002. It further dropped to 2.79 percent in the last year. The average ratio of the company was the highest among the selected tea companies under the study. The ratio showed satisfactory return on capital employed but management should think about to the declined EBIT.

The return on capital employed ratio of tea industry was showed decreasing trend during the study period. The ratio ranged from 8.22 percent in 2002-2003 to 34.12 percent in 1997-1998 with an average of 12.98 percent. The highest ratio was found in Williamson Tea Assam Ltd. followed by AFT Ind. Ltd., Warren Tea Ltd., Parry Agro Ind. Ltd., Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd. and Rossell Ind. Ltd.

Return on Capital Employed Ratio of Tea Industry and Kruskal Wallis: one-way analysis of Variance Test:
Null hypothesis: There is no significance difference between the Return on Capital Employed Ratio of selected tea companies.
Table No. - 4.4.1

Kruskal Wallis one way analysis of variance test of Capital Employed Ratio of Tea Industry

| YEAR       | AFTIL | R1 | DT&IL | R2 | GGL | R3  | GT&EL | R4 | JST&IL | R5 | PAIL | R6 | RIL | R7  | TTL | R8  | WTL | R9  | WTAL | R10 |
|------------|-------|----|-------|----|-----|-----|-------|----|--------|----|------|----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|
| 1997-1998  | 55.5  | 60 | 24    | 42 | 55  | 59  | 7     | 19 | 37     | 54 | 41   | 58 | 16.8| 37  | 29  | 49  | 38  | 56  | 37   | 53  |
| 1998-1999  | 31    | 51 | 28    | 47 | 28  | 48  | 7     | 20 | 24     | 43 | 23   | 41 | -0.3| 7   | 34  | 52  | 31  | 50   | 38   | 57  |
| 1999-2000  | 26.8  | 46 | 22    | 40 | 3.8 | 14  | 6     | 17 | 13     | 33 | 20   | 39 | -34 | 2   | 18  | 38  | 25  | 45   | 38   | 55  |
| 2000-2001  | 8.28  | 27 | 12    | 32 | 6.4 | 18  | -2    | 5  | 3.2    | 13 | 7.5  | 22 | 7.97| 26  | 14  | 34  | 16  | 35   | 25   | 44  |
| 2001-2002  | 11.6  | 31 | 7.7   | 25 | 2.5 | 11  | -2    | 6  | 2.2    | 9  | 7.5  | 23 | -22 | 3   | 8.7 | 28  | 7.6 | 24   | 16   | 36  |
| 2002-2003  | 9.24  | 29 | 7.5   | 21 | -4  | 4   | -0    | 8  | 2.5    | 10 | 4.6  | 15 | -120| 1   | 10  | 30  | 5.6 | 16   | 2.8  | 12  |

\[
H = \frac{12}{60(61)} \left[ \begin{array}{c}
(244)^2 + (207)^2 + (154)^2 + (75)^2 + (162)^2 + (198)^2 + (76)^2 + (231)^2 + (226)^2 + (257)^2
\end{array} \right] - \frac{3}{61}
\]

\[
H = 0.003278(62239.33) - 183
\]

\[
H = 21.02
\]
Alternative Hypothesis: There is significance difference between the Return on Capital Employed Ratio selected tea companies.
Significance: 5 percent
Statistical test used: Kruskal Wallis one-way analysis variance test.
Critical value: 16.92

Above table describes that the calculated value of H equal to 21.02 which is greater than the table value of 16.92 hence, the null hypothesis based on Kruskal Wallis one-way analysis is rejected. The acceptance of alternative hypothesis described there is significance difference between the return on capital employed ratio of the selected tea companies

(B) Profitability from the view point of Shareholder’s

1. Ratio of Return on Owner’s Fund:
   (Proprietary Ratio)

   The Ratio of Return on owner’s equity is a valuable measure for judging the profitability of an organization. This Ratio helps the shareholders of a company to know the return on investment in terms of profits. Shareholders are always interested in knowing as to what return they earned
on their invested capital. Anthony and Reece opine that this ratio “reflects that how much the firm has earned on the funds invested by the shareholders (Either directly or through retained earnings).

They further point out that the ratio of return on owner’s equity is most significant when the book value of the net worth is close to the market value of the stock since new capital is raised at market prices rather than at book value and firms are usually judged on their earnings performance relative to the market price of their stock.

This ratio is expressed in the percentage form of net profit earned to the owner’s equity. The formula for the derivation of this ratio is:

\[
\text{Return on Owner's Equity} = \frac{\text{Net Profit (After Int. & Tax)}}{\text{Owner's Equity}} \times 100
\]

In order to judge the efficiency with which the proprietors' Funds are employed in business, this ratio is ascertained. Proprietors' Equity or Proprietors' Funds include share capital and reserves. It is of great practical importance to the prospective investors, as it enables the profitability of a company to be compared with that of the other company. It also indicates whether the return on proprietors’ funds is enough in relation to the risks that they undertake. This ratio
### Table No. - 4.5

The Ratio of Return on Net Worth in Tea Industry in India
(From 1997-1998 to 2002-2003)(In Percentage)

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>42.40</td>
<td>21.90</td>
<td>18.03</td>
<td>5.50</td>
<td>6.29</td>
<td>3.56</td>
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<td>14.80</td>
<td>90.89</td>
<td>3.56</td>
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</tr>
<tr>
<td>DHUNSERI</td>
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<td>7.24</td>
<td>-0.64</td>
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<td>83.11</td>
<td>-0.64</td>
<td>17.64</td>
</tr>
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<td>16.20</td>
<td>-1.18</td>
<td>0.84</td>
<td>-3.61</td>
<td>-8.49</td>
<td>6.60</td>
<td>16.56</td>
<td>251.09</td>
<td>-8.49</td>
<td>35.81</td>
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<td>0.61</td>
<td>-1.09</td>
<td>-12.48</td>
<td>-3.48</td>
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<td>5.25</td>
<td>-219.98</td>
<td>-12.48</td>
<td>1.25</td>
</tr>
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<td>JAY SHREE TEA</td>
<td>31.46</td>
<td>19.56</td>
<td>5.94</td>
<td>-3.04</td>
<td>-4.34</td>
<td>-3.10</td>
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<td>14.73</td>
<td>190.18</td>
<td>-4.34</td>
<td>31.46</td>
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<td>PARRY AGRO</td>
<td>21.96</td>
<td>19.68</td>
<td>8.11</td>
<td>0.98</td>
<td>2.40</td>
<td>-4.93</td>
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<td>10.76</td>
<td>133.97</td>
<td>-4.93</td>
<td>21.96</td>
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<td>-143.84</td>
<td>-150.32</td>
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<td>66.00</td>
<td>-83.47</td>
<td>-150.32</td>
<td>10.43</td>
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<td>TATA TEA LTD.</td>
<td>28.53</td>
<td>30.82</td>
<td>17.72</td>
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<td>5.83</td>
<td>5.84</td>
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<td>11.11</td>
<td>67.35</td>
<td>5.83</td>
<td>30.82</td>
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<td>1.37</td>
<td>-0.19</td>
<td>14.27</td>
<td>12.88</td>
<td>90.29</td>
<td>-0.19</td>
<td>33.14</td>
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<tr>
<td>WILLIAMSON</td>
<td>35.88</td>
<td>36.08</td>
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<td>13.93</td>
<td>9.00</td>
<td>-4.23</td>
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<td>82.20</td>
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<td>-16.38</td>
<td>1.70</td>
<td>16.87</td>
<td>992.67</td>
<td>-16.38</td>
<td>25.68</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.- 4.5
The Ratio of Return on Net Worth in Tea Industry in India

RETURN ON NET WORTH = PAT/NET WORTH
ANALYSIS OF PROFITABILITY

Shows what amount of dividend is likely to be received oil shares. Naturally when return on shareholders' funds is to be calculated, the profit should be after interest and tax (PAT).

The ratio of return on net worth in AFT Ind. Ltd. was mix and declining throughout the study period. The ratio declined from 42.40 percent in 1997-1998 to 18.03 percent in 1999-2000. It was further declined to 5.50 percent in 2000-2001 but it rose to 6.29 percent in 2001-2002. The ratio dropped to 3.56 percent in 2002-2003. The average ratio of the company was 16.28 percent, which was higher than the average ratio of the tea industry. The return on net worth was satisfactory.

The ratio of return on net worth, in Dhunseri Tea & Ind. Ltd. witnessed a declining trend during the study period. The ratio varied from minus 0.64 percent in 2001-2002 to 17.64 percent in 1998-1999 with an average of 9.31 percent. The average ratio of the company was higher than the average of tea industry. The ratio was quite satisfactory.

In Goodricke Group Ltd. the ratio of return on net worth showed the declining trend during the study period. The ratio ranged from minus 8.49 percent in 2002-2003 to 35.81 percent in 1997-1998. The average ratio was 6.60 percent, which was considered low but satisfactory.
The above table showed the ratio of return on net worth of Greenline Tea & Exports Ltd. The ratio showed the fluctuated trend during the span of research period. It declined from 1.25 percent in 1997-1998 to 0.88 percent in 1998-1999. It further declined to 0.61 percent in 1999-2000 and it was minus 1.09 percent in 2000-2001. The ratio was marginally decreased to minus 12.48 percent. The ratio was on an average of minus 2.39 percent. The ratio of return on net worth was negative which is not a good sign for the management.

The ratio of return on net worth in Jay Shree Tea & Ind. Ltd. is seen in the above table. The ratio showed the decreasing trend. The ratio declined from 31.46 percent in 1997-1998 to 19.56 percent in 1998-1999. The ratio further declined to 5.94 percent in 2000-2001 and it was minus 3.04 percent in 2001-2002. The ratio was also minus 3.10 percent in 2002-2003. The average ratio of the company was 7.75 percent, which was above the average ratio of the tea industry. The ratio was satisfactory in the first year of study period but then it declined due to decrease in PAT and increase in interest charges.

The above table shows ratio of return on net worth of Parry Agro Ind. Ltd. The ratio showed a declining trend during the study period. The ratio varied from minus 4.93
percent in 2002-2003 to 21.96 percent in 1997-1998. The average ratio of the company was 8.03 percent, which was above the average ratio of tea industry. The ratio was quite satisfactory.

The ratio of return on net worth of Rossell Ind. Ltd. is manifested in the above table. The ratio was 10.43 percent in 1997-1998, and then it declined to 13.40 percent in 1998-1999. The ratio further declined to 89.74 percent in 1999-2000 and 87.57 percent in 2001-2002. It still declined to 143.32 percent in 2001-2002. The ratio was very low 150.32 percent in 2002-2003. The average ratio of the company was minus 79.07 percent. The ratio was not satisfactory so management has to think about this.

Ratio of return on net worth of Tata Tea Ltd. was showing declining trend throughout the study period except the first year of the study period. The ratio rose from 28.53 percent in 1997-1998 to 30.82 percent in 1998-1999. The ratio declined to 17.72 percent in 1999-2000 and it was 10.27 percent in 2000-2001. It was further declined to 5.83 percent in 2001-2002 and in the last year it was 5.84 percent. The average ratio was 16.50 percent due to the high ratio during the first two years of the study period. The average ratio was satisfactory.
The above table shows the ratio of return on net worth of Warren Tea Ltd. The ratio fluctuated from 33.88 percent in 1997-1998 to 36.08 percent in 1998-1999 showing an increasing trend. The ratio declined to 18.72 percent in 1999-2000 and then it further declined to 10.36 percent in 2000-2001. It was very low 1.37 percent in 2001-2002 and it minus 0.19 percent in 2002-2003. The average ratio of the company was 14.27, which were above the average ratio of the tea company. The average ratio was satisfactory, but management should control the expenses and lessen the burden of interest.

The ratio of return on net worth of Williamson Tea Assam Ltd. was seen in the above table. The ratio ranged from minus 4.23 percent in 2002-2003 to 36.08 percent in 1998-1999. The average ratio of the company was 19.72 percent, which was above the average ratio of the tea industry. The ratio increased from 33.14 percent in 1997-1998 to 36.08 percent in 1998-1999. It declined to 27.65 percent in 1999-2000. It was further declined to 13.93 percent in 2000-2001 and 9.00 percent in 2001-2002. It was minus 4.23 percent in 2002-2003. The ratio during the first two years had been satisfactory.

Thus, it can be generalised based on the above analysis that the management of Greenline Tea & Exports
Ltd. and Rossell Ind. Ltd. were unable to get the return on owner's funds on account of defective leverage policy, ineffective and inefficient production and sales. The management of AFT Ind. Ltd., Williamson Tea Assam Ltd., Warren Tea Ltd., Rossell Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd. and Dhunseri Tea & Ind. Ltd. were able to get the return on net worth due to proper leverage policy and better utilization of funds of owners.

**Ratio of Return on Owners Fund of Tea Industry and Kruskal Wallis: one-way analysis of Variance test:**

Null hypothesis: There is no significance difference between the Ratio of Return on Owners Fund of selected tea companies.

Alternative Hypothesis: There is significance difference between the Return on Owners Fund Ratio of selected tea companies.

Significance: 5 percent

Statistical test used: Kruskal Wallis one-way analysis variance test.

Critical value: 16.92

Above table describes that the calculated value of H equal to 22.015 which is greater than the table value of 16.92 hence, the null hypothesis based on Krukal Wallis one-way
Table No - 4.5.1
Kruskal Wallis one way analysis of variance test of Ratio of Return on Net Worth in Tea Industry

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AFIL</th>
<th>R1</th>
<th>DT&amp;IL</th>
<th>R2</th>
<th>GGL</th>
<th>R3</th>
<th>GT&amp;EL</th>
<th>R4</th>
<th>JST&amp;IL</th>
<th>R5</th>
<th>PAIL</th>
<th>R6</th>
<th>RIL</th>
<th>R7</th>
<th>TTL</th>
<th>R8</th>
<th>WTL</th>
<th>R9</th>
<th>WTAL</th>
<th>R10</th>
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<tr>
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<td>36</td>
<td>57</td>
<td>1.3</td>
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<tr>
<td>2000-2001</td>
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<td>0.8</td>
<td>20</td>
<td>-1.1</td>
<td>16</td>
<td>-3</td>
<td>14</td>
<td>0.98</td>
<td>22</td>
<td>-88</td>
<td>4</td>
<td>10.3</td>
<td>36</td>
<td>10.4</td>
<td>37</td>
<td>14</td>
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<td>2001-2002</td>
<td>6.29</td>
<td>32</td>
<td>-0.64</td>
<td>17</td>
<td>-3.6</td>
<td>11</td>
<td>-12</td>
<td>6</td>
<td>-4</td>
<td>9</td>
<td>2.4</td>
<td>26</td>
<td>-144</td>
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<td>5.83</td>
<td>29</td>
<td>1.37</td>
<td>24</td>
<td>9</td>
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<td>2002-2003</td>
<td>3.56</td>
<td>27</td>
<td>1.58</td>
<td>25</td>
<td>-8.5</td>
<td>7</td>
<td>-3.5</td>
<td>12</td>
<td>-3</td>
<td>13</td>
<td>-4.9</td>
<td>8</td>
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<td>5.84</td>
<td>30</td>
<td>-0.2</td>
<td>18</td>
<td>-4.2</td>
<td>10</td>
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</tbody>
</table>

241   199   152   97   169   188   53   246   232   253

\[
H = \frac{12}{60(61)} \left[ \frac{(241)^2}{6} + \frac{(199)^2}{6} + \frac{(152)^2}{6} + \frac{(97)^2}{6} + \frac{(169)^2}{6} + \frac{(188)^2}{6} + \frac{(53)^2}{6} + \frac{(246)^2}{6} + \frac{(232)^2}{6} + \frac{(253)^2}{6} \right] - 3(61)
\]

H = 0.003278(62543)-183

H = 22.015
analysis is rejected. The acceptance of alternative hypothesis described there is significance difference between the ratios of the return on owner’s fund of the selected tea companies.

(2) Ratio of Return on Equity Capital:

It shows what percentage of profit is earned on the capital invested by ordinary share holders. The ratio is obtained by dividing net profit after deduction of preference dividend by the amount of ordinary share capital plus free reserves

\[
\text{Return on Equity Capital} = \frac{\text{Net Profit} - \text{Pre. Share Div.}}{\text{Equity Capital} + \text{Reserves}} \times 100
\]

In the above case, fictitious assets given in the balance sheet must be deducted in the denominator.

The table no.- 4.6 indicated the ratio of return on equity share capital of AFT Ind. Ltd. The ratio of return on equity share capital showed the declined trend during the study period. The ratio declined from 400.17 percent in 1997-1998 to 264.50 percent in 1998-1999 and 77.33 percent in 1999-2000. The ratio rose to 89.50 percent in 2001-2002 and declined to 46.67 percent in 2002-2003. The ratios on an average had been 185.67, which was higher than the ratio of
Table No.-4.6
The Ratio of Return on Equity in Tea Industry in India

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>400.17</td>
<td>264.50</td>
<td>235.83</td>
<td>77.33</td>
<td>89.50</td>
<td>46.67</td>
<td>185.67</td>
<td>137.87</td>
<td>74.26</td>
<td>46.67</td>
<td>400.17</td>
</tr>
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<td>DHUNSERI</td>
<td>100.86</td>
<td>127.18</td>
<td>132.47</td>
<td>58.37</td>
<td>21.75</td>
<td>13.88</td>
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<td>52.04</td>
<td>68.70</td>
<td>13.88</td>
<td>132.47</td>
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<td>GOODRICKE</td>
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<td>4.03</td>
<td>3.06</td>
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<td>3.06</td>
<td>104.58</td>
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<td>0.89</td>
<td>-14.36</td>
<td>-16.13</td>
<td>-4.08</td>
<td>-5.17</td>
<td>8.09</td>
<td>-156.58</td>
<td>-46.53</td>
<td>1.78</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>600.49</td>
<td>224.80</td>
<td>108.70</td>
<td>-14.18</td>
<td>-20.06</td>
<td>74.98</td>
<td>162.45</td>
<td>232.73</td>
<td>143.26</td>
<td>-20.06</td>
<td>600.49</td>
</tr>
<tr>
<td>PARRY AGRO</td>
<td>216.76</td>
<td>236.97</td>
<td>137.77</td>
<td>30.05</td>
<td>32.71</td>
<td>-89.89</td>
<td>94.06</td>
<td>125.77</td>
<td>133.71</td>
<td>-89.89</td>
<td>236.97</td>
</tr>
<tr>
<td>ROSSELL IND.</td>
<td>81.42</td>
<td>56.32</td>
<td>-51.19</td>
<td>-238.64</td>
<td>4.45</td>
<td>-131.52</td>
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<td>121.41</td>
<td>-260.95</td>
<td>-238.64</td>
<td>81.42</td>
</tr>
<tr>
<td>TATA TEA LTD.</td>
<td>210.14</td>
<td>264.83</td>
<td>221.56</td>
<td>178.25</td>
<td>128.00</td>
<td>125.58</td>
<td>188.06</td>
<td>54.97</td>
<td>29.23</td>
<td>125.58</td>
<td>264.83</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>214.02</td>
<td>173.55</td>
<td>158.04</td>
<td>94.39</td>
<td>29.53</td>
<td>8.22</td>
<td>112.96</td>
<td>82.69</td>
<td>73.21</td>
<td>8.22</td>
<td>214.02</td>
</tr>
<tr>
<td>Average</td>
<td>207.29</td>
<td>162.87</td>
<td>120.89</td>
<td>28.53</td>
<td>32.83</td>
<td>-7.14</td>
<td>90.88</td>
<td>85.44</td>
<td>94.02</td>
<td>-7.14</td>
<td>207.29</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.-4.6

RETURN ON EQUITY = PAT/EQUITY
the tea industry. The ratio was quite satisfactory. Nevertheless, the trend was declining so the company should use proper mix of debt and equity capital.

The ratio of return on equity share capital in Dhunseri Tea & Ind. Ltd. showed highly fluctuating trend. It was 100.89 percent in 1997-1998 and then it increased to 127.18 percent in 1998-1999. It rose to 132.47 percent in 1999-2000 and then sharply declined to 58.37 percent in 2000-2001. The ratio was 21.75 percent in 2001-2002 and 13.88 percent in 2002-2003. The average ratio was 75.75 percent with variation parameter of C.V. 68.70. The ratio was quite satisfactory.

The above table shows the ratio of return on equity share capital of Goodricke Group Ltd. The ratio varied from 3.06 percent in 2002-2003 to 104.58 percent in 1998-1999 with an average of 37.83 percent. The ratio was showing the declining trend after the first years of the study period. The ratio of the company was very low. The management should try to increase this ratio.

The ratio of return on equity share capital of Greenline Tea & Exports Ltd. is seen in the above table. The ratio showed decreasing trend during the study period. The ratio declined from 1.78 percent in 1997-1998 to 0.89 percent in
1998-1999. It was 0.89 percent in 1999-2000 and it was minus 14.36 percent in 2000-2001. The ratio was further minus 20.06 percent in 2001-2002. It also declined to minus 4.08 percent in 2002-2003. The ratio on an average was minus 5.17 percent. Thus, the ratio varied from minus 16.13 percent in 2001-2002 to 1.78 percent in 1997-1998. The ratio was not satisfactory.

In Jay Shree Tea & Ind. Ltd. the ratio of return on equity share capital is seen in the above table. The ratio showed the decreasing trend during the study period. It was 600.49 percent in 1997-1998 then it declined to 24.80 percent in 1998-1999. The ratio was 108.70 in 1999-2000 and then sharply declined to minus 14.18 in 2000-2001 and 20.06 percent in 2001-2002. It marginally rose to 74.98 percent in 2002-2003. The ratio was good during the first year of the study. The average ratio of the company was 162.45 percent which was satisfactory. The C.V. also showed high fluctuation among the ratio.

In Parry Agro the ratio of return on equity share capital showed the trend towards increased from 216.76 percent in 1997-1998 to 236.97 percent in 1998-1999. The ratio declined to 137.77 percent in 1999-2000 and 30.05 percent in 2000-2001. It rose to 32.71 percent in 2001-2002 and then it dropped to minus 89.89 percent. The average ratio of the
company was 94.06 percent which was higher than the average ratio of the tea industry. The ratio of return on equity share capital was satisfactory during the first two years of the study period.

The above table shows the ratio of return on equity share capital of Rossell Ind. Ltd. The ratio indicated the highly fluctuating trend during the study period. The ratio was 81.42 percent in 1997-1998 to 56.32 percent in 1998-1999. It declined to minus 51.19 percent in 1999-2000 and it was minus 238.64 percent in 2000-2001. It rose to 4.45 percent in 2001-2002 and then after it dropped to 131.52 percent in 2002-2003. The ratio was good during the first two years of the study period. The average ratio of the company was minus 46.53 due to the loss in the year of 1999-2000, 2000-2001, and 2002-2003. The ratio showed the poor picture of the return on equity share capital.

The ratio of return on equity share capital of Tata Tea Ltd. is shown in the above table. The ratio showed fluctuating trend during the study period. The ratio varied from 125.58 percent in 2002-2003 to 264.83 percent in 1998-1999 with a declining trend. The average ratio of the company was 188.06 percent, which was higher than the ratio of the tea industry. The return on equity share capital was satisfactory
because the management was able to earn the higher return compared to other selected companies under the study.

The above table showed the ratio of return on equity share capital of Warren tea. The ratio ranged from 8.22 percent in 2002-2003 to 214.02 percent in 1997-1998 with C.V. 73.21 percent. The ratio on average had been 112.96 which was higher than the ratio of the tea industry. The ratio showed declining trend during the study period. The ratio was quite satisfactory during the first three years of the study period.

The ratio of Return on equity share capital of Williamson Tea Assam Ltd. showed fluctuated trend ranging from minus 118.27 percent in 2002-2003 and 106.42 percent in 1999-2000. The average ratio was 103.68 percent, during the first three years of the study period was better and showed proper mix of debt-equity.

The ratio of return on equity share capital in the tea industry showed the declining trend during the study period. The ratio declined from 207.29 percent in 1997-1998 to 162.87 percent in 1998-1999. It rose to 120.89 percent in 1999-2000 and declined to 28.53 percent in 2000-2001 and then it increased to 32.83 percent in 2001-2002. It was minus 7.14 percent in 2002-2003. The average ratio of the selected
ANALYSIS OF PROFITABILITY

companies under the study was 90.88 percent. The AFT Ind. Ltd., Warren Tea Ltd., Williamson Tea Assam Ltd., Tata Tea Ltd., Jay Shree Tea, and Parry Agro Ind. Ltd. had higher average ratio than the average ratio of selected tea companies under the study. The other selected companies such as Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd., and Rossell Ind. Ltd. had the below the ratio of return on equity share capital.

Return on Equity Share Capital Ratio of Tea Industry and Kruskal Wallis: one way analysis of Variance test
Null hypothesis: There is no significance difference between the Return on Equity Share Capital Ratio of selected tea companies.
Alternative Hypothesis: There is significance difference between the Return on Equity Share Capital Ratio of selected tea companies.
Significance: 5 percent
Statistical test used: Kruskal Wallis one-way analysis variance test.
Critical value: 16.92

Table No-4.6.1 describes that the calculated value of $H$ equal to 24.35 which is greater than the table value of 16.92 hence, the null hypothesis based on Kruskal Wallis one-way
Table No - 4.6.1
Kruskal Wallis one way analysis of variance test of Ratio of Return on Equity in Tea Industry

| YEAR   | AFTIL | R1 | DT&IL | R2 | GGL | R3 | GT&EL | R4 | JST&IL | R5 | PAIL | R6 | RIL | R7 | TTL | R8 | WTL | R9 | WTAL | R10 |
|--------|-------|----|-------|----|-----|----|-------|----|--------|----|------|----|-----|----|-----|----|-----|----|------|-----|      |
| 1997-1998 | 400   | 59 | 101   | 35 | 53  | 25 | 1.78  | 13 | 60     | 60 | 217  | 52 | 81.42| 32 | 210 | 50 | 214  | 51 | 194.4| 48  |
| 1998-1999 | 265   | 57 | 127   | 40 | 105 | 36 | 0.89  | 11 | 225    | 54 | 237  | 56 | 56.32| 27 | 265 | 58 | 174  | 45 | 175  | 46  |
| 1999-2000 | 236   | 55 | 132   | 42 | 58  | 29 | 0.89  | 11 | 109    | 37 | 138  | 43 | -51.2 | 5  | 222 | 53 | 158  | 44 | 206.4| 49  |
| 2000-2001 | 77.3  | 31 | 58.4  | 28 | 4.1 | 16 | -14.4 | 8  | -14.2  | 9  | 30.1 | 22 | -239 | 1  | 178 | 47 | 94.4 | 34 | 109.9| 38  |
| 2001-2002 | 89.5  | 33 | 21.8  | 20 | 4   | 15 | -16.1 | 7  | -20.1  | 6  | 32.7 | 23 | 4.45 | 17 | 128 | 41 | 29.5 | 21 | 54.51| 26  |
| 2002-2003 | 46.7  | 24 | 13.9  | 19 | 3.1 | 14 | -4.08 | 10 | 75     | 30 | -90  | 4  | -132 | 2  | 126 | 39 | 8.22 | 18 | -118.3| 3   |
|         | 259   | 184 | 135   | 50 | 196 | 200 | 84    | 288 | 213    | 210 |

\[
H = \frac{12}{60(61)} \left[ \frac{(259)^2}{6} + \frac{(184)^2}{6} + \frac{(135)^2}{6} + \frac{(50)^2}{6} + \frac{(196)^2}{6} + \frac{(200)^2}{6} + \frac{(84)^2}{6} + \frac{(288)^2}{6} + \frac{(213)^2}{6} + \frac{(210)^2}{6} \right] - 3(61)
\]

\[
H = \frac{0.003278(63257.83)}{61} - 183
\]

\[
H = 24.35
\]
analysis is rejected. The acceptance of alternative hypothesis described there is significance difference between the return on equity share capital ratio of the selected tea companies

(3) Dividends per Share Ratio:-

The Earning per Share represents what the owner's are the critically entitled to receive from the firm. Apart from the net profit belonging to them is retained in the business and the balance is paid to them as dividend. The dividend paid to shareholders on a per share basis is the Dividends per Share Ratio. In other words, Dividends per Share Ratio is the net distributed profit belonging to the shareholders dividend by the number of ordinary shares outstanding. The formula for derivation of this ratio is:

\[
\text{Dividends per Share Ratio} = \frac{\text{Profits after interest and preference}}{\text{Dividend paid to ordinary shareholders}} \times \frac{\text{No. of ordinary shares outstanding}}{}
\]

The shareholders have a definite preference for dividends relative to retention of earnings. The Dividends per Share Ratio would be a better indicator than EPS as the former shows that what exactly is received by the owners. Like the EPS, the Dividends per Share Ratio also should not be taken at its face value as the increased DPS may not be a
Table No.- 4.7
Dividend per Share Ratio of Tea Industry in India
(From 1997-1998 to 2002-2003) (In Rs.)

<table>
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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>12.10</td>
<td>12.17</td>
<td>12.87</td>
<td>5.52</td>
<td>5.00</td>
<td>2.25</td>
<td>8.32</td>
<td>4.59</td>
<td>55.23</td>
<td>2.25</td>
<td>12.87</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>2.16</td>
<td>2.78</td>
<td>2.22</td>
<td>1.66</td>
<td>1.00</td>
<td>1.13</td>
<td>1.82</td>
<td>0.69</td>
<td>37.64</td>
<td>1.00</td>
<td>2.78</td>
</tr>
<tr>
<td>GOODRICKE</td>
<td>2.32</td>
<td>3.30</td>
<td>2.81</td>
<td>0.61</td>
<td>0.55</td>
<td>0.50</td>
<td>1.68</td>
<td>1.27</td>
<td>75.75</td>
<td>0.50</td>
<td>3.30</td>
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<td>GREENLINE TEA</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>6.60</td>
<td>4.40</td>
<td>4.48</td>
<td>3.31</td>
<td>1.50</td>
<td>1.70</td>
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<td>1.92</td>
<td>52.53</td>
<td>1.50</td>
<td>6.60</td>
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<td>5.56</td>
<td>3.67</td>
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<td>0.00</td>
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<td>2.08</td>
<td>52.31</td>
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<td>ROSELL IND.</td>
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<td>9.92</td>
<td>7.00</td>
<td>7.90</td>
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<td>1.94</td>
<td>20.13</td>
<td>7.00</td>
<td>12.21</td>
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<td>4.97</td>
<td>3.52</td>
<td>70.73</td>
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<td>11.02</td>
<td>5.00</td>
<td>1.13</td>
<td>7.24</td>
<td>3.88</td>
<td>53.61</td>
<td>1.13</td>
<td>11.37</td>
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<td>4.06</td>
<td>2.65</td>
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<td>1.76</td>
<td>42.04</td>
<td>1.57</td>
<td>5.92</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.- 4.7
Dividend per Share Ratio of Tea Industry in India
(From 1997-1998 to 2002-2003) (In Rs.)
reliable measure of the profitability as the equity based may have increased due to increased retention without any change in the number of outstanding shares.

The table NO.-4.7 shows the ratio of dividend per share of AFT Ind. Ltd. The ratio of dividend per share ratio showed increased trend from Rs.12.10 in 1997-1998 to Rs.12.17 in 1998-1999. It rose to Rs.12.87 1999-2000 then it declined to Rs.5.52 in 2000-2001. It was further declined to Rs.5.00 in 2001-2002. It dropped to Rs.2.25 in 2002-2003. The average ratio of the company was Rs.8.32 which was above than the tea industry. The ratio of dividend per share was satisfactory in this company.

The ratio of dividend per share of Dhunseri Tea & Ind. Ltd. was towards decreasing trend through out the research period. The ratio varied from Rs.1.00 in 2001-2002 to Rs.2.78 in 1998-1999. The average ratio of the company was Rs.1.82 which was very lower. The C.V. showed the Rs.37.64 showing the variation in the ratio. The ratio was not satisfactory for the company.

The above table shows the ratio of dividend per share of Goodricke Group Ltd. The ratio increased from Rs.2.32 in 1997-1998 to Rs.3.30 in 1998-1999. Then after the ratio began to decline to Rs.2.81 in 1999-2000, it was further
declined to Rs.0.61 in 2000-2001. It was also showed declining trend during the last two years of study period. The ratio ranged from Rs.0.50 in 2002-2003 to Rs.3.30 in 1998-1999. The average ratio of the company was Rs.1.68. The ratio of dividend per share was not enough to satisfy the shareholders.

The ratio of dividend per share of Greenline Tea & Exports Ltd. is seen in the above table. The ratio of dividend per share varied from zero rupees to zero rupees due to negative earning after tax. The company was not able to pay dividend to the shareholders.

The above table shows ratio of the dividend per share of Jay Shree Tea & Ind. Ltd. The ratio showed mix and fluctuating trend during the study period. The ratio varied from Rs.1.50 in 2001-2002 to Rs.6.60 in 1997-1998. The average ratio of the company was Rs.3.66 which was lower than the ratio of the tea industry. The dividend per share was quite satisfactory.

The ratio of the dividend per share of Parry Agro Ind. Ltd. is seen in the above table. The ratio of the dividend per share increased from Rs.4.95 in 1997-1998 to Rs.5.56 in 1998-1999. The ratio declined to Rs.3.67 in 1999-2000 and it rose to Rs.4.20 in 2000-2001. It further rose to Rs.5.45 in
2001-2002 and in the last year it was zero rupees. The average ratio of the company was Rs.0.55 which was very low. The ratio of dividend per share of Parry Agro Ind. Ltd. was not satisfactory.

The ratio of dividend per share of Rossell Ind. Ltd. was seen in the above table. The table No.5 showed constant trend of ratio of dividend per share during the study period. The ratio was zero rupees after first two years of study period due to negative earnings. The C.V. was Rs.154.92 showing the high fluctuations among the ratios.

In Tata Tea Ltd. the ratio of dividend per share showed the increasing trend from Rs.11.11 in 1997-1998 to Rs.12.21 in 1998-1999. It declined to Rs.7.79 in 1998-1999 and it rose to Rs.9.92 in 2000-2001. The ratio declined to Rs.7.00 in 2001-2002 and rose to Rs.7.90 times in 2002-2003. The average ratio of the company was Rs.9.65 times which were higher than the average ratio of the tea industry. The C.V. showed Rs. 20.13 which means less variation among the ratios. However, the ratio was satisfactory.

The above table shows the ratio of dividend per share of Warren Tea Ltd. The ratio showed the varying trend during the study period. It varied from Rs.1.00 in 2001-2002 which was lowest and highest Rs.8.93 in 1999-2000. The average
ratio of the company was Rs.4.97 which was lower than the average ratio of tea industry. The ratio was quite satisfactory.

The above table reveals the ratio of dividend per share of Williamson Tea Assam Ltd. The ratio showed the fluctuating trend during the study period. It raised Rs.6.59 in 1997-1998 to Rs.8.32 in 1998-1999. It further increased to Rs.11.37 in 1999-2000 and then it declined to Rs.11.02 in 2000-2001. It dropped to Rs.5.00 in 2001-2002 to Rs.1.13 in 2002-2003. The average ratio of the company was Rs.7.24 indicates the satisfactory position of the ratio.

On the basis of the above analysis, it can be concluded that the performance of AFT Ind. Ltd., Tata Tea Ltd., Williamson Tea Assam Ltd. and Warren Tea Ltd. was satisfactory. In addition to, other companies like Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd., Parry Agro Ind. Ltd., and Rossell Ind. Ltd. was not satisfactory.

Ratio of Dividend per Share in Tea Industry and Kruskal Wallis: one way analysis of Variance test:
Null hypothesis: There is no significance difference between the Ratio of Dividend per Share of selected tea companies.
**Table No - 4.7.1**

Kruskal Wallis one way analysis of variance test of Dividend per share Ratio in Tea Industry

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AFTIL</th>
<th>R1</th>
<th>DT&amp;IL</th>
<th>R2</th>
<th>GGL</th>
<th>R3</th>
<th>GT&amp;EL</th>
<th>R4</th>
<th>JST&amp;IL</th>
<th>R5</th>
<th>PAIL</th>
<th>R6</th>
<th>RIL</th>
<th>R7</th>
<th>TTL</th>
<th>R8</th>
<th>WTL</th>
<th>R9</th>
<th>WTAL</th>
<th>R10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-1998</td>
<td>12.1</td>
<td>57</td>
<td>2.2</td>
<td>25</td>
<td>2.32</td>
<td>28</td>
<td>0</td>
<td>1</td>
<td>6.6</td>
<td>46</td>
<td>4.95</td>
<td>38</td>
<td>1.65</td>
<td>21</td>
<td>11.1</td>
<td>55</td>
<td>5.5</td>
<td>42</td>
<td>6.59</td>
<td>45</td>
</tr>
<tr>
<td>1998-1999</td>
<td>12.2</td>
<td>58</td>
<td>2.8</td>
<td>29</td>
<td>3.3</td>
<td>31</td>
<td>0</td>
<td>1</td>
<td>4.4</td>
<td>35</td>
<td>5.56</td>
<td>44</td>
<td>1.65</td>
<td>21</td>
<td>12.2</td>
<td>59</td>
<td>8.84</td>
<td>50</td>
<td>8.32</td>
<td>49</td>
</tr>
<tr>
<td>1999-2000</td>
<td>12.9</td>
<td>60</td>
<td>2.2</td>
<td>26</td>
<td>2.81</td>
<td>30</td>
<td>0</td>
<td>1</td>
<td>4.5</td>
<td>37</td>
<td>3.67</td>
<td>33</td>
<td>0</td>
<td>1</td>
<td>9.79</td>
<td>52</td>
<td>8.93</td>
<td>51</td>
<td>11.4</td>
<td>56</td>
</tr>
<tr>
<td>2000-2001</td>
<td>5.52</td>
<td>43</td>
<td>1.7</td>
<td>23</td>
<td>0.61</td>
<td>14</td>
<td>0</td>
<td>1</td>
<td>3.3</td>
<td>32</td>
<td>4.2</td>
<td>34</td>
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<td>53</td>
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</tr>
<tr>
<td>2001-2002</td>
<td>5</td>
<td>39</td>
<td>1</td>
<td>15</td>
<td>0.55</td>
<td>13</td>
<td>0</td>
<td>1</td>
<td>1.5</td>
<td>20</td>
<td>5.45</td>
<td>41</td>
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<td>1</td>
<td>7</td>
<td>47</td>
<td>1</td>
<td>15</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td>2002-2003</td>
<td>2.25</td>
<td>27</td>
<td>1.1</td>
<td>17</td>
<td>0.5</td>
<td>12</td>
<td>0</td>
<td>1</td>
<td>1.7</td>
<td>24</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<td>7.9</td>
<td>48</td>
<td>1.13</td>
<td>17</td>
<td>1.13</td>
<td>17</td>
</tr>
</tbody>
</table>

284 | 135 | 128 | 6 | 194 | 191 | 46 | 314 | 211 | 260

\[
H = \frac{12}{60(61)} \left[ \frac{(284)^2}{6} + \frac{(135)^2}{6} + \frac{(128)^2}{6} + \frac{(6)^2}{6} + \frac{(194)^2}{6} + \frac{(191)^2}{6} + \frac{(46)^2}{6} + \frac{(314)^2}{6} + \frac{(211)^2}{6} + \frac{(260)^2}{6} \right] - 3(61)
\]

\[
H=0.003278(67041.833)-183
\]

\[
H= 36.76
\]
Alternative Hypothesis: There is significance difference between the Dividends per Share Ratio of selected tea companies.
Significance: 5 percent
Statistical test used: Kruskal Wallis one-way analysis variance test.
Critical value: 16.92

The above table describes that the calculated value of H equal to 36.76 which is greater than the table value of 16.92 hence, the null hypothesis based on Krukal Wallis one-way analysis is rejected. The acceptance of alternative hypothesis described there is significance difference between the dividends per share ratios of the selected tea companies.

(4) Ratio of Earning Per Share (E.P.S.):-

Apart from the rates of return, the profitability of a firm from the point of view of the ordinary shareholders is the Earning per Share. It measures the profit available to the equity shareholders on a per share basis, i.e. the amount that they can get on every share held. It is calculated by dividing the profits available to the shareholders by the number of the outstanding shares. The profits available to the ordinary shareholders are represented by net profits after taxes and preference dividend. The formula for derivation of this ratio is:
Earning Per Share is a widely used term. Its usefulness in analyzing the effect of a change in leverage on the net operating earnings to the ordinary shareholders and, given the requirements of maximizing Earning Per Share, what would be an appropriate capital structure for a firm is discussed in detail. Yet, Earning Per Share as a measure of profitability of a firm from the owner’s point of view should be used cautiously as it does not recognize the effect of increase in equity capital as a result of retention of earnings. In other words, if Earning Per Share has increased over the years, it does not necessarily follow that the firm’s profitability has improved because the increased profits to the owner’s may be the effect of an enlarged equity capital as a result of profit retentions, though the number of ordinary shares outstanding still remains constant. It only shows how much “theoretically” belongs to the ordinary shareholders.

Table No.-4.8 shows the ratio of earning per share in AFT Ind. Ltd. The ratio was showing the declined trend from Rs.40.02 in 1997-1998 to Rs.26.45 in 1998-1999. It further declined to Rs.23.58. In addition to, it dropped to Rs.7.73 in 2000-2001. The ratio rose to 8.95 in 2001-2002 and declined in 2002-2003 and reached to Rs.4.67. The average ratio of
### Table No. - 4.8

Earning Per Share Ratio of Tea Industry in India
(From 1997-1998 to 2002-2003) (In Rs.)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>40.02</td>
<td>26.45</td>
<td>23.58</td>
<td>7.73</td>
<td>8.95</td>
<td>4.67</td>
<td>18.57</td>
<td>13.79</td>
<td>74.26</td>
<td>4.67</td>
<td>40.02</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>10.09</td>
<td>12.72</td>
<td>13.25</td>
<td>5.84</td>
<td>2.17</td>
<td>1.39</td>
<td>7.58</td>
<td>5.20</td>
<td>1.39</td>
<td>68.70</td>
<td>13.25</td>
</tr>
<tr>
<td>GOODRICKE</td>
<td>5.28</td>
<td>10.46</td>
<td>5.84</td>
<td>0.41</td>
<td>0.40</td>
<td>0.31</td>
<td>3.78</td>
<td>4.15</td>
<td>109.57</td>
<td>0.31</td>
<td>10.46</td>
</tr>
<tr>
<td>GREENLINE TEA</td>
<td>0.18</td>
<td>0.09</td>
<td>0.09</td>
<td>-1.44</td>
<td>-1.61</td>
<td>-0.41</td>
<td>-0.52</td>
<td>0.81</td>
<td>-156.58</td>
<td>-1.61</td>
<td>0.18</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>60.05</td>
<td>22.48</td>
<td>10.87</td>
<td>-1.42</td>
<td>-2.01</td>
<td>7.50</td>
<td>16.25</td>
<td>23.27</td>
<td>143.26</td>
<td>2.01</td>
<td>60.05</td>
</tr>
<tr>
<td>TATA TEA LTD.</td>
<td>21.01</td>
<td>26.48</td>
<td>22.16</td>
<td>17.82</td>
<td>12.80</td>
<td>12.56</td>
<td>18.81</td>
<td>5.50</td>
<td>29.23</td>
<td>12.56</td>
<td>26.48</td>
</tr>
<tr>
<td>WARREN TEA</td>
<td>21.40</td>
<td>17.36</td>
<td>15.80</td>
<td>9.44</td>
<td>2.95</td>
<td>0.82</td>
<td>11.30</td>
<td>8.27</td>
<td>73.21</td>
<td>0.82</td>
<td>21.40</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>19.44</td>
<td>17.50</td>
<td>20.64</td>
<td>10.99</td>
<td>5.45</td>
<td>-11.83</td>
<td>10.37</td>
<td>12.30</td>
<td>118.60</td>
<td>-11.83</td>
<td>20.64</td>
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<tr>
<td>Average</td>
<td>20.73</td>
<td>16.29</td>
<td>12.09</td>
<td>2.85</td>
<td>3.28</td>
<td>-0.71</td>
<td>9.09</td>
<td>8.54</td>
<td>94.02</td>
<td>-0.71</td>
<td>20.73</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.- 4.8
Earning Per Share Ratio of Tea Industry in India

EARNING PER SHARE = PAT/No.OF EQUITY SHARE
the company was Rs.18.57 which was higher than the average of ratio of the tea industry. It can be said that the profitability of the company was satisfactory based on E.P.S.

In Dhunseri Tea & Ind. Ltd., the ratio of earning per share showed increased from Rs.10.09 in 1997-1998 to Rs.12.72 times in 1998-1999. It further rose to Rs.13.25 in 1999-2000 and sharply declined to Rs.5.84 in 2000-2001. It was Rs.2.17 in 2001-2002 and then decreased to Rs.1.39. The ratio fluctuated throughout the study period. The average ratio of the company was Rs.7.58, which was above the average of tea group.

In Goodricke Group Ltd. the ratio of earning per share showed the fluctuated trend during the study period. The ratio was Rs.5.28 then it was increased to Rs.10.46 in 1998-1999 showing the improvement in the ratio. It dropped to Rs.5.84 in 1999-2000 and Rs.0.41 in 2000-2001 due to decrease in earning after tax and interest. The ratio was Rs.0.40 in 2001-2002 and Rs.0.31 in 2002-2003. The average ratio of the company was Rs.3.78. The earning per share was quite satisfactory.

In Greenline Tea & Exports Ltd. the ratio of earning per share showed deceased trend from Rs.0.18 in 1997-1998 to Rs.0.09 in 1998-1999 and it remained constant to Rs.0.09 in
1999-2000. In addition to, it sharply declined to minus Rs.1.44 in 2000-2001. It was further declined to minus Rs.1.61 in 2001-2002. It was minus Rs.0.41 in the last year due to the decrease in earning after tax and interest. The average ratio of the company was minus Rs.0.52, which indicated that the ratio was not satisfactory. The C.V. was showing the high fluctuation with 156.58 percent.

The ratio of earning per share of Jay Shree Tea & Ind. Ltd. showed declined trend from Rs.60.05 in 1997-1998 to Rs.22.48 in 1998-1999. It declined to Rs.13.78 in 1999-2000 and it further decline to minus Rs.1.42 in 2000-2001. The ratio was further gone down to minus Rs.2.01 in 2001-2002 and marginally increased to Rs.7.50 in 2002-2003 showing good improvement in the ratio. The average ratio of the company was Rs.16.25. The earning per share was satisfactory.

The ratio of earning per share of Parry Agro Ind. Ltd. is seen in the above table. The ratio of earning per share showed the trend increased from Rs.21.68 in 1997-1998 to Rs.23.70 in 1998-1999. It declined to Rs.10.87 in 1999-2000 and Rs.3.01 in 2000-2001. The ratio was improved to Rs.3.27 in 2001-2002. In the last year of study period, it was minus to Rs.8.99 showing poor position of the company. The average ratio of the company was Rs.9.41, which was above the ratio of the tea industry.
The ratio of earning per share of Rossell Ind. Ltd. is manifested in the above table. The ratio showed declined trend from Rs.8.14 in 1997-1998 to Rs.5.63 in 1998-1999. It further declined to minus Rs.5.12 in 1999-2000 and it dropped to minus Rs.23.86 in 2000-2001. It improved and rose to Rs.0.44 in 2001-2002 and it declined to minus Rs.8.99 in 2002-2003. The average ratio was minus Rs.4.65 which showed poor EPS condition for profitability of the company.

The above table showed the earning per share of Tata Tea Ltd. The ratio showed fluctuating trend during the study period. It varied from Rs.12.56 in 2002-2003 to Rs.26.48 in 1998-1999. The average ratio of the company was Rs.18.81, which was the highest among the selected tea companies. The ratio showed c.v of Rs.29.23, which showed less fluctuation among the ratio. The EPS was satisfactory.

The ratio of earning per share of Warren Tea Ltd. reveals the trend towards decreasing. The E.P.S. was Rs.21.01 in 1997-1998 to Rs.17.36 in 1998-1999. It further declined to Rs.15.80 in 1999-2000 and Rs.9.44 in 2000-2001. The ratio was declined to very lower to Rs.2.95. In 2001-2002 and Rs.0.82 in 2002-2003. The average ratio was Rs.11.30 percent with C.V. of 73.21 percent. The E.P.S. was satisfactory.
The ratio of earning per share of Williamson Tea Assam Ltd. is found in the above table. The ratio showed fluctuating trend from Rs.19.44 in 1997-1998 to Rs.17.50 in 1998-1999 and improved to Rs.20.64 in 1999-2000. It was decreasing from Rs.10.99 in 2000-2001 to minus Rs.11.83 in 2002-2003. The E.P.S. was not satisfactory in the last year. The average ratio of the company was Rs.10.37. This was good.

It can be generalised from the above analysis that the Tata Tea Ltd. had the highest E.P.S. followed by AFT Ind. Ltd., Jay Shree Tea & Ind. Ltd., Warren Tea Ltd. Tea, Williamson Tea Assam Ltd., and Parry Agro Ind. Ltd. The following companies had the E.P.S. below the tea industry like Dhundseri Tea & Ind. Ltd., Greenline Tea & Exports Ltd. and Rossell Ind. Ltd.

Ratio of Earning per Share of Tea Industry and Kruskal Wallis one way analysis of Variance test:
Null hypothesis: There is no significance difference between the Ratio of Earning per Share of selected tea companies.
Alternative Hypothesis: There is significance difference between the Ratio of Earning per Share of selected tea companies.
Significance: 5 percent
Table No - 4.8.1
Kruskal Wallis one way analysis of variance test of Earning per Sahre Ratio in Tea Industry

| YEAR       | AFTIL | R1  | DT&IL | R2  | GGL | R3  | GT&EL | R4  | JST&IL | R5  | PAIL | R6  | RIL | R7  | TTL | R8  | WTL | R9  | WTAL | R10 |
|------------|-------|-----|-------|-----|-----|-----|-------|-----|--------|-----|------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|
| 1997-1998  | 40    | 59  | 10    | 35  | 5.3 | 25  | 0     | 13  | 60     | 60  | 22   | 52  | 8.1 | 32  | 21  | 50  | 21  | 51   | 19   | 48  |
| 1998-1999  | 26    | 57  | 13    | 40  | 10  | 36  | 0     | 11  | 22     | 54  | 24   | 56  | 5.6 | 27  | 26  | 58  | 17  | 45   | 18   | 46  |
| 1999-2000  | 24    | 55  | 13    | 42  | 5.8 | 29  | 0     | 11  | 11     | 37  | 14   | 43  | -5  | 5   | 22  | 53  | 16  | 44   | 21   | 49  |
| 2000-2001  | 7.7   | 31  | 5.8   | 25  | 0.4 | 16  | -1    | 8   | -1     | 9   | 3    | 22  | -24 | 1   | 18  | 47  | 9.4 | 34   | 11   | 38  |
| 2001-2002  | 9     | 33  | 2.2   | 20  | 0.4 | 15  | -2    | 7   | -2     | 6   | 3.3  | 23  | 0.4 | 17  | 13  | 41  | 3   | 21   | 5.5  | 26  |
| 2002-2003  | 4.7   | 24  | 1.4   | 19  | 0.3 | 14  | -0    | 10  | 7.5    | 30  | -9   | 4   | -13 | 2   | 13  | 39  | 0.8 | 18   | -12  | 3   |
|            | 259   | 181 | 135   | 60  | 196 | 200 | 84    | 288 | 213    | 210 |

\[
H = \frac{12}{60(61)} \left[ \frac{(259)^2}{6} + \frac{(181)^2}{6} + \frac{(135)^2}{6} + \frac{(60)^2}{6} + \frac{(196)^2}{6} + \frac{(200)^2}{6} + \frac{(84)^2}{6} + \frac{(288)^2}{6} + \frac{(213)^2}{6} + \frac{(210)^2}{6} \right] - 3 \cdot \frac{(61)}{6}
\]

\[H = 0.003278(62082.667) - 183\]

\[H = 20.50\]
Stastical test used: Kruskal Wallis one-way analysis variance test.
Critical value: 16.92

Above table describes that the calculated value of H equal to 20.50 which is greater than the table value of 16.92 hence, the null hypothesis based on Krukal Wallis one-way analysis is rejected. The acceptance of alternative hypothesis described there is significance difference between the earning per share ratio of the selected tea companies.

(5) Dividend Pay Out Ratio:-

It is also known as Pay out Ratio. It measures the relationship between the earnings belonging to the ordinary shareholders and the dividend paid to them. In other words, the Dividend Pay out Ratio shows what percentage share of the net profits after taxes and preference dividend is paid out as dividend to the equity holders. It can be calculated by dividing the total dividend paid to the owners by the total profits or earnings available to them. Alternatively, it can be found out by dividing Dividend per Share by the Earning per Share. The formula for derivation of this ratio is:-

\[
\text{Dividend Pay Out Ratio} = \frac{\text{Total Dividend to Equity Holders (Cash)}}{\text{Net Profits belonging to Equity Holders}} \times 100
\]
OR

\[
\text{Dividend Pay Out Ratio} = \frac{\text{Dividend per share (DPS)}}{\text{Earnings per share (EPS)}} \times 100
\]

The Dividend Pay out Ratio is an important and widely used ratio. Investors have a marked preference for higher Dividend Pay out Ratio. The pay out ratio can be compared with the trend or the years or an inter-firm and intra-industry comparison would throw light on its adequacy.

The above table shows dividend Pay Out ratio of AFT Ind. Ltd. The ratio showed increased trend from 0.3 percent in 1997-1998 to 0.46 percent in 1998-1999. It further rose to 0.55 percent in 1999-2000 and 0.71 percent in 2000-2001 showing improved trend. Thereafter, it declined to 0.56 percent in 2001-2002 and it was low 0.48 percent in 2002-2003. The average ratio of the company was 0.51 percent. The firm was constant to pay dividend to the shareholder.

The above table reveals the dividend payout ratio of Dhunseri Tea & Ind. Ltd. The ratio showed fluctuated trend from 0.21 percent in 1997-1998 to 0.22 percent in 1998-1999. It declined to 0.17 percent in 1999-2000 and further it improved to 0.28 percent in 2000-2001. The ratio highly increased to 0.46 percent in 2001-2002 and 0.81 percent in
## Table No.- 4.9

### Dividend Pay Out Ratio in Tea Industry in India


<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
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<td>AFT IND. LTD.</td>
<td>0.3</td>
<td>0.46</td>
<td>0.55</td>
<td>0.71</td>
<td>0.56</td>
<td>0.48</td>
<td>0.51</td>
<td>0.14</td>
<td>26.54</td>
<td>0.30</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>0.21</td>
<td>0.22</td>
<td>0.17</td>
<td>0.28</td>
<td>0.46</td>
<td>0.81</td>
<td>0.36</td>
<td>0.24</td>
<td>68.02</td>
<td>0.17</td>
</tr>
<tr>
<td>GOODRICKE</td>
<td>0.44</td>
<td>0.32</td>
<td>0.48</td>
<td>1.48</td>
<td>1.37</td>
<td>1.64</td>
<td>0.96</td>
<td>0.60</td>
<td>63.02</td>
<td>0.32</td>
</tr>
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<td>GREENLINE TEA</td>
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<td>0</td>
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<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>JAY SHREE TEA</td>
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<td>-0.75</td>
<td>0.23</td>
<td>-0.36</td>
<td>1.05</td>
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<td>-2.33</td>
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<td>PARRY AGRO</td>
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<td>1.67</td>
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<td>0.63</td>
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<td>0</td>
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<td>158.79</td>
<td>0.00</td>
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<td>0.56</td>
<td>0.55</td>
<td>0.63</td>
<td>0.53</td>
<td>0.07</td>
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<td>0.59</td>
<td>0.40</td>
<td>68.69</td>
<td>0.26</td>
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<td>0.34</td>
<td>0.48</td>
<td>0.55</td>
<td>1</td>
<td>0.92</td>
<td>-0.1</td>
<td>0.53</td>
<td>0.40</td>
<td>75.65</td>
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<tr>
<td>Average</td>
<td>0.26</td>
<td>0.32</td>
<td>0.34</td>
<td>0.36</td>
<td>0.51</td>
<td>0.51</td>
<td>0.38</td>
<td>0.10</td>
<td>26.92</td>
<td>0.26</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.- 4.9
Dividend Pay Out Ratio in Tea Industry in India

DIVIDEND PAY OUT RATIO = DPS/EPS (Earning paid to members/PAT)
2002-2003. The ratio of the company was healthy and indicated that the firm dividend policy decision was good.

Dividend payout ratio of Goodricke Group Ltd. showed fluctuated trend during the study period. The ratio ranged between 0.32 percent in 1998-1999 and 1.64 percent in 2002-2003 with an average of 0.96 percent. The average ratio of the company was above the ratio of the tea industry. The dividend payout ratio was satisfactory.

Dividend payout ratio of Greenlinne showed zero during the study period. It showed the PAT was zero during the study period. The dividend payout ratio was not satisfactory in the firm.

The above table showed dividend payout ratio of Jay Shree Tea & Ind. Ltd. The ratio indicated mix and downward from 0.11 percent in 1997-1998 to 0.20 percent in 1998-1999. It rose to 0.41 and showed good performance of profitability. Then, the ratio showed negative trend from minus to 2.33 percent in 2000-2001 to minus 0.23 percent. The average ratio of the company was minus 0.36 percent which was lower than the average ratio of tea industry.

The dividend payout ratio of Parry Agro Ind. Ltd. showed increased trend from 0.23 percent in 1997-1998 to
1.67 percent in 2001-2002. The ratio was minus in the last year of the study period. The average ratio of the company was 0.63 percent which was above the average ratio of the tea industry. The dividend payout ratio was satisfactory because the firm was regular in paying the dividend from 1997-1998 to 2001-2002.

The above table shows the dividend payout ratio of Rossell Ind. Ltd. The ratio increased from 0.20 percent in 1997-1998 to 0.29 percent in 1998-1999. Then after the ratio was zero percent due to zero PAT. The dividend payout ratio was not satisfactory; the average ratio of the company was also lower than the average ratio of the tea industry.

The dividend payout ratio of Tata Tea Ltd. is seen in the above table. The ratio showed increased trend during the study period. The ratio ranged from 0.44 percent in 1999-2000 to 0.63 percent in 2002-2003. The average ratio of the company was 0.53 percent, which was satisfactory, and the dividend payout ratio was constant.

The dividend payout ratio of Warren Tea Ltd. reveals the trend fluctuated with an average of 0.59 percent. The ratio varied from 0.26 percent in 1997-1998 to 1.38 percent in 2002-2003. The average ratio of the company was 0.59 percent which below above the average ratio of the Tea industry. The dividend payout ratio of this company was satisfactory.
The dividend payout ratio of Williamson Tea Assam Ltd. showed the trend fluctuated during the study period. The ratio varied from minus 0.10 percent in 2002-2003 and 1.00 percent in 2000-2001. The average ratio of the company was 0.53 percent, which was above the average ratio of the tea industry. The dividend payout ratio of the Williamson Tea Assam Ltd. was constant and satisfactory.

It can be generalized that the dividend payout ratio of Goodricke Group Ltd. was the highest followed by Warren Tea Ltd., Parry Agro Ind. Ltd., Tata Tea Ltd., and AFT Ind. Ltd.. The following companies showed the dividend payout ratio was lower than the average ratio of tea industry like Dhunseri Tea & Ind. Ltd., Greenline Tea & Exports Ltd., Jay Shree Tea & Ind. Ltd. and Rossell Ind. Ltd.

Conclusion:

Chapter titled “Analysis of Profitability” describe the conceptual framework of profitability. Profitability is the ability of a given investment to earn a return from its use. It’s vital instrument to measure not only the business performance but also overall efficiency in its concerned.

In present study seven types of measurement tools of profitability were discussed i.e. Gross Profit Ratio, Operating Profit Ratio, Net Profit Ratio, Ratio of Return on Capital
Employed, Ratio of Return on Owners Fund, Ratio of Return on Equity Share Capital, Dividend per Share Ratio, Earning Per Share Ratio, Dividend Pay out Ratio. Generally; ratio of earning per share used widely and is also famous. The present study shows concept, importance and measurement tools for profitability performance of Selected Tea Companies of Tea Industry.

References:
2. Block and Hirt “Founddations of financial management’ Richard D Irwin inc., Homewood, illinois, 1978,
5. Dave N.V. “Industrial sickness and some key areas of management (A study of textile industry :Gujarat)A thesis of PH. D. in faculty of commere, saurashtra university, Rajkot,1984


CHAPTER- 5

ANALYSIS OF FINANCIAL STRUCTURE

- Concept of Financial Structure
- Factors Determining Financial Structure
- Analysis of Financial Structure of Selected Tea Companies of Tea Industry through Ratios:
  1. Total Debt- Equity Ratio
  2. Long Term Debt- Equity Ratio
  3. Capital Gearing Ratio
  4. Financial Leverage
  5. Net Fixed Assists to Net worth Ratio
  6. Proprietary Ratio
  7. Net Fixed Asset to Long Term Debt Ratio
  8. Interest Coverage Ratio
- Conclusion
- References
CHAPTER– 5
ANALYSIS OF FINANCIAL STRUCTURE

Concept of Financial Structure:

Accounting regards the financial structure of a business as consisting of three elements; assets, liabilities and capital. The financial structure provides an insight into the various types of sources tapped to finance the total assets employed in a business enterprise. That part of the financial structure, which represents long-term sources, is known as 'capital structure'. This term refers to the 'make-up' of the long-term funds as represented by the equity share capital, preference share capital and long-term debt. To circumscribe the real area of the term 'capital structure', it may be necessary to distinguish it from the term 'assets structure'. The 'assets structure' refers to the 'makeup' of total assets as represented by fixed assets and current assets.

Since the balance sheet is a detailed form of the fundamental or structural equation, it sets forth the financial structure of an enterprise. It states the nature and amount of each of the various assets, of the liabilities, and of the property interest of the owner or owners. Stating the nature
of the assets, liabilities and capital is not so difficult as stating their amounts.

The financial structure can be made initially from the point of view of the time for which funds are needed. An enterprise needs funds for financing short-term and long-term requirements. However, views are not consistent regarding the duration of each type of finance. The dividing line is often arbitrary, hazy and vague. The financial structure includes, therefore, both the sources of finance, i.e. long-term and short-term.

From the angle of time there may be short-term capital and long-term capital. The short-term sources will be employed by an enterprise when the size of the funds is such as to generate sufficient cash flow to retire debt within a short payment period of a year or less. Current liabilities and provisions represent these sources. They are invested in the current assets as a matter of policy as the current assets are automatically converted into cash during routine business operations.

Long-term sources represent permanent or long-term capital. It is normally contended that if the period of debt is long enough to allow for probable major changes in the nature of business and the repayment of debt is not within a
period for which tentative business plan can be worked out, it should be included in the long-term category. Financing of periods in excess of 7 to 10 years can be included in the long-term finance category. Though these periods will vary among various firms and industries, long-term finance may be for a period extending beyond five or seven years. However, if the enterprise is stable like the utility undertakings then the period should not be less than ten years if it is to be included in the category of long-term finance.

Notably, Gerstenberg has used the term 'capital structure' and 'financial structure' interchangeably. According to him financial structure also refers to the make-up of the permanent capital of the firm.

Capital structure means the financial plan of a company in which the various sources of capital are mixed up in such a proportion that they provide a distinct capital set-up most suitable to the requirements of that particular company. The task of framing capital structure involves determination of the right proportion in which different securities should be blended. Each corporate security has its own merits and demerits. It may be remarked that too much induction of any one type of security in the capital structure of a company may prove unprofitable or risky subsequently. For example, if the promoters decide to carry on business mainly
with the help of equity capital without adequate debt capital, the company may forgo the advantage of trading on equity' and thus may not fulfill the objective of the maximizing return to the owners. On the other hand, if a company with fluctuating income has a high capital leverage (that is to say that the company is highly geared with too much preferred and debt capital carrying fixed charge obligations in respect of dividend or interest) it will be undertaking a great risk. Such a capital structure will no doubt maximise the return to the owners; but in lean years it would make the position of the company very critical, because the net income might not be enough to meet even the fixed charge obligations on preference shares or debentures.

Undoubtedly, there cannot be a uniform capital structure, which suits the requirements of all companies. In other words, the capital structure has to be tailored in such a way so as to suit the needs of a particular company. Thus, a model capital structure is possible only for such a group of companies, which have similar characteristics. For example, public utilities having more or less stable income and adequate fixed assets cover can afford to have highly geared or levered capital structure with more emphasis on borrowed capital. On the other hand, trading companies have to exercise great caution in giving place to borrowed funds in their capital structure.
Factors Determining Financial Structure:

As stated already, financial structure refers to the make up of the permanent capital of the company. Simply, capital structure denotes the make-up of the total long-term capital. As a matter of fact, the terms 'financial structure' and 'capital structure' are interchangeable. The capital structure decision is a continuous one and has to be taken whenever a firm needs additional finances. Generally, the following factors should be considered whenever a capital structure decision has to be taken:

1. Trading on equity or leverage
2. Capital gearing
3. Cost of capital
4. Maximum control
5. Cash flow ability of the company
6. Flexibility
7. Size of the company

1. Trading on Equity or Leverage

Generally, borrowing is peculiar to short-term finance. But one of the main reasons for a long-term borrowing is financing of fixed assets. Often the term debt is backed by fixed assets of the enterprise. The debt financing as the main policy of the enterprise is associated with the concept of trading on equity.
The trading on equity is a device to earn higher earnings on the share capital of the company. Till an enterprise uses borrowed capital in the regular conduct of business with a view to earning more on it than what it pays in the form of interest, it continues to borrow profitably. If borrowed funds are used with this object, the company is said to be trading on equity.

The policy of trading on equity is also known as 'leverage' or 'financial lever', just as a slight fluctuation of lever with the help of a key opens or closes a lock. Similarly, the policy of trading on equity signifies the influence of fluctuations in earnings, like a lever. The level of earnings is a limiting factor. The gains are magnified if earnings are high but losses too are magnified if earnings are low. A successful leverage would always result in high profitability. The intensity of trading on equity can be measured by the following ratios:

(i) **Debt-Equity Ratios:**

The debt-equity ratio shows the relative contribution of owners and long-term creditors. To calculate this ratio the figure of total debt is divided by net worth. The ratio can be expressed as turnover or as percentage. The norm of this ratio is 1:1 or 100 percent.
(ii) **Fixed Charge Ratio:**

This denotes the factor of safety, i.e the extent to which earnings can decline without causing embarrassment to creditors and preference share holders in respect of payment of interest and dividend. The figures of profit before interest and taxes are divided by interest. The norm for interest is four times.

2. **Capital Gearing:**

The proportion in which different forms of securities are to be issued is decided on the basis of policy decision regarding capital gearing. The ratio of ordinary shares (equity share capital) to preference share capital and loan capital is described as the "capital gearing". A highly geared capital is one which has a small proportion of equity capital including any reserves or undistributed profits which may be regarded as being part of the equity of the ordinary shareholders. If the larger proportion of total capital is made up of equity capital, the capital is said to be 'low geared'\(^{10}\). Thus, capital gearing is important not only to the company, but also to prospective investors. It must be carefully planned since it affects a great deal of the company's capacity to maintain an even distribution policy in the face of any difficult trading periods which may occur. Remarkably, distribution policies and the building-up of
reserves as well as an even dividend policy are all affected by the company's "gear ratio".

3. **Cost of Capital:**

Capital in the form of shares or debentures has to be attracted and then maintained in the business. The latter means that the interest payable in the case of a loan can be met or an adequate return can be paid on the share capital invested. The total cost of maintaining loan and share capital should be kept to the minimum. So it is necessary for alternative capital structures to be compared. The term 'cost of capital' generally refers to the interest or dividend payable. However, it should not be forgotten that costs are also incurred in raising the capital. Share and debenture issues, financing connected with property, and many other methods of raising capital do involve legal and publicity costs. On the other hand, short-term borrowings, hire purchase acceptance credits and other charges, over and above the interest charges.

4. **Maximum Control:**

Certain shares will have voting rights and, therefore, through them control can be exercised. The correct balance between the voting capital-normally the equity capital-and the loan capital should be maintained but the ideal ratio is difficult to determine. Some
accountants may take the view that the absence of loans is a sign of great strength while others may argue that the existence of loans is an indication of growth and profitability.

5. **Cash Flow Ability of the Company:**

One of the features of a sound capital structure is conservatism which does not mean employing no debt or small amount of debt. Conservatism is related to the fixed charges created by the use of debt of preference capital in the capital structure and firm's ability to generate cash to meet out these fixed charges under any reasonably predictable adverse conditions. The fixed charges of a company include payment of interest, preference dividends and principal.

6. **Flexibility:**

Flexibility is one of the most serious considerations in the realm of capital structure. Flexibility means the firm's ability to adopt its capital structure to the needs of the changing conditions. The capital structure of a firm is flexible if it has no difficulty in changing its capitalisation or sources of funds. The company should be able to raise funds, without undue delay and cost, whenever needed to finance the profitable investments. The company should also be in a position to redeem its preference capital or debt whenever warranted by the future conditions.
7. **Size of the Company:**

The size of the company greatly influences the availability of funds from different sources. A small company finds great difficulties in raising long-term loans. Even if it is able to obtain some long-term loan, it might be available at a high rate of interest and inconvenient terms. The highly restrictive conditions of loan agreements in case of small companies make their capital structure very inflexible and management cannot run business freely without any interference. Conversely, a large company has a greater degree of flexibility in designing its capital structure.

**Analysis of Financial Structure of Selected Tea Companies of Tea Industry through Ratios:**

The overall financial structure of the tea industry can be studied from the point of view of duration of time (short-term and long-term funds), ordinary shareholders (extent of capital gearing) and relative contribution of owners and creditors (trading on equity). The long term sources of these companies include the net worth as represented by equity shares, preference shares, reserve funds plus long-term liability. The long-term liability was represented by loans from financial institutions and state governments. The short-term sources were loans from commercial banks, sundry creditors and other provisions.
Certainly the financial analyst should not be interested only in a short span of time only. Rather, his interest extends mainly beyond that. Indeed, a business corporation, which is financially sound today, may eventually lose its strength in the long period if it fails to sustain the long series of risks and losses. Keeping in view this, certain ratios have been calculated to analyse the financial structure of the state warehousing corporations to know their long-term solvency. A low ratio of liabilities to fixed assets or a high ratio of owners' equity to fixed assets and a high ratio of equity to liabilities all express a relatively large cushion of security to the creditor's and, therefore; these are looked favourably by creditors. These ratios serve, in the words of Finney and Miller, "as an indication of long term solvency as the working capital ratio is a measure of short-term solvency."

The following ratios have been used to analyse the financial structure of the selected tea companies of tea industry:

1. Total Debt Equity Ratio
2. Long Term Debt Equity Ratio
3. Capital Gearing Ratio
4. Financial Leverage
5. Net Fixed Assists to Net worth Ratio
6. Proprietary Ratio
7. Net Fixed Asset to Long Term Debt Ratio
8. Interest Coverage Ratio
1 Total Debt- Equity Ratio:-

This is a vital ratio analysis to determine the efficiency of the financial management of a business undertaking. Total Debt to equity ratio relates all recorded creditors' claims on assets to the owners recorded claims in order to measure the companies' obligations to creditors in relation to funds provided by the owners. It is also known as external-internal equity ratio. The creditors' category includes all debts, whether long-term or short-term or in the form of mortgages, bills or debentures, while the claims of owners consist of preference shares, equity shares, capital reserves, retained earnings and any reserves representing earmarked surplus, like reserve for contingencies, reserve for plant expansion, etc. It is calculated as follows:

\[
\text{Total Debt – Equity Ratio} = \frac{\text{Total Debts}}{\text{Owners Funds}} \times 100
\]

The purpose of this ratio is to find out the amount of capital supplied to a business enterprise by the owners and also of asset 'cushion' available to creditors on liquidation. Generally acceptable norm of this ratio is 1:1. Theoretically, the higher are the interests of the proprietors as compared with that of creditors, the more solid would be the financial conditions of a business. Significantly, this ratio holds the same importance as the current ratio in the analysis of short-term financial position.
Structural ratios are based on the allocation of debt and equity in the financing pattern of firm’s assets. Capital structure of the borrower has strong implications. Total Debt Equity ratio is to take all types of debts (long-term and short-term) in place of long term debts only. The argument in favour of this view is that like long-term debts, short terms debts are also received from outside creditors and they add to the financial risk. Similarly, interest is to be paid on short term debts as in case of long-term debts. Besides, the Pressure from short-term creditors is much more on the management. If we are to include all types of debt, we will call it Total Debt-Equity Ratio.

A higher ratio means that outside creditors have a larger claim than the owners of the business. The pressure from creditors would increase and their interference will also increase. The company with high-debt position will have to accept stricter conditions from the lenders, while borrowing money.

If this ratio is lower, it is not profitable from the viewpoint of equity shareholders, as benefit of trading on equity is not availed of and the rate of equity dividend will be comparatively lower.
(1) Debt is riskier from the company’s point of view, this is because the debt holders have to be paid irrespective of the profits or losses made.

(2) Employment of debt is advantageous to shareholders in two ways i.e. control is retained by them with a limited stake and their earning will be magnified, when the firm earns a rate higher than the interest rate on the invested funds. This process of magnifying the shareholders return through the employment of debt is called ‘trading’ on equity.

(3) A firm with higher debt burden will be disadvantageous from a banker’s point of view in two ways i.e. there is greater financing risk because the tangible net worth which is the final buffer between disaster and the bankers investment, is smaller. Also the future borrowing prospects of a highly debt burdened firm are dim.

Thus leverage ratios are calculated to measure the financial risk as the firm’s ability of using debt for the benefit of its shareholders. There are few variations of leverage ratios but they all indicate the extent to which the firm has realized on debt in financing assets, Debt Equity ratio has two versions viz. Long Term Liabilities/Total Net Worth and Total outside Liabilities/Total Net Worth. Many arguments can be stated for and against the inclusion of current liabilities in the numerator.
### Table No - 5.1

**Total Debt - Equity Ratio in Tea Industry in India**


<table>
<thead>
<tr>
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<td>AFT IND. LTD.</td>
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<td>0.50</td>
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<td>0.39</td>
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<td>0.53</td>
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<tr>
<td><strong>Average</strong></td>
<td><strong>0.39</strong></td>
<td><strong>0.46</strong></td>
<td><strong>0.38</strong></td>
<td><strong>0.74</strong></td>
<td><strong>0.38</strong></td>
<td><strong>0.53</strong></td>
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<td><strong>29.40</strong></td>
<td><strong>0.38</strong></td>
<td><strong>0.74</strong></td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No - 5.1

TOTAL DEBT/EQUITY RATIO

AFT DHUNSERI GOODRICK GREENLINE JAYSHREE PARRY AGRO ROssel IND. TATA TEA WILLIAMSON Average

The second version is all encompassing and therefore gives wider picture. Debt Assets Ratio (TOL/TNW) measures the position of the firm’s assets financed by creditors. A high ratio represents a greater risk to creditors. However, a very low ratio can also indicate that the company is not using debt to its advantage.

The Table No.-5.1 shows Total debt equity Ratio of AFT Ind. Ltd. The ratio shows fluctuating trend during the study period. The ratio ranged between 0.01 times in 1999-2000 to 0.66 times in 2002-2003 with an average of 0.17 times. The average ratio of the company was below the average of tea industry. This ratio is considered to be good but the company could not take benefit of trading on equity due to less outsider’s fund.

The total debt equity ratio of Dhunseri Tea & Ind. Ltd. reveals also the fluctuating trend with an average of 0.63 times. The ratio of the company increased from 0.50 times in 1997-1998 to 0.59 times in 1998-1999 and decreased to 0.55 times in 1999-2000. For the next two year ratio increased to 0.77 times in 2000-2001 and 0.87 times in 2001-2002 but decreased to 0.50 times in the last year of the study period.
In Goodricke Group Ltd. Tea Ltd., the total debt equity ratio was fluctuating. The ratio varied from 0.22 times to 0.39 times. It was decreased from 0.32 times in 1997-1998 to 0.22 times in 1998-1999 then increased to 0.29 times in 1999-2000. It was further increased up to 0.39 times and remains the same in the next year, but it decreased to 0.30 times in the last year. The average ratio of the company was 0.32 times which was the lower than the average ratio of the tea industry.

Table no 5.1 indicated the total debt equity ratio of Greenline Tea & Exports Ltd. The ratio showed fluctuating trend during the study period. The ratio varied from 0.36 times to 0.63 times. The average ratio of the company was 0.47 times which was the nearest to the average ratio of the selected tea companies. It decreased slightly during the first three years but increased during the last three years of the study period and reached up to 0.63 times in the last year.

In Jay Shree Tea & Ind. Ltd. total debt equity ratio showed fluctuating trend. The ratio ranged between 0.39 times to 0.68 times with an average of 0.53 times. The average ratio of the company was more than tea industry. The Standard Deviation and C.V. was 0.11 times and 21.53 times.
The above table shows total debt equity ratio of Parry Agro Ind. Ltd. The ratio was highly fluctuated during the span of research period with an average of 0.92 times. The ratio fluctuated from a lowest 0.16 times in 1997-1998 to highest 1.86 times in 2002-2003. The average ratio of the company was nearest to twice than that of the combined average ratio of tea industry. Company is advised to decrease long term debt to reduce this ratio.

Total debt equity ratio of Rossell Ind. Ltd. shows very high fluctuation with an average of 0.91 times. The ratio fluctuated between zeros (minus) times to 3.88 times. In the years of 1999-2000, 2001-2002 and 2002-2003 the ratio had been minus due to the negative net worth, so the company should increase the net profit. The financial soundness of the company is very bad.

In Tata Tea Ltd. total debt equity ratio shows mix and decreasing trend. It decreased from 0.75 times in 1997-1998 to 0.22 times in 2001-2002 and increased up to 0.25 times in the last year. The average ratio of the company was 0.39 times which was below the average ratio of tea industry. This ratio is satisfactory from the view of the shareholders of the company.
Table No.-5.1 manifested the total debt equity ratio of Warren Tea Ltd. The total debt equity ratio explain fluctuated trend during the research period. The average ratio of the company was 0.14 times. It was varying from 0.07 times to 0.29 times. The total debt equity ratio of the company was satisfactory.

The above table reveals total debt equity ratio of Williamson Tea Assam Ltd. The ratio showed decreasing and mix trend. It was 0.52 times in 1997-1998 and increase by 0.01 times only in 1998-1999 then decreased during the next three years of the study period. The average ratio of the company was 0.30 times which was lower than the average ratio of the tea industry. The ratio of the company is good.

The combined total debt-equity ratio of selected tea companies shows fluctuating trend. The average ratio of the tea industry was 0.48 times. On the basis of analysis, it can be concluded that the highest ratio was of 0.92 times of Parry Agro Ind. Ltd. followed by Rossell Ind. Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Greenline Tea & Exports Ltd., Tata Tea Ltd., Goodricke Group Ltd., Williamson Tea Assam Ltd., AFT Ind. Ltd. and Warren Tea Ltd.
2. Long Term Debt Equity Ratio:

This ratio is only another form of proprietary ratio and establishes relationship between the outside long-term liabilities and owners' funds. It shows the proportion of long-term External Equities and Internal Equities. i.e. proportion of' funds provided by long-term creditors and that provided by shareholders or proprietors.

\[
\text{Long Term Debt-Equity Ratio} = \frac{\text{Long term Liabilities}}{\text{Shareholders' Funds}} \times 100
\]

A higher ratio means that outside creditors have a larger claim than the owners of the business. The pressure from creditors would increase and their interference will also increase. The company with high-debt position will have to accept stricter conditions from the lenders, while borrowing money.

If this ratio is lower, it is not profitable from the viewpoint of equity shareholders, as benefit of trading on equity is not availed of and the rate of equity dividend will be comparatively lower.

The above table shows Long term debt equity Ratio of AFT Ind. Ltd. was zero because the company had not created long term debt during the study period. Due to zero ratio company could not take benefit of trading on equity. The ratio ranged between 0.01 times in 1999-2000 to 0.66 times in 2002-2003 with an average of 0.17 times. The
Table No - 5.2
Long Term Debt Equity Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

<table>
<thead>
<tr>
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<tbody>
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<td>AFT IND. LTD.</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>DHUNSERI</td>
<td>0.26</td>
<td>0.37</td>
<td>0.34</td>
<td>0.64</td>
<td>0.54</td>
<td>0.40</td>
<td>0.42</td>
<td>0.14</td>
<td>33.30</td>
<td>0.26</td>
<td>0.64</td>
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<tr>
<td>GOODRICKE</td>
<td>0.11</td>
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<td>0.07</td>
<td>0.01</td>
<td>0.02</td>
<td>0.09</td>
<td>0.06</td>
<td>0.04</td>
<td>67.20</td>
<td>0.11</td>
<td>0.11</td>
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<tr>
<td>GREENLINE TEA</td>
<td>0.19</td>
<td>0.17</td>
<td>0.16</td>
<td>0.25</td>
<td>0.33</td>
<td>0.34</td>
<td>0.24</td>
<td>0.08</td>
<td>33.09</td>
<td>0.16</td>
<td>0.34</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>0.35</td>
<td>0.36</td>
<td>0.29</td>
<td>0.40</td>
<td>0.55</td>
<td>0.49</td>
<td>0.41</td>
<td>0.10</td>
<td>23.54</td>
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<tr>
<td>PARRY AGRO</td>
<td>0.16</td>
<td>0.72</td>
<td>0.58</td>
<td>0.60</td>
<td>0.62</td>
<td>1.78</td>
<td>0.74</td>
<td>0.54</td>
<td>73.05</td>
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<td>0.00</td>
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<td>0.00</td>
<td>1.78</td>
<td>1.00</td>
<td>1.38</td>
<td>137.49</td>
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<td>0.27</td>
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<td>0.21</td>
<td>0.33</td>
<td>0.15</td>
<td>44.89</td>
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<td>0.59</td>
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<tr>
<td>WARREN TEA</td>
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<td>0.16</td>
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<td>0.10</td>
<td>0.23</td>
<td>0.13</td>
<td>0.06</td>
<td>44.02</td>
<td>0.07</td>
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<tr>
<td>WILLIAMSON</td>
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<td>0.09</td>
<td>0.05</td>
<td>0.00</td>
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<td>0.21</td>
<td>101.82</td>
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<td>0.49</td>
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<tr>
<td>Average</td>
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<td>0.20</td>
<td>0.58</td>
<td>0.24</td>
<td>0.53</td>
<td>0.35</td>
<td>0.16</td>
<td>45.22</td>
<td>0.20</td>
<td>0.58</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 5.2
Long Term Debt Equity Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)
average ratio of the company was below the combined average ratio of tea industry. This ratio is considered to be good but the company could not take benefit of trading on equity due to less outsiders’ fund.

The Long term debt equity ratio of Dhunseri Tea & Ind. Ltd. showed fluctuating trend with an average of 0.42 times. The ratio of the company increased from 0.26 times in 1997-1998 to 0.37 times in 1998-1999 and decreased up to 0.34 times in 1999-2000. It was then increased to 0.64 times in 2000-2001 but decreased to 0.54 times in 2001-2002 and further decreased to 0.40 times in the last year during the study period.

In Goodricke Group Ltd., the Long term debt equity ratio was fluctuating during the study period. The ratio varied from 0.1 times to 0.22 times. It was decreased from 0.11 times in 1997-1998 to 0.05 times in 1998-1999 then increased to 0.07 times in 1999-2000. Then it was decreased up to 0.01 times but increased by 0.01 times in 2001-2002 and reached up to 0.09 in the last year of study period. The average ratio of the company was 0.06 times which was very low than 0.35 times, the average ratio of the tea industry.

Table No.-5.2 indicated the Long term debt equity ratio of Greenline Tea & Exports Ltd. Tea Ltd. The ratio showed
fluctuating trend during the study period. The ratio was varied from 0.16 times to 0.34 times with an average ratio of 0.24 times. It was decreased during the first three years from 0.19 times in 1997-1998 to 0.16 time in 1999-2000 but increased during the last three years of the study period and increased up to 0.34 times in 2002-2003.

In Jay Shree Tea & Ind. Ltd. Long term debt equity ratio showed fluctuating trend. The ratio ranged between 0.29 times to 0.55 times with an average ratio of 0.41 times. It increased from 0.35 times in 1997-1998 to 0.36 times in 1998-1999 but decreased up to 0.29 times in 1999-2000. It was again increased to 0.40 times in 2000-2001 and further again increased to 0.55 times in 2001-2002 but it decreased and marked to 0.49 times in the last year of the study period. The average ratio of the company was more than 0.35 times, the average ratio of tea industry.

The above table shows Long term debt equity ratio of Parry Agro Ind. Ltd. The ratio was highly fluctuated during the span of research period with an average of 0.74 times. The ratio fluctuated from a lowest 0.16 times in 1997-1998 to 1.78 times in 2002-2003 which was the highest during the research period. The average ratio of the company was more than twice than the average ratio of tea industry.
Company is advised to decrease long term debt to reduce this ratio.

Long term debt equity ratio of Rossell Ind. Ltd. showed very high fluctuation with an average ratio of 1.00 times. The ratio fluctuated between zeros (minus) times to 3.47 times. In the years of 1999-2000 and 2001-2002 the ratio had been minus due to the negative net worth, so the company should increase the net profit. We can say from the ratio that the financial soundness of the company is not satisfactory.

In Tata Tea Ltd. Long term debt equity ratio showed decreasing trend. It was decreased from 0.59 times in 1997-1998 to 0.21 times in 2002-2003. The average ratio of the company was 0.33 times which was nearest to the average ratio of tea industry. This ratio is satisfactory from the view of the shareholders of the company.

Table No.-5.2 manifested the Long term debt equity ratio of Warren Tea Ltd. The Long term debt equity ratio depicted fluctuating trend during the research period. The average ratio of the company was 0.13 times which lower than 0.35 times, the average ratio of the tea industry. The ratio decreased from 0.13 times in 1997-1998 to 0.07 times in 1998-1999 then it varied from 0.07 times in 1998-1999 to
0.23 times in 2002-2003. The Long term debt equity ratio was satisfactory.

The above table reveals Long term debt equity ratio of Williamson Tea Assam Ltd. The ratio showed decreasing trend. It was decreased from 0.49 times in 1997-1998 to 0.05 times in 2001-2002. It was attained zero times in the last year of the study period. The average ratio of the company was 0.30 times which was lower than the average ratio of tea industry. The ratio is considered to be good.

On the basis of above analysis it can be concluded that the highest long term debt equity ratio was of 1.00 times of Rossell Ind. Ltd. followed by Parry Agro Ind. Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Tata Tea Ltd., Greenline Tea & Exports Ltd., Williamson Tea Assam Ltd., Warren Tea Ltd., Goodricke Group Ltd. and AFT Ind. Ltd.

The average of combined long term debt-equity ratio of selected tea companies was 0.35 times. The ratio in AFT was zero during the study period due to negative net worth. Most of the companies under the study did not maintained the standard norm of 1:1. In Goodricke Group Ltd. The ratio was 0.04 times which was lowest among all the companies under the study and the company was more relied on owner's funds.
3. Capital Gearing Ratio:-

The term capital gearing indicates the relative proportion of fixed cost capital as represented by the preference share capital and the capital debt to the ordinary share capital. When equity share capital is lower than the preference share capital and loan capital, the capital is said to be highly geared. If the former is higher in proportion to the later, the capital is said to be low geared. The proportion which is the preference share capital is known as leverage.

Optimum gearing of the capital structure may by high or low according to the nature of a business. This ratio indicates the extent of trading in equity which means that equity share capital is being held, as a base for getting finance in the form of preference share capital/long-term borrowings. With low geared ratio, the risk is at the minimum but the profit will also be lower. Hence, a proper balance between high geared and low geared capital structure has to be worked out to have a sound management of capital. The formula for the derivation of capital gearing ratio is:

\[
\text{Capital Gearing Ratio} = \frac{\text{Loan Capital} + \text{Preference Capital}}{\text{Equity Capital}}
\]

Here, in case of the tea the proportion of equity and loan capital is the same. As a matter of fact it is mentioned
in their annual report that the total capital is the capital received from the Government and no distinction has been made in the two types of capital except the rate of interest. The time limit has not been specified for their loan capital. As the annual reports of the two corporations indicate the net worth includes the loan capital and the equity capital. Moreover, the loan capital has been treated as part of equity capital. As a result of this, it can be said that as a matter of policy, Government has decided to provide fifty per cent of their funded at a predetermined cost of capital i.e. Interest.

Therefore, a simple capital gearing ratio obtained by dividing equity capital by loan capital is of no importance here. By statutory provisions the corporations have to maintain a 1:1 ratio and therefore, the capital gearing of these corporations are ideal.

The above table shows Capital gearing equity ratio of AFT Ind. Ltd. The ratio shows fluctuating trend during the study period. The ratio ranged between 0.01 times in 1999-2000 to 0.66 times in 2002-2003 with an average ratio of 0.17 times. The average ratio of the company was below the combined average ratio of tea industry. This ratio is considered to be good but the company could not take benefit of trading on equity due to less outsiders’ fund.
### Table No - 5.3

**Total-Debt Equity Ratio in Tea Industry in India**


<table>
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<th></th>
</tr>
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<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>0.02</td>
<td>0.07</td>
<td>0.01</td>
<td>0.03</td>
<td>0.24</td>
<td>0.66</td>
<td>0.17</td>
<td>0.25</td>
<td>149.10</td>
<td>0.01</td>
<td>0.66</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>0.50</td>
<td>0.59</td>
<td>0.55</td>
<td>0.77</td>
<td>0.87</td>
<td>0.50</td>
<td>0.63</td>
<td>0.15</td>
<td>24.22</td>
<td>0.50</td>
<td>0.87</td>
</tr>
<tr>
<td>GOODRICKE</td>
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<td>0.29</td>
<td>0.39</td>
<td>0.39</td>
<td>0.30</td>
<td>0.32</td>
<td>0.06</td>
<td>20.40</td>
<td>0.22</td>
<td>0.39</td>
</tr>
<tr>
<td>GREENLINE TEA</td>
<td>0.39</td>
<td>0.38</td>
<td>0.36</td>
<td>0.47</td>
<td>0.60</td>
<td>0.63</td>
<td>0.47</td>
<td>0.12</td>
<td>24.88</td>
<td>0.36</td>
<td>0.63</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>0.44</td>
<td>0.39</td>
<td>0.47</td>
<td>0.58</td>
<td>0.62</td>
<td>0.68</td>
<td>0.53</td>
<td>0.11</td>
<td>21.53</td>
<td>0.39</td>
<td>0.68</td>
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<tr>
<td>PARRY AGRO</td>
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<td>0.89</td>
<td>1.21</td>
<td>0.98</td>
<td>0.98</td>
<td>2.16</td>
<td>1.06</td>
<td>0.64</td>
<td>60.64</td>
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<td>ROSSELL IND.</td>
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<td>0.00</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.91</td>
<td>1.51</td>
<td>166.34</td>
<td>0.00</td>
<td>3.88</td>
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<td>TATA TEA LTD.</td>
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<td>0.25</td>
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<td>0.21</td>
<td>53.48</td>
<td>0.22</td>
<td>0.75</td>
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<tr>
<td>WARREN TEA</td>
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<td>0.07</td>
<td>0.13</td>
<td>0.11</td>
<td>0.12</td>
<td>0.29</td>
<td>0.14</td>
<td>0.07</td>
<td>52.93</td>
<td>0.07</td>
<td>0.29</td>
</tr>
<tr>
<td>WILLIAMSON</td>
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<td>0.42</td>
<td>0.20</td>
<td>0.05</td>
<td>0.10</td>
<td>0.30</td>
<td>0.21</td>
<td>70.37</td>
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<tr>
<td>Average</td>
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<td>0.38</td>
<td>0.77</td>
<td>0.41</td>
<td>0.56</td>
<td>0.49</td>
<td>0.15</td>
<td>30.38</td>
<td>0.38</td>
<td>0.77</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 5.3
Capital Gearing Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)
The capital gearing equity ratio of Dhunseri Tea & Ind. Ltd. reveals also the fluctuating trend with an average of 0.63 times. The ratio of the company was increased from 0.50 times in 1997-1998 to 0.59 times in 1998-1999 and decreased to 0.55 times in 1999-2000. For the next two year ratio increased to 0.77 times in 2000-2001 and 0.87 times in 2001-2002 but decreased to 0.50 times in the last year of the study period.

In Goodricke Group Ltd. the capital gearing equity ratio was fluctuating. The ratio varied from 0.22 times to 0.39 times. It was decreased from 0.32 times in 1997-1998 to 0.22 times in 1998-1999 then increased to 0.29 times in 1999-2000. It further increased up to 0.39 times and remains the same in the next year, but it decreased to 0.30 times in the last year. The average ratio of the company was 0.32 times which was the lower than the average ratio of the tea industry.

Table No.- 5.3 indicated the capital gearing equity ratio of Greenline Tea & Exports Ltd. The ratio showed fluctuating trend during the study period. The ratio varied from 0.36 times to 0.63 times. The average ratio of the company was 0.47 times which was the nearest to the average ratio of the selected tea companies under the study. It decreased slightly during the first three years but increased during the last three
years of the study period and reached up to 0.63 times in the last year.

In Jay Shree Tea & Ind. Ltd. capital gearing equity ratio showed fluctuating trend. The ratio ranged between 0.39 times to 0.68 times with an average ratio of 0.53 times. The average ratio of the company was more than the average ratio of the tea industry. The Standard Deviation and C.V. was 0.11 times and 21.53 times respectively.

The above table showed capital gearing equity ratio of Parry Agro Ind. Ltd. The ratio was highly fluctuated during the span of research period with an average of 1.06 times. The ratio fluctuated from a lowest 0.16 times in 1997-1998 to highest 2.16 times in 2002-2003. The average ratio of the company was more than twice of the combined average ratio of the tea industry. Company is advised to decrease long term debt to reduce this ratio.

Capital gearing equity ratio of Rossell Ind. Ltd. showed very high fluctuation with an average ratio of 0.91 times. The ratio fluctuated between zeros (minus) times to 3.88 times. During the years of 1999-2000, 2001-2002 and 2002-2003 the ratio had been minus due to the negative net worth, so the company should increase the net profit. The financial soundness of the company is very bad.
In Tata Tea Ltd. capital gearing equity ratio showed mix and decreasing trend. It decreased from 0.75 times in 1997-1998 to 0.22 times in 2001-2002 and increased up to 0.25 times in the last year. The average ratio of the company was 0.39 times which was below the average ratio of the tea industry. This ratio is satisfactory from the view of the shareholders of the company.

Table No.-5.3 manifested the capital gearing equity ratio of Warren Tea Ltd. The capital gearing equity ratio explain fluctuated trend during the research period. The ratio had been on and average 0.14 times varying from 0.07 times to 0.29 times. The capital gearing equity ratio was satisfactory.

The above table reveals capital gearing equity ratio of Williamson. The ratio showed decreasing and mix trend. It was 0.52 times in 1997-1998 and increase by 0.01 times only in 1998-1999 then decreased during the next three years of the study. The average ratio of the company was 0.30 times which was lower than the average ratio of the tea industry. The ratio is good.

On the basis of above analysis it can be concluded that the highest ratio was of 1.06 times of Parry Agro Ind. Ltd. followed by Rossell Ind. Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Greenline Tea & Exports Ltd., Tata Tea Ltd., Goodricke Group Ltd., Williamson Tea Assam Ltd., AFT Ind. Ltd. and Warren Tea Ltd.
4. Financial Leverage Ratio:

Financial leverage ratio is the ability of an organization to increase its owners’ profits by using debt capita. Professor S.C. Kuchhal has defined it as “…the firm’s ability to use fixed financial charges to magnify the effects of changes in EBIT (Earning before Interest and Tax) on the firm’s earning per Share (E.P.S.).

Financial leverage and trading on equity are synonymous terms. The EBIT is calculated by adding back the interest (interest on loan capital + interest on long-term loans + interest on other loans) and taxes to the amount of net profit. Here in the case of air-corporations of India the taxation does not constitute a major portion.

Financial leverage ratio is calculated by dividing Earning before Interest and Taxes (EBIT) by the Earning before Tax (EBT). Neither a very high leverage nor a very low leverage represents a sound picture.

\[
\text{Financial Leverage ratio} = \frac{\text{Earning before Interest and Taxes (EBIT)}}{\text{Earning before Taxes (EBT)}} \times 100
\]

Table No.-5.3 depict the Financial Leverage Ratio of Selected companies of Tea industry in India during the study period.
### Table No - 5.4

Financial Leverage Ratio in Tea Industry in India  
(From 1997-1998 to 2002-2003)(In percentage)

<table>
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</tr>
</thead>
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<td>1.02</td>
<td>1.02</td>
<td>1.03</td>
<td>1.12</td>
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<td>1.71</td>
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<td>23.23</td>
<td>1.02</td>
<td>1.71</td>
</tr>
<tr>
<td>DHUNSERI TEA</td>
<td>1.29</td>
<td>1.31</td>
<td>1.47</td>
<td>1.81</td>
<td>4.21</td>
<td>4.49</td>
<td>2.43</td>
<td>1.50</td>
<td>61.81</td>
<td>1.29</td>
<td>4.49</td>
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<td>1.22</td>
<td>1.19</td>
<td>3.71</td>
<td>3.41</td>
<td>4.11</td>
<td>0.51</td>
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<td>1.55</td>
<td>65.82</td>
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<td>0.20</td>
<td>0.04</td>
<td>4.67</td>
<td>5.12</td>
<td>109.63</td>
<td>0.04</td>
<td>11.00</td>
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<td>JAY SHREE TEA</td>
<td>1.20</td>
<td>1.22</td>
<td>1.55</td>
<td>-1.63</td>
<td>-0.72</td>
<td>-1.29</td>
<td>0.06</td>
<td>1.42</td>
<td>2571.20</td>
<td>-1.63</td>
<td>1.55</td>
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<tr>
<td>PARRY AGRO</td>
<td>1.16</td>
<td>1.13</td>
<td>1.76</td>
<td>5.64</td>
<td>5.02</td>
<td>-2.55</td>
<td>2.03</td>
<td>2.99</td>
<td>147.34</td>
<td>-2.55</td>
<td>5.64</td>
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<tr>
<td>ROSSELL IND.</td>
<td>2.19</td>
<td>0.02</td>
<td>0.61</td>
<td>-1.92</td>
<td>0.64</td>
<td>0.82</td>
<td>0.39</td>
<td>1.34</td>
<td>340.83</td>
<td>-1.92</td>
<td>2.19</td>
</tr>
<tr>
<td>TATA TEA LTD.</td>
<td>1.24</td>
<td>1.18</td>
<td>1.24</td>
<td>1.32</td>
<td>1.47</td>
<td>1.33</td>
<td>1.30</td>
<td>0.10</td>
<td>7.92</td>
<td>1.18</td>
<td>1.47</td>
</tr>
<tr>
<td>WARREN TEA LTD.</td>
<td>1.04</td>
<td>1.09</td>
<td>1.11</td>
<td>1.18</td>
<td>2.22</td>
<td>5.03</td>
<td>1.95</td>
<td>1.58</td>
<td>81.02</td>
<td>1.04</td>
<td>5.03</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>1.21</td>
<td>1.16</td>
<td>1.19</td>
<td>1.31</td>
<td>1.36</td>
<td>-1.41</td>
<td>0.80</td>
<td>1.09</td>
<td>135.26</td>
<td>-1.41</td>
<td>1.36</td>
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<tr>
<td>Average</td>
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<td>1.90</td>
<td>2.47</td>
<td>1.25</td>
<td>1.99</td>
<td>0.87</td>
<td>1.72</td>
<td>0.57</td>
<td>33.13</td>
<td>0.87</td>
<td>2.47</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 5.4

Financial Leverage Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003)(In percentage)

FINANCIAL LEVERAGE RATIO=PBIT/PBT X 100
Financial Leverage Ratio of AFT Ind. Ltd. shows an increasing trend. In 1997-1998 and in 1998-1999 it was 1.02 percent and increased to 1.03 percent in 1999-2000. It further increased during the last three years of the study period and marked 1.71 percent in 2002-2003. The average financial leverage ratio of the company was 1.21 percent which was lower than the average ratio of tea industry.

Dhunseri Tea & Ind. Ltd. financial leverage ratio increased from 1.29 percent in 1997-1998 to 4.49 percent in 2002-2003. The profit performance of Dhunseri Tea & Ind. Ltd. was not satisfactory during the last four years of the study period. Dhunseri Tea & Ind. average financial leverage ratio was 2.43 percent which was higher than the average ratio of the industry. In Dhunseri Tea & Ind. Ltd. Financial leverage Ratio was 1.29 per cent of in 1997-1998 which was lowest ratio where as highest ratio was 4.46 per cent in 2002-2003 during the study period.

Table shows that Goodricke Group Ltd. financial leverage ratio fluctuated between 0.51 to 4.11 percent during the research period. In Goodricke Group Ltd. Financial leverage Ratio was 4.11 per cent in 2001-2002 which was highest ratio where as lowest ratio was 0.51 per cent of in 2002-2003. The standard deviation and C.V. of the company was 1.55 percent and 65.82 percent respectively.
Financial Leverage Ratio of Greenline Tea & Exports Ltd. was fluctuating between 0.04 to 11.00 percent during the study period. It was highest 11.00 percent in 1999-2000 where as lowest 0.04 percent in 2002-2003. Average financial leverage ratio of the company was 4.67 percent which was higher than 1.72 percent, the average financial leverage ratio of tea industry.

Financial Leverage Ratio of Jay Shree Tea & Ind. Ltd. showed fluctuating trend during the study period. The average of financial leverage ratio of the company was 0.06 percent which was below 1.72 percent, the average ratio of the tea industry. It was lowest minus 1.63 percent in 2000-2001 and highest 1.55 percent in 1999-2000 during the study period.

In Parry Agro Ind. Ltd. financial leverage ratio showed fluctuating trend. Average financial leverage ratio of the company was 2.03 percent which was higher than 1.72 percent, the average financial leverage ratio of the tea industry. It was fluctuated between -2.55 percent in 2002-2003 to 5.64 percent in 2000-2001.

The above table indicates that average financial leverage ratio of Rossell was 0.39 percent which was lowest among all the selected companies under the study and also
below the average ratio of the tea industry. The ratio was fluctuated between minus 1.92 to 2.19 percent during the study period. It was 2.19 percent in 1997-1998 and decreased up to 0.02 percent in 1998-1999 but increased to 0.61 percent in 1999-2000. It was in minus 1.92 percent in 2000-2001 and increased to 0.64 percent in 2001-2002 and 0.82 percent in 2002-2003 percent.

Financial Leverage Ratio of the Tata Tea Ltd. shows a fluctuating trend. It was decreased from 1.24 percent in 1997-1998 to 1.18 percent in 1998-1999 but increased to 1.24 percent in 1999-2000. It was further increased to 1.32 percent in 2000-2001 and again further increased to 1.47 times in 2001-2002 but decreased to 1.33 percent in 2002-2003. The average financial leverage ratio of the company was 1.30 percent which was lower than the average of the tea industry. The standard deviation of the company was 0.10 and C.V. was 7.92 which indicate low fluctuation in ratio.

Warren Tea Ltd., financial leverage ratio showed an increasing trend. It increased from 1.04 percent in 1997-1998 to 5.03 percent in 2002-2003. The average financial leverage ratio of the company was 1.95 percent which was higher than 1.72 percent, the average ratio of the tea industry. In the company the 1.04 percent was lowest ratio
in 1997-1998 where as 5.03 percent in 2002-2003 was the highest.

The above table indicates that average financial leverage ratio of Williamson Tea Assam Ltd. was 0.80 percent with a fluctuating trend. The ratio fluctuated between minus 1.41 to 1.36 percent during the study period. In 1997-1998 it was 1.21 percent, which decreased up to 1.16 percent in 1998-1999 but increased to 1.19 percent in 1999-2000. It was further increased to 1.31 percent in 2000-2001 and up to 1.36 percent in 2001-2002 but it was decreased to minus 1.41 percent in 2002-2003.

On the basis of above analysis the highest financial leverage ratio had been 4.67 percent of Greenline Tea & Exports Ltd. followed by other companies such as Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Parry Agro Ind. Ltd., Warren Tea Ltd., Tata Tea Ltd., AFT IND. Ltd. Ind., Williamson Tea Assam Ltd., Rossell Ind. Ltd. and Jay Shree Tea & Ind. Ltd.

5. Net Fixed Assets to Net worth Ratio

This ratio explains the relationship between fixed assets and tangible net worth, viz., preference share capital, equity share capital and retained earnings. This ratio is an important tool for judging the margin of safety for long-term
creditors. The lesser the ratio the greater the margin of safety for long term creditors. If the net worth is less than fixed assets, it implies that the loan funds are used to finance a part of the fixed assets, when the amount of ownership funds exceeds the value of fixed assets a part of the net working capital is provided by the shareholders. The yardstick for this measure is 65% for industrial undertaking. It means that 65% of ownership funds are to be used for acquiring fixed assets and rest for financing current assets. The ratio is calculated as below:

\[
\text{Net Fixed Assets to Net worth Ratio} = \left( \frac{\text{Net Fixed Assets}}{\text{Net Worth}} \right) \times 100
\]

The above table showed Net Fixed Asset to Net worth Ratio of AFT Ind. Ltd. The ratio shows increasing trend during the study period. The ratio ranged between 0.32 times in 1997-1998 to 0.42 times in 2002-2003 with an average ratio of 0.37 times. The average ratio of the company was below the combined average ratio of the tea industry. This ratio is considered to be good because fixed asset is financed through the net worth.

The net fixed asset to net worth ratio of Dhunseri Tea & Ind. Ltd. reveals the decreasing trend with an average ratio of 0.56 times. The ratio of the company was decreased from 0.65 times in 1997-1998 to 0.51 times in 2002-2003. The
Table No. - 5.5

Net Fixed Assets to Net worth Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>0.32</td>
<td>0.32</td>
<td>0.36</td>
<td>0.41</td>
<td>0.42</td>
<td>0.42</td>
<td>0.37</td>
<td>0.05</td>
<td>12.73</td>
<td>0.32</td>
<td>0.42</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>0.65</td>
<td>0.62</td>
<td>0.54</td>
<td>0.51</td>
<td>0.52</td>
<td>0.51</td>
<td>0.56</td>
<td>0.06</td>
<td>10.77</td>
<td>0.51</td>
<td>0.65</td>
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<tr>
<td>GOODRICK</td>
<td>0.81</td>
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<td>0.63</td>
<td>0.60</td>
<td>0.66</td>
<td>0.62</td>
<td>0.67</td>
<td>0.07</td>
<td>11.08</td>
<td>0.60</td>
<td>0.81</td>
</tr>
<tr>
<td>GREENLINE TEA</td>
<td>1.25</td>
<td>1.24</td>
<td>1.25</td>
<td>1.36</td>
<td>1.52</td>
<td>1.56</td>
<td>1.36</td>
<td>0.15</td>
<td>10.75</td>
<td>1.24</td>
<td>1.56</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>0.48</td>
<td>0.44</td>
<td>0.46</td>
<td>0.57</td>
<td>0.67</td>
<td>0.70</td>
<td>0.55</td>
<td>0.11</td>
<td>19.96</td>
<td>0.44</td>
<td>0.70</td>
</tr>
<tr>
<td>PARRY AGRO</td>
<td>0.60</td>
<td>0.59</td>
<td>0.56</td>
<td>0.41</td>
<td>0.41</td>
<td>0.41</td>
<td>0.50</td>
<td>0.10</td>
<td>19.14</td>
<td>0.41</td>
<td>0.60</td>
</tr>
<tr>
<td>ROSSELL IND.</td>
<td>0.74</td>
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<td>1.49</td>
<td>-12.67</td>
<td>7.14</td>
<td>-3.35</td>
<td>-1.00</td>
<td>6.63</td>
<td>-663.34</td>
<td>-12.67</td>
<td>7.14</td>
</tr>
<tr>
<td>TATA TEA LTD.</td>
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<td>0.51</td>
<td>0.35</td>
<td>0.36</td>
<td>0.34</td>
<td>0.33</td>
<td>0.43</td>
<td>0.14</td>
<td>32.03</td>
<td>0.33</td>
<td>0.67</td>
</tr>
<tr>
<td>WARREN TEA</td>
<td>0.69</td>
<td>0.69</td>
<td>0.66</td>
<td>0.67</td>
<td>0.74</td>
<td>0.89</td>
<td>0.72</td>
<td>0.09</td>
<td>11.76</td>
<td>0.66</td>
<td>0.89</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>0.52</td>
<td>0.50</td>
<td>0.47</td>
<td>0.78</td>
<td>0.84</td>
<td>1.10</td>
<td>0.70</td>
<td>0.25</td>
<td>35.77</td>
<td>0.47</td>
<td>1.10</td>
</tr>
<tr>
<td>Average</td>
<td>0.67</td>
<td>0.62</td>
<td>0.68</td>
<td>-0.70</td>
<td>1.33</td>
<td>0.32</td>
<td>0.49</td>
<td>0.67</td>
<td>137.59</td>
<td>-0.70</td>
<td>1.33</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 5.5
Net Fixed Assets to Net worth Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)
company is advised not to use more net worth in fixed asset otherwise it would be risky for creditors.

In Goodricke Group Ltd. the net fixed asset to net worth ratio was towards decrease. The ratio varied from 0.60 times in 2000-2001 to 0.81 times in 1997-1998. The average ratio of the company was 0.67 times which was the higher than the average ratio of the tea industry. The ratio was good.

Table No.-5.5 indicated the net fixed asset to net worth ratio of Greenline Tea & Exports Ltd. The ratio showed increased trend during the study period. The ratio varied from 1.24 times in 1998-1999 to 1.56 times in 2002-2003. The average ratio of the company was 1.63 times, which was the highest ratio among the selected tea companies was. In most of years the ratio had been more than 1 times which means that the company had invested short term debt in fixed assets. Such type of capital budgeting decision was not good. The company is advised to increase the net worth to invest in fixed assets.

In Jay Shree Tea Ind. net fixed assets to net worth ratio showed increasing trend. The ratio ranged between 0.44 times in 1998-1999 to 0.70 times in 2002-2003 with an average ratio of 0.55 times. The average ratio of the
company was more than the average ratio of the tea industry. The C.V. was 19.96 percentage which shows less variance.

The above table showed net fixed asset to net worth ratio of Parry Agro Ind. Ltd. The ratio indicated decreasing trend during the span of research period with an average of 0.5 times. The ratio fluctuated from a lowest 0.41 times in 2002-2003 to highest 0.60 times in 1997-1998. The average ratio of the company was above the combined average ratio of the tea industry. During the last three years of the study period, the company had not invested net worth in fixed asset so company is advised to increase this ratio to have a good return on net worth.

Net fixed asset to net worth ratio of Rossell Ind. Ltd. showed decreasing trend during the study period with an average ratio of minus 1.00 times. The ratio was fluctuated between -12.67 times in 2000-2001 to 0.74 times in 1997-1998. In the years of 2000-2001 and 2002-2003 the ratio had been minus due to the negative net worth, so the company should increase the net profit.

In Tata Tea Ltd. net fixed assets to net worth ratio showed mix and decreasing trend ranging from 0.33 times in 2002-2003 to 0.67 times in 1997-1998. The average ratio of
the company was 0.43 times which was below the average ratio of the tea industry. However it was satisfactory from the point of view of the shareholders.

Table No.-5.5 manifested the net fixed asset to net worth ratio of Warren Tea Ltd. The net fixed asset to net worth ratio explain increased trend during the research period. The ratio had been on an average 0.72 times varying from 0.66 times in 1999-2000 to 0.89 times in 2002-2003. The net fixed asset to net worth ratio was satisfactory during the research period.

The above table reveals net fixed asset to net worth ratio of Williamson Tea Assam Ltd. The ratio showed decreasing trend from 0.69 times in 1997-1998 to 0.67 times in 2000-2001. During the last two years of the study period it showed an increasing trend with an average ratio was 0.70 times which was higher than the tea industry by 42.85 percent. The ratio was considered to be good during the research period.

On the basis of above analysis it can be concluded that the highest ratio was of 1.36 times of Greenline Tea & Exports Ltd. Tea followed by Warren Tea Ltd., Williamson Tea Assam Ltd., Goodricke Group Ltd. Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Tata Tea Ltd. and AFT Ind. Ltd.
6. Proprietary Ratio (Owner’s Equity to Total Assets Ratio):

Owner’s equity to total assets ratio shows the percentage of total assets financed by shareholders. In the words of S. B. Chaudhary, “this ratio brings out the extent of shareholders funds in relation to total funds (i.e. shareholders fund + liabilities) employed. This ratio is also known as proprietary ratio or proprietor’s funds to total assets ratio. The high ratio shows that a concern is less dependent on outside funds for capital. A high ratio suggests sound financial strength of a company due to

(i) A greater margin of owner’s funds against outside Sources of finance, and

(ii) A greater margin of safety for the creditors.

A low ratio indicates a small amount of owners fund to finance total assets and more dependence on outside funds for working capital. In the form of formula this ratio can be expressed thus:

$$\text{Proprietary Ratio} = \frac{\text{Owner's Fund (Net Worth)}}{\text{Total Assets}} \times 100$$

Proprietary Ratio of the tea industry is shown in table no.-5.6. The proprietary ratio of tea industry showed downward trend during the span of research period. The average Proprietary ratio of tea industry was 55.98 percent.
Table No - 5.6
Proprietary (Net worth to Total Assets) Ratio in Tea Industry in India

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>AFT</td>
<td>66.45</td>
<td>67.48</td>
<td>70.85</td>
<td>69.68</td>
<td>62.42</td>
<td>49.87</td>
<td>64.46</td>
<td>7.72</td>
<td>0.00</td>
<td>49.87</td>
<td>70.85</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>58.25</td>
<td>57.11</td>
<td>58.79</td>
<td>52.89</td>
<td>47.59</td>
<td>59.12</td>
<td>55.62</td>
<td>4.55</td>
<td>8.17</td>
<td>47.59</td>
<td>59.12</td>
</tr>
<tr>
<td>GOODRICK</td>
<td>48.52</td>
<td>53.53</td>
<td>58.60</td>
<td>54.93</td>
<td>50.09</td>
<td>51.06</td>
<td>52.79</td>
<td>3.67</td>
<td>6.95</td>
<td>48.52</td>
<td>58.60</td>
</tr>
<tr>
<td>GREENLINE</td>
<td>66.39</td>
<td>66.64</td>
<td>66.32</td>
<td>59.29</td>
<td>54.47</td>
<td>53.66</td>
<td>61.13</td>
<td>6.14</td>
<td>10.05</td>
<td>53.66</td>
<td>66.64</td>
</tr>
<tr>
<td>JAYSHREE</td>
<td>60.26</td>
<td>62.02</td>
<td>58.63</td>
<td>55.78</td>
<td>50.28</td>
<td>48.83</td>
<td>55.97</td>
<td>5.39</td>
<td>9.64</td>
<td>48.83</td>
<td>62.02</td>
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<tr>
<td>PARRYAGRO</td>
<td>61.52</td>
<td>43.13</td>
<td>39.95</td>
<td>53.26</td>
<td>53.55</td>
<td>33.12</td>
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<td>10.48</td>
<td>22.10</td>
<td>33.12</td>
<td>61.52</td>
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<td>-19.42</td>
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<td>30.51</td>
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<td>52.05</td>
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<td>TATA TEA</td>
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<td>60.64</td>
<td>62.50</td>
<td>66.47</td>
<td>67.54</td>
<td>65.00</td>
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<td>9.22</td>
<td>15.46</td>
<td>45.56</td>
<td>67.54</td>
</tr>
<tr>
<td>WARREN TEA</td>
<td>62.16</td>
<td>63.70</td>
<td>61.59</td>
<td>65.15</td>
<td>63.30</td>
<td>57.45</td>
<td>62.22</td>
<td>2.65</td>
<td>4.26</td>
<td>57.45</td>
<td>65.15</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>51.80</td>
<td>49.58</td>
<td>51.77</td>
<td>58.11</td>
<td>65.13</td>
<td>55.01</td>
<td>55.23</td>
<td>5.69</td>
<td>10.30</td>
<td>49.58</td>
<td>65.13</td>
</tr>
<tr>
<td>Average</td>
<td>57.23</td>
<td>66.59</td>
<td>56.73</td>
<td>53.02</td>
<td>52.35</td>
<td>45.37</td>
<td>53.55</td>
<td>4.51</td>
<td>8.41</td>
<td>45.37</td>
<td>57.23</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Proprietary (Net worth to Total Assets) Ratio in Tea Industry in India

Proprietary Ratio = Net Worth/Total Assets
The ratio of the tea industry ranged between 71.82 percent in 1997-1998 to 45.37 in 1997-1998. The average ratio of tea industry showed downward trend which meant that the tea industry was using outsider's liabilities in the total asset.

Table No.-5.6 depicts the proprietary ratio of AFT Ind. Ltd. The proprietary ratio showed increasing trend 66.45 percent in 1997-1998 to 70.85 percent in 1999-2000. After the year of 1999-2000 the ratio showed downwards trend. The average proprietary ratio of AFT Ind. Ltd. was 64.46 percent which was above the average ratio of the tea industry. Except the last year of the study period the ratio of the company was satisfactory.

The proprietary ratio of Dhunseri Tea Ind. Ltd. was towards decreasing. The ratio of this company was in between 47.59 percent 2001-2002 to 59.12 percent in 2002-2003 with an average ratio of 55.62 percent. The average ratio of the company was more than the combined average ratio of the tea industry by 0.64 percent. The average proprietary ratio of the company was nearest to the tea industry. More than 55 percent net worth was used in financing the total asset.

In Goodricke Group Ltd. the proprietary ratio showed increased trend from 48.52 percent in 1997-1998 to 58.60
percent in 1999-2000, then it declined to 54.93 percent. During the last two years the ratio also remain low which indicated that the more debt was employed in the total asset. However such kind of position would create a problem in the crisis period.

The proprietary ratio of Greenline Tea & Exports Ltd. was seen in the above table. The proprietary ratio showed decreasing trend ranging 53.66 percent in 2002-2003 to 66.54 percent in 1998-1999. The average ratio of the company was 61.30 percent which was considered good.

Jay Shree Tea & Ind. Ltd. Company reveals the proprietary ratio showing downwards trend throughout the study period with an average of 55.97 percent. During the study period the ratio ranged 48.83 percent in 2002-2003 to 62.02 percent in 1998-1999. The company is advised to finance more proprietary funds in total asset.

The Table No-5.6 indicated the proprietary ratio of Parry Agro Ind. Ltd. The proprietary ratio showed the trend fluctuating, the ratio ranged between 33.12 percent in 2002-2003 to 61.52 percent in 1997-1998. The average ratio of the company was 47.42 percent which was lower from the average ratio of the tea industry by 15.29 percent. The Standard Deviation was 10.48 percent and C.V. was 22.10
percent which was showing fluctuation in the ratio. In the last year of the study period the more debt was used in fixed asset.

The above table showed the proprietary ratio of Rossell Ind. Ltd. The ratio varied minus 19.42 percent to 52.05 percent in the consecutive years of 2002-2003 to and 1998-1999. The ratio was minus 5.39 in 2000-2001 and 19.42 in 2002-2003 were due to the negative net worth.

The above table showed the proprietary ratio of Tata Tea Ltd. The ratio ranged between 45.56 percent in 1997-1998 to 67.54 percent in 2001-2002. The ratio showed the increased trend with an average of 56.62 percent which was more than the combined average ratio of the tea Industry. The average ratio of the company was good and satisfactory for the shareholder. The standard deviation was 9.22 percent and C.V. was 45.46 percent which showed the fluctuation in the proprietary ratio during the study period.

The proprietary ratio of Warren Tea Ltd. is seen in the above table. The ratio showed the trend towards decrease. The ratio showed varying trend from 57.45 times in 2002-2003 to 208.05 times in 2002-2003. The ratio in 1997-1998 was very high but then after the ratio was very low. Except first year of the study period the ratio was good. The
standard deviation was 59.59 percent and C.V. was 68.85 showed the more fluctuation in the ratio. However the ratio was the highest among the selected companies under the study.

The above table showed the proprietary ratio of Williamson Tea Assam Ltd. The ratio marked a variable trend from the highest 65.13 percent in 2001-2002 to a lowest of 49.58 percent in 1998-1999. The average ratio of the company was 55.23 percent which was nearest to the average ratio of the tea industry. The proprietary ratio of the company was satisfactory.

On the basis of above analysis a researcher can conclude that the highest ratio of 86.54 percent of Warren Tea Ltd. followed by AFT Ind. Ltd., Greenline Tea & Exports Ltd. and Tata Tea Ltd. The other companies of tea under the study were on an average ratio below the total average ratio of the tea industry i.e. Godrick Group Ltd, Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Williamson Tea Assam Ltd.

7. Net Fixed Assets to Long Term Debt Ratio

The ratio can be calculated by dividing net fixed assets (i.e. gross block minus depreciation) by the amount of long-term debt. It can be expressed as:
Net Fixed Assets to Fixed Assets (Net)
Long Term Debt Ratio = ---------------------------
                      Long Term Debt

It indicates how far the outside liabilities are secured with the fixed assets. If the fixed assets are more that debt, it is favorable sign from the point of view of long-term creditors but if the fixed assets are too little in comparison to debt it is a danger signal for the long term creditors. Thus, it is a device of findings out the percentage of fixed assets by their very nature; require capital which is more or less permanently sunk in them.

The above table showed Net Fixed Asset to Long Term Debt Ratio of AFT Ind. Ltd. The ratio of this unit was zero due to the zero long term debt. The company is advised to use long term debt to get the benefit of trading on equity.

Table No.-5.7 showed Net Fixed Asset to Long Term Debt Ratio of the Dhunseri Tea Ind. Ltd. The ratio showed decreasing trend from 1997-1998 to 2001-2002. The trend was increased in the last year. The average ratio of the company was 1.47 times which was below the combined average ratio of the tea industry. This ratio is considered to be satisfactory except in the year of 2000-2001 and 2001-2002.
Table No. - 5.7

Net Fixed Assets to Long Term Debt Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>2.53</td>
<td>1.65</td>
<td>1.60</td>
<td>0.79</td>
<td>0.97</td>
<td>1.28</td>
<td>1.47</td>
<td>0.62</td>
<td>42.23</td>
<td>0.79</td>
<td>2.53</td>
</tr>
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<td>GOODRICKE</td>
<td>3.45</td>
<td>6.34</td>
<td>11.57</td>
<td>9.16</td>
<td>360.55</td>
<td>403.26</td>
<td>132.39</td>
<td>193.76</td>
<td>146.36</td>
<td>3.45</td>
<td>403.26</td>
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<tr>
<td>GREENLINE TEA</td>
<td>6.48</td>
<td>7.32</td>
<td>7.77</td>
<td>5.53</td>
<td>4.66</td>
<td>1.56</td>
<td>5.55</td>
<td>2.26</td>
<td>40.77</td>
<td>1.56</td>
<td>7.77</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>1.40</td>
<td>1.20</td>
<td>1.59</td>
<td>1.44</td>
<td>1.22</td>
<td>1.42</td>
<td>1.38</td>
<td>0.15</td>
<td>10.65</td>
<td>1.20</td>
<td>1.59</td>
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<tr>
<td>PARRY AGRO</td>
<td>3.75</td>
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<td>0.96</td>
<td>0.68</td>
<td>0.66</td>
<td>0.23</td>
<td>1.16</td>
<td>1.28</td>
<td>108.02</td>
<td>0.23</td>
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<td>ROSSELL IND.</td>
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<td>4.46</td>
<td>1.62</td>
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<td>1.04</td>
<td>1.98</td>
<td>1.27</td>
<td>64.15</td>
<td>1.04</td>
<td>4.46</td>
</tr>
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<td>TATA TEA LTD.</td>
<td>1.12</td>
<td>1.20</td>
<td>1.34</td>
<td>1.32</td>
<td>1.53</td>
<td>1.60</td>
<td>1.35</td>
<td>0.18</td>
<td>13.62</td>
<td>1.12</td>
<td>1.60</td>
</tr>
<tr>
<td>WARREN TEA</td>
<td>5.40</td>
<td>10.11</td>
<td>5.01</td>
<td>6.47</td>
<td>7.50</td>
<td>3.80</td>
<td>6.38</td>
<td>2.22</td>
<td>34.82</td>
<td>3.80</td>
<td>10.11</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>1.06</td>
<td>1.11</td>
<td>2.85</td>
<td>9.23</td>
<td>15.85</td>
<td>0.00</td>
<td>5.02</td>
<td>6.26</td>
<td>124.77</td>
<td>0.00</td>
<td>15.85</td>
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<tr>
<td>Average</td>
<td>2.64</td>
<td>3.13</td>
<td>3.72</td>
<td>3.62</td>
<td>39.50</td>
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<td>15.67</td>
<td>19.22</td>
<td>122.62</td>
<td>2.64</td>
<td>41.42</td>
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</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 5.7
Net Fixed Assets to Long Term Debt Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

Net Fixed Asset to Long Term Debt

<table>
<thead>
<tr>
<th>Year</th>
<th>AFT</th>
<th>DHUNSERI</th>
<th>GOODRICK</th>
<th>GREENLINE</th>
<th>JAYSHREE</th>
<th>PARRY AGRO</th>
<th>ROSEL IND</th>
<th>TATA TEA</th>
<th>WARREN</th>
<th>WILLIAMSON</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-98</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>1998-99</td>
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<tr>
<td>2000-01</td>
<td></td>
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<td></td>
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<tr>
<td>2001-02</td>
<td></td>
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<tr>
<td>2002-03</td>
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<td></td>
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</tr>
<tr>
<td>Ave.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table No-5.7 manifest Net Fixed Asset to Long Term Debt Ratio of Goodricke Group Ltd. Tea which showed towards increased trend. The ratio ranged 3.45 percent in 1997-1998 to 43.26 times in 2002-2003 with an average ratio of 132.39 times. The ratio is very good and safeguard for the creditors.

In Greenline Tea & Exports Ltd. Net Fixed Asset to Long Term Debt Ratio was showing decreased trend varying from 1.56 times in 2002-2003 to 7.77 times in 1999-2000. The average ratio of the company was 5.55 times which reflects very good position for the creditors. The Standard Deviation was 2.26 percent and C.V. was 40.77 percent showing high fluctuation among these ratios.

The above table showed Net Fixed Asset to Long Term Ratio of Jay Shree Tea & Ind. Ltd. showing mixed and fluctuating trend. The ratio fluctuated between 1.2 times in 1998-1999 to 1.59 times in 1999-2000 with C.V. of 10.65 percent. The average ratio of the company was 1.42 times considered to be satisfied by the creditors.

In Parry Agro Ind. Ltd. the Net Fixed Asset to Long Term Ratio was marked decreasing trend with an average ratio of 0.23 times. The ratio was 3.75 times in 1997-1998 then after it declined and showed decreasing trend. In most
of the year the ratio was below the one time which was not a good sign for safety of creditors. The company is advised not to use more long term debt in fixed asset.

Table No- 5.7 reveals the Net Fixed Asset to Long Term ratio of Rossell Ind. Ltd. The ratio marked invariably trend during the span of the study period. It ranged between 1.04 times in 2002-2003 to 4.46 times in 1999-2000. The average ratio of the company was 1.98 times which was lower than the average ratio of the tea industry. However it shows satisfied condition for the creditors.

The above table showed Net Fixed Asset to Long Term ratio of Tata Tea Ltd., showing mixed and fluctuating trend. The ratio was in between 1.12 times in 1997-1998 to 1.6 times in 2002-2003 with a C.V. of 13.62 percent. The average ratio of the company was 1.35 times considered to be satisfactory for the creditors.

Table No-5.7 manifest Net Fixed Asset to Long Term Debt ratio of Warren Tea Ltd. which showed fluctuating trend during the research period. The ratio ranged 3.80 percent in 2002-2003 to 10.11 times in 1998-1999 with an average ratio of 6.38 times. The standard deviation was 2.22 percent and C.V. was 33.82 percent which shows fluctuation among the
ratio of this unit. The ratio is very good and safeguard for the creditors.

The above table reveals net fixed asset to Long Term ratio of Williamson Tea Assam Ltd. The ratio showed mixed and increasing trend. The ratio varied from zero times in 2002-2003 to 15.85 times 2001-2002. In the last year of the study period it was zero, due to the zero long term debt. However the ratio was satisfactory from the point of view of the creditors.

The net fixed assets to long-term debt ratio have been calculated for adjusting the long-term financial strength. Looking the tea industry, as the whole the ratio was always more than one except AFT Ind. Ltd. Indicating a sufficient security available for long-term creditors. On the basis of the analysis it can be concluded that the highest ratio among the selected companies was of 132.39 times in Goodricke Group Ltd. followed by Warren Tea Ltd., Williamson Tea Assam Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Tata Tea Ltd. and Dhunseri Tea & Ind. Ltd. The combined ratio of selected tea companies was showing increasing trend during the study period. The combined ratio was varied from 2.64 times in 1997-1998 to 41.42 times in 2002-2003 with the average ratio of 15.67 times.
8. Interest Coverage Ratios:-

Interest Coverage ratio (PBDIT/Interest) measures the margin of safety between the earnings of the firm and its interest liability. A high ratio means the firm can easily meet the interest burden even if earnings before interest and tax suffer a considerable decline. A low ratio may result in financial embarrassment if earnings decline.

Interest coverage ratio of AFT Ind. Ltd. registered a decreasing trend during the study period. The ratio was 66.91 times in 1997-1998 to 49.40 times in 1998-1999. It was reduced to 40.39 times in 1999-2000 and then it shows deceasing trend during the last year of the study period. However the average ratio of the company was 28.7 times which was sufficient to cover it fixed interest charges. We can say that the company is cautious and conservative in using debt.

In Dhunseri Tea & Ind. Ltd. the interest coverage ratio depicted a fluctuating trend during the first two years and there after a decreasing trend. The ratio declined from 4.46 times in 1997-1998 to 4.28 times in 1998-1999. After this year it was also showing decreasing trend 3.12 times in 1999-2000 to 1.29 times in 2002-2003 with an average ratio 2.74 times. The ratio declined considerably during the last
# Analysis of Financial Structure

## Table No - 5.8

Net Fixed Assets to Net worth Ratio in Tea Industry in India

(From 1997-1998 to 2002-2003) (In times)

<table>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>66.91</td>
<td>49.40</td>
<td>40.39</td>
<td>9.37</td>
<td>3.73</td>
<td>2.40</td>
<td>28.70</td>
<td>27.25</td>
<td>94.96</td>
<td>2.40</td>
<td>66.91</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>4.46</td>
<td>4.28</td>
<td>3.12</td>
<td>2.24</td>
<td>1.03</td>
<td>1.29</td>
<td>2.74</td>
<td>1.47</td>
<td>53.58</td>
<td>1.03</td>
<td>4.46</td>
</tr>
<tr>
<td>GOODRICKE</td>
<td>5.52</td>
<td>6.30</td>
<td>0.91</td>
<td>1.41</td>
<td>0.47</td>
<td>-1.06</td>
<td>2.26</td>
<td>2.96</td>
<td>130.94</td>
<td>-1.06</td>
<td>6.30</td>
</tr>
<tr>
<td>GREENLINE TEA</td>
<td>1.17</td>
<td>1.11</td>
<td>1.10</td>
<td>0.33</td>
<td>-0.25</td>
<td>-0.05</td>
<td>0.57</td>
<td>0.64</td>
<td>112.58</td>
<td>-0.25</td>
<td>1.17</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>5.99</td>
<td>5.58</td>
<td>2.82</td>
<td>0.62</td>
<td>0.42</td>
<td>0.56</td>
<td>2.67</td>
<td>2.58</td>
<td>96.73</td>
<td>0.42</td>
<td>5.99</td>
</tr>
<tr>
<td>PARRY AGRO</td>
<td>7.26</td>
<td>6.72</td>
<td>2.32</td>
<td>1.22</td>
<td>1.25</td>
<td>0.72</td>
<td>3.25</td>
<td>2.95</td>
<td>90.81</td>
<td>0.72</td>
<td>7.26</td>
</tr>
<tr>
<td>ROSSELL IND.</td>
<td>1.84</td>
<td>-0.02</td>
<td>-1.57</td>
<td>0.66</td>
<td>-1.80</td>
<td>-4.58</td>
<td>-0.91</td>
<td>2.26</td>
<td>-247.79</td>
<td>-4.58</td>
<td>1.84</td>
</tr>
<tr>
<td>TATA TEA LTD.</td>
<td>5.17</td>
<td>6.60</td>
<td>5.22</td>
<td>4.14</td>
<td>3.13</td>
<td>3.99</td>
<td>4.71</td>
<td>1.22</td>
<td>25.81</td>
<td>3.13</td>
<td>6.60</td>
</tr>
<tr>
<td>WARREN TEA</td>
<td>24.44</td>
<td>11.93</td>
<td>10.14</td>
<td>6.58</td>
<td>1.82</td>
<td>1.25</td>
<td>9.36</td>
<td>8.54</td>
<td>91.28</td>
<td>1.25</td>
<td>24.44</td>
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<tr>
<td>WILLIAMSON</td>
<td>5.70</td>
<td>7.17</td>
<td>6.24</td>
<td>4.26</td>
<td>3.76</td>
<td>0.59</td>
<td>4.62</td>
<td>2.34</td>
<td>50.67</td>
<td>0.59</td>
<td>7.17</td>
</tr>
<tr>
<td>Average</td>
<td>12.85</td>
<td>9.91</td>
<td>7.07</td>
<td>3.08</td>
<td>1.36</td>
<td>0.51</td>
<td>5.80</td>
<td>4.96</td>
<td>85.66</td>
<td>0.51</td>
<td>12.85</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 5.8
Interest Coverage Ratio in Tea Industry in India
INTEREST COVER (PBIT/INTEREST)
Two years of the study period; however the company was able to pay fixed charges.

In Goodricke Group Ltd. interest coverage ratio recorded a decreasing trend from 5.52 times in 1997-1998 to minus 1.06 times during the span of research period. The average ratio of the company was 2.26 times which was lower than the combined average ratio of the tea industry. The interest coverage ratio of the company was negative in last year which was due to the negative EBIT. The earnings were sufficient enough to cover the interest charges we may infer that company was moderately using its debt facility for the advantages of shareholders.

Greenline Tea & Exports Ltd. registered a decreasing trend in the interest coverage ratio during the study period. The ratio decreased from 1.17 times in 1997-1998 to 1.11 times in 1998-1999. It further decreased to 1.10 times. During the last two years of the study the ratio were negative. The average interest coverage ratio was 0.57 times. During the last three year of the study period the earnings were not sufficient to cover the interest charges.

In Jay Shree Tea & Ind. Ltd. the interest coverage ratio recorded a decreasing trend. It was felt from 5.99 times in 1997-1998 to 5.58 times in 1998-1999. It declined 2.82
times in 1999-2000 to 0.56 times in 2002-2003. The average ratio of the company was 2.67 times. During the last three year of the study period the interest coverage ratio was very low. The EBIT was not enough to cover the interest charges. The C.V. showed high fluctuations among the ratios with 96.73 percent.

In Parry Agro Ind. Ltd. the interest coverage ratio also recorded decreasing trend from 7.26 times in 1997-1998 to 0.72 times in 2002-2003, with an average ratio of 3.25 times. In the last year of the study period the ratio was very low, 0.72 times. However except 2002-2003 the company was able to cover the fixed rate of debt. The C.V. was 90.81 percent showing high fluctuating among the ratios.

In Rossell Ind. Ltd. interest coverage ratio was decreasing. The ratio ranged between minus 4.58 times in 2002-2003 to 1.84 times in 1997-1998, with an average ratio of minus 0.91 times. The ratios of the company were negative in most of the years except 1.84 times in 1997-1998 and 0.66 times in 2000-2001. The company was not able to cover the interest charges due to the negative EBIT. The company should increase EBIT.

The above table reveals interest coverage ratio of Tata Tea Ltd. The ratio of Tata Tea Ltd. indicated a fluctuating
trend during the study period. It rose from 5.17 times in 1997-1998 and increased again 6.6 times in 1998-1999, thereafter fell down to 3.99 times in 2002-2003 with the average ratio 4.71 times. From the ratio we can say that the company was using the credit facility at a highest rate for the shareholders.

In Warren Tea Ltd. interest coverage ratio depicted a decreasing trend during the research period. The ratio fell down from 24.44 times in 1997-1998 to 11.93 times in 1998-1999. It also declined 10.14 times in 1999-2000 after this year it was 6.58 times. The average ratio of the company was 9.63 times it was the second highest ratio among the selected tea companies under the study. The company was able to pay fixed charges on debt.

The table No-5.8 showed the interest coverage ratio of Williamson Tea Assam Ltd. The ratio of the company was indicating fluctuating trend during the study period. The ratio was 5.7 times in 1997-1998 then it rose 7.17 times in 1998-1999. It was fell down 6.24 times in 1999-2000, then after it showed decreasing trend with an average ratio of 4.62 times. Except the last year of the study period the earning of the company were sufficient enough to cover the interest charges.

The interest coverage ratio measures the interest paying capacity of the company. It was found that interest
coverage ratio of the companies selected under the study of the tea industry fluctuated extremely from a very low i.e. minus 0.91 times to 28.70 times. The combined average ratio of the tea industry was 5.8 times. The average ratio of AFT Ind. Ltd. was highest followed by Warren Tea Ltd., Tata Tea Ltd. Williamson Tea Assam Ltd., and others. None of the companies registered higher ratio than the average ratio of the combined tea industry except AFT Ind. Ltd. and Warren Tea Ltd. However, Greenline Tea & Exports Ltd. and Rossell Ind. Ltd. were not able to meet the fixed interest charges.

The combined interest coverage ratio of selected tea companies under the study recorded decreasing trend during the study period. It was dropped from 12.85 times in 1997-1998 to 0.51 times in 2002-2003. In comparison of the average ratio of the company lowest ratio was minus 0.91 times and highest was 28.70 times. The combined average ratio of the tea industry was 5.8 times. Except AFT Ind. Ltd. and Tata Tea Ltd. none of the companies under the study were registered a higher ratio than the average ratio of the tea industry. Of course, most of the tea companies under the study shows that the interest coverage ratio was sufficient enough to cover its fixed interest charges but Greenline Tea & Exports Ltd. and Rossell Ind. Ltd. were not able to meet the fixed interest charges.
Conclusion:

Chapter titled “Analysis of Financial Structure” describe the concept of financial structure, factors determining financial structure etc. Capital structure means the financial plan of a company in which the various sources of capital are mixed up in such a proportion that they provide a distinct capital set-up most suitable to the requirements of that particular company.

In the present study eight types of measurement tools of financial structure were discussed i.e. Total Debt Equity Ratio, Long Term Debt Equity Ratio, Capital Gearing Ratio, Financial Leverage, Net Fixed Assists to Net worth Ratio, Proprietary Ratio, Net Fixed Asset to Long Term Debt Ratio, Interest Coverage Ratio. Generally proprietary ratio is widely used and famous. The present study shows concept, factors determining financial structure, importance and ratio analysis as a tool for analysis of performance of Selected Companies of Tea Industry in India.
References:


9. Ibid.


CHAPTER– 6

ANALYSIS OF WORKING CAPITAL

- Concept of Working Capital
- Importance of Working capital
- Analysis of Working Capital and Liquidity position of Selected Companies of Tea Industry through Ratios:
  1. Current Ratio
  2. Quick Ratio
  3. Debtors Turnover Ratio
  4. Creditors Turnover Ratio
  5. Average Days of Debtors
  6. Average Days of Creditors
  7. Gross Working Capital Cycle
  8. Net working capital cycle
  9. Inventory to Gross Working Capital
  10. Inventory to Net Working Capital
  11. Finished Goods (Stock)Turnover

- Conclusion
- References
CHAPTER– 6
ANALYSIS OF WORKING CAPITAL

Concept of working capital:

The concept of liquidity within a business is important to understand the financial management, as it is the basic criteria to test the short-term liquidity position of the enterprise. Liquidity may be defined as the ability to realise value in money the real liquid asset. It has two dimensions (i) The time required to convert the assets money and (ii) The certainty of the realizable price.

Generally, the liquidity means conversion of assets in to cash during normal courses of business and to have regular uninterrupted flow of cash to meet outside current liability (Generally maturing within a year) as and when due and payable and also the ensure money for day to day business operations. Hence the flow of current should circulate with such a rapid speed that they are converted in to cash within a year so that timely payment may be made to outsiders for interest dividend etc. if a major part of current assets are blocked in inventories and credit sales, not only ready cash will be available to pay current dept but there is a risk shrinkage in the total current assets available because of possible fall in the value of inventories or possible losses an
account of bad debts. The quality of current assets is therefore very important for analyzing liquidity. To know the liquidity position working capital analysis must be done.

Working capital of a business enterprise can be said to be that portion of its total financial resources which is put to a variable operative purpose.

There are two concepts or classifications. Viz. “Gross” and “net” where “the gross working capital is the total of all the current assets or that amount of funds invested in current assets that are employed in the business process.” It is also known as quantitative concepts. Gross working capital refers to business point of view. While “net working capital is the difference between current assets and current liabilities” It is also known as qualitative concepts. Net working capital refers to accounting point of view.

Both of concepts of working capital have their own importance. “The gross working capital is the sum of all such assets as are required to be converted into cash during a short operating cycle of one year, while net working capital is the excess of current assets over current liabilities.”

Professor Husband and dockeray explained the usefulness of quantitative concepts of working capital as
“despite the uncertainty of quantitative concepts of working capital it provides a more objective basis of determining the type and amount of finance”

The gross working capital concept emphasizes the use and the net concept the sources, the integration of both these concepts is necessary in order to understand working capital management from the point of view of risk, Return and uncertainty Thus above both of concepts of working capital have their own uses and merits. The choice of the particular concept will depend upon the purpose in view of the two concepts the net is more useful, if the purpose is to find out the financial position of an enterprise.”

**Importance of Working capital:**

Analysis of working capital performance has importance, both of way internal and external because it has close relationship with the current or day to day operation of business organization. “Management has to pay particular attention to the planning & control of working capital.”

R. D. Kennedy and S. Y. Mcmuller stated that “Inadequacy as mismanagement of working capital is the leading cause of business failures.” Working capital is the alternative measure of the changes in the financial position, which is concerned with “the safeguarding and controlling of
the firm’s current assets and the planning for sufficient funds to current bills.”

According to Guthaman, “Just as circulation of blood is very necessary in the human body to maintain life, working capital is very necessary to maintain the business. Therefore, working capital is the life blood and controlling nerve centre of the business”

“An enterprise can not be run without appropriate working capital. Not only working capital is enough, but also there should be a proper management of working capital because it is very important for the success of an enterprise and for maximizing the value”

Working capital is essential element for business organisation but the quantum of its requirement is different from enterprise to enterprise. “The goal of working capital is to manage each of the firm’s current assets and current liabilities in such a way that an acceptable level of net working capital is maintained” it is concerned with the choice of the financing mix for raising the current resources.

In the business there is operating cycle, which converts cash into raw materials, raw material into goods in process, further goods. Finished goods, debtors, credit sales and debtors into cash the cycle of above operations shown in diagram.
Diagram of Conversion of Operating cycle

Cash → Raw materials

Debtors → Work in progress

Sales ← Finished Goods.

Above diagram shows a business organisation requires working capital due to its production, sales, cash payments.

According to Walker and Banghan, “The smoother and more rapid the flow of funds, the more efficient is each rupee of working capital. In other words when the flow of working capital is smooth and rapid the amount of working capital required to produce a given output is less than when interruptions occur which cause the flow to slow down”

In a dynamic economy the perfect synchronization with zero working capital is impossible and therefore management should attempt to maintain an adequate level of working capital at all times.

Brown and Howard described that “Though the current liabilities are paid from cash generated by the current assets
as a whole the working capital should be sufficient in relation to the current assets to provide against danger from shrinkage in the value of current assets, particularly inventories.”

Proper management of working capital must ensure the adequate amount of working capital as per needs of business organisation. It should be in good health and circulated efficiency.

Thus, policies regarding working capital have a great influence on an enterprise’s profitability, liquidity and structural construction because of management of working capital is to ensure its optimum utilisation for overall profitability of an enterprise.

According to Professor N. M. Knandewal, “working capital has also a technical role to play in the maximisation of the rate of return. The units must keep pace with the scientific and technological taking place in the field to which it pertains”

Therefore a financial manager should aware about appropriate management of working capital policies by the each of the components of working capital so as to ensure about adequate profitability and proper liquidity structure.
Analysis of Working Capital and Liquidity position of Selected Tea Companies of Tea Industry through ratios:

With a view to appraising the performance in utilization of working capital in the Tea Industry of the selected tea companies under the study, the analysis of working capital has been made from the point of view of:

(1) Short term creditors:
(2) Efficiency in the use of working capital:
(3) Investment in working capital:
(4) The collection policy of debts:

Short term creditors are primarily concerned with the analysis of short term financial position or test of liquidity, which is valuable to management in checking the efficiency with which working capital is being employed in the business. The problems posed in connection with the ratio analysis of the short-term financial position are:

1. Will the company be also to its current debts promptly?
2. Is management utilizing the capital position effectively?
3. Is the current financial position improving?

The following ratios have been calculated to evaluate the performance of working capital:

(1) Current Ratio
(2) Quick Ratio
(3) Debtors Turnover Ratio
(4) Creditors Turnover Ratio
(5) Average Days of Debtors
(6) Average Days of Creditors
(7) Gross Working Capital Cycle
(8) The ratio of Net working capital cycle
(9) Inventory to Gross Working Capital
(10) Inventory to Net Working Capital
(11) Finished Goods (Stock) Turnover

1 Current Ratio:

This most widely used ratio shows the proportion of current assets to current liabilities. It is also known as 'Working Capital Ratio' as it is a measure of working Capital available at a particular time. The ratio is obtained by dividing current assets by the current liabilities. It is a measure of short-term financial strength of the business and shows whether the business will be able to meet its current liabilities, as and when they mature. Remember that a liability which will mature within a period of 12 months is a current liability, they include creditors, bills payable, bank overdraft, outstanding expenses, provision for taxation etc. Similarly, current assets are in the form of cash or can be readily converted into cash within a short time. They include cash, bank balance, Stock, debtors, bills receivable, prepaid expenses, accrued income, readily marketable securities etc.
Current Asset

Current Ratio = \frac{\text{Current Asset}}{\text{Current Liabilities}}

It is generally believed that a 2:1 ratio shows a comfortable working capital position. I.e. the current assets should be twice the current liabilities. However, this rule should not be taken as a hard and fast rule, because a ratio which is satisfactory for one business may not be satisfactory for the other. There may be instances when in enterprise may function satisfactorily even with a Current ratio of one to one or less and some enterprises require much higher ratio than 2 to 1. If the amount of stock-in-trade is unduly large, then the 2 to 1 ratio may not be satisfactory.

Before giving any opinion about the liquidity of the company on the basis of current ratio, the types of assets, and the size must be considered. Sometimes, the current ratio seems to be Irish, because of excessive stock included in current assets. The reason may be low sales. Due to the high proportion of obsolete, slow moving stock, the current ratio may be high but its capacity to pay Current liabilities on maturity will be definitely weak.

The most common ratio used determining liquidity is the current ratio; it is very simply calculated by dividing current assets with current liabilities. The higher the current
ratio, the greater is the short-term solvency or liquidity. A minimum ratio of current ratio of 1.33 is no longer insisted upon and the actual and projected levels are to be seen in the context of Current Ratio of similar companies (similar in terms of viz, activity, closely held etc.)

The concern's past history or the historical trend of improvement of deterioration, any unusual fluctuations in the level of current assets or current liabilities on the Balance Sheet date.

The company's present plans of expansion or diversification, if any, in which case we would expect the ratio to be on lower side.

The company's ability to manage their liquidity as reflected in the account for e.g. not approaching bank for excess drawing, keeping up loan servicing commitments.

A low current ratio is an indicator that the company may not able to pay its obligations on time, particularly if conditions change causing a slow down in cash collections. While a high ratio indicates a very comfortable liquidity position, too high a ratio may be due to an excessive build-up of current assets and may be indicative of a failure of optimum utilization of resources.
Table No - 6.1
Current Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

<table>
<thead>
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Sources: computed from the annual reports and accounts of the Tea companies.
Graph No - 6.1
Current Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)
The current ratio of selected companies of Tea Industry has been presented in the table no.6.1.

In AFT Ind. Ltd. the current ratio ranged between 1.01 times in 2002-2003 and 2.3 times in 1997-1998 with an average ratio of 1.76 times. The ratio showed decreased trend during the study period. Moreover the company had not maintained the standard ratio of 2:1 times in whole years of research period. The ratio is considered satisfactory to meet the current liabilities.

In Dhunseri Tea & Ind. Ltd. the current ratio showed fluctuating trend during the study period. The highest ratio was 2.23 times in 1997-1998 and the lowest ratio was 0.86 times in 2002-2003. The company was able to fulfill current liabilities except in 2001-2002. The company had not maintained the standard ratio of 2:1. The average ratio had been 1.38 times which was below the standard ratio.

In Goodricke Group Ltd., the current ratio showed mixed and increased trend. It did not maintain the standard. The ratio ranged between 0.86 times in 2001-2002 to 1.8 times in 2000-2001 with an average of 1.38 times. The company is advised to increase its current assets to maintain the norms of 2:1.
During the study period the current ratio of Greenline Tea & Exports Ltd. had been below the standard. It varied from 0.55 times in 2002-2003 to 0.73 times in 1997-1998. The average ratio of the company had been 0.65 times which was below the average ratio of the tea industry. In most of the years the company was not able to meet the current liabilities; the liquidity position of the company was not good.

In Jay Shree Tea & Ind. Ltd. the current ratio was above the standard ratio. In 1997-1998 it was 2.83 times. It ranged from 1.89 times in 2000-2001 to 3.30 times in 1998-1999. The ratio showed fluctuating trend during the study period. The average ratio of the company was 2.47 times which was satisfactory.

The above table shows current ratio of Parry Agro Ind. Ltd. The ratio ranged between 0.51 times in 1999-2000 and 2.18 times in 2002-2003. The average ratio of the company was 1.20 times which was above the average ratio of the tea industry. The liquidity position of the company was good but the standard was not maintained.

In Rossell Ind. Ltd. the current ratio had been on an average of 0.63 times ranging from 0.26 times in 2000-2001 to 1.12 times in 1997-1998. After the first year of the study
period the company was not able to meet the current liabilities. The company is advised to increase its current assets.

In Tata Tea Ltd. the current ratio ranged between 1.38 times in 1999-2000 and 1.82 times in 2001-2002. The average ratio of the company was above the average ratio of the tea industry. The company was also not maintaining the standard ratio of 2:1, even though the company was able to pay the current liabilities.

The Warren Tea Ltd. showed the current ratio on an average of 1.85 times varied from 1.55 times in 1997-1998 to 2.01 times in 2001-2002. The trend was fluctuating in most of the years. The ratio was not maintaining the standard ratio of 2:1, but the company was able to pay the current liabilities.

The current ratio of Williamson Tea Assam Ltd. had been 0.65 times in 2002-2003 to 1.28 times in 1997-1998 with an average of 1.10 times. The trend had been decreasing throughout the study period. The Ratio was not above the standard throughout the study period.

The current ratio in the tea industry on the whole depicts a decreasing trend during the period covered by our study. The combined average ratio of the tea industry was
1.4 times. On comparing the average current ratio of the company with the average ratio of tea industry, we can say that the performance AFT Ind. Ltd., Jay Shree Tea & Ind. Ltd., Tata Tea Ltd. and Warren Tea Ltd. was better. The other companies under the study had the average current ratio below the average ratio of the tea industry.

2. Quick Ratio:

If the volume of a firm’s current assets is large relative to the volume of current liabilities, there is a high probabilities can be paid as they fall due, i.e., that the firm will be able the generate a sufficient volume of cash to meet its commitments. However, a high current ratio by itself does not guarantee that firm will always be able to repay its current debts. If the inventory of such stock is very high which cannot be easily converted into cash or if the inventory is overvalued, a high current ratio will not guarantee repayment of current liability.

According to Lerner,” ...this ratio ignores inventories, since they are the least liquid of a firm’s current assets.” This ratio provides a more stringent test of solvency. This ratio is also called Solvency Ratio, Liquid Assets Ratio, Liquidity Ratio, Quick Ratio, Liquid Assets Ratio, Liquidity Ratio, Quick Current Ratio and Near-money Ratio.
In computation of this ratio quick assets and current liabilities are to be taken into account. Quick assets would include cash in hand, cash at bank, sundry debtors and marketable investments. Current liabilities would include sundry creditors and other amounts due but not paid. Inventories are excluded from current assets because inventory itself may shrink in value due to various factors like slow moving, obsolete and unsaleable nature of items. The formula for derivation of this ratio is:

\[
\text{Quick Ratio} = \frac{\text{Current Assets - Inventories}}{\text{Current Liabilities}}
\]

This ratio is calculated to ascertain the quick or instant liquidity position of a concern. Normally this ratio should be 1:1 as liabilities at short notice a variant of current ratio is the liquid ratio or quick ratio which is desired to show the amount of cash available to meet immediate payments.

The measure of absolute liquidity may be obtained, by comparing only cash and bank balance as well as readily marketable securities with liquid liabilities. This is a very exacting standard of liquidity and it is satisfactory if the ratio is 0.5:1.

The Table No.-6.2 shows the quick ratio of AFT Ind. Ltd. The ratio in AFT Ind. Ltd. fluctuated from 0.12 times in
### Table No - 6.2
Quick Ratio in Tea Industry in India
(In times)

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<td>AFT</td>
<td>1.3</td>
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<td>0.74</td>
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<td>19.17</td>
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Sources: computed from the annual reports and accounts of the Tea companies.
Graph No - 6.2
Quick Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)
ANALYSIS OF WORKING CAPITAL

2001-2002 to 1.35 times in 1998-1999. The ratio showed decreased trend during the study period. The company was not able to maintain the standard ratio of 1:1. On the whole the liquidity position was not satisfactory and the company is well advised to maintain the liquidity.

The above table shows fluctuating trend of the quick ratio in Dhunseri Tea & Ind. Ltd. The quick ratio of the company fluctuated from 0.24 times in 2001-2002 to 0.66 times in 1997-1998. The average ratio of the company was 0.46 which was below the average ratio of the tea industry. The quick ratio of the company was low and it can be said that the liquidity poison of the company was not good. The company could not maintain the norm. The company had not enough funds to pay immediately its current liabilities.

The above table No.-6.2 displays the quick ratio of Goodricke Group Ltd. The ratio varied between 0.16 times in 1998-1999 to 0.35 times in 1999-2000 with an average ratio of 0.25 times. The quick ratio showed fluctuating trend through out the study period. In most of years the company was not able to maintain the norms of 1:1. The company is advised to increase its quick assets.

In Greenline Tea & Exports Ltd. the quick ratio showed decreasing trend during the study period except the year of
2000-2001. The average ratio of the company was 0.16 times. The ratio varied from 0.08 times in 2002-2003 to 0.26 times in 1997-1998. The company was not able to maintain the standard norm of 1:1. The company should increase its current assets.

The Jay Shree Tea & Ind. Ltd. showed fluctuating quick ratio in table no-2 during the study period. It varied from 0.54 times in 1999-2000 and 1.46 times in 2001-2002. It decreased from 1.36 times in 1997-98 to 1.33 times in 1998-1999. The ratio further declined to 0.54 times in 1999-2000. During the last two years of the study period the ratio had been above the standard which showed the good liquidity position. The average ratio of the company was 1.13 times.

Quick ratio in Parry Agro Ind. Ltd. shows fluctuating trend. The ratio of the company fluctuated between 0.13 times in 1999-2000 to 0.40 times in 2001-2002 with an average ratio of 0.24 times. It can be said that the liquid position of the company was very much disturbed because the fund of its current creditors were not safe.

The quick ratio of Rossell Ind. Ltd. varied from 0.05 times in 1999-2000 to 0.26 times in 1997-1998. The average ratio of the company had been 0.16 times. The trend was decreasing during the research period. The company was
not able to maintain the standard norm of 1:1. The liquid position of the company was not good.

In Tata Tea Ltd. the quick ratio of the company marked a fluctuating trend and varied from 0.29 times in 1999-2000 to 0.93 times in 2001-2002. On an average the quick ratio of the company was 0.55 times. The average ratio of the company was below the average of the tea industry. The picture of quick ratio was not good in the company, so the company is advised to maintain the standard norm of 1:1.

The quick ratio of Warren Tea Ltd. registered a fluctuating trend during the span of the research period. It was varied from 0.39 times in 2001-2002 to 0.80 times in 2000-2001 with an average of 0.60 times. The company had not maintained the standard of 1:1. The liquidity position of the company was not sound.

In Williamson Tea Assam Ltd. quick ratio had been on an average of 0.22 times during the span of research period. It varied from 0.12 times in 2002-2003 to 0.46 times in 2000-2001. The company had not maintained the standard ratio of 1:1. The ratio was fluctuating during the study period. The liquid position was not good.

On the basis of the above analysis it can be seen that the quick ratio of Jay Shree Tea & Ind. Ltd. was the highest
followed by AFT Ind. Ltd., Tata Tea Ltd., Warren Tea Ltd., Dhunsuri Tea & Ind. Ltd. and Goodricke Group Ltd. Other selected companies under the study did not hold a reasonable and satisfactory position of liquidity.

3. Debtors Turnover Ratio:

Debtor Turnover Ratio is an indicator of quickness in realization of sundry debtors. The main object of this ratio is to know-how many day’s credit is outstanding with sundry credit enjoyed by sundry debtors or credit time allowed and capital blocked in debtors. Debtor turnover ratio also shows the effectiveness in collection of debts due, time taken in converting sales in to cash the effectiveness in formulating ratio the better it is since, it would indicate that debts are would indicate too liberal and inefficient credit and collection and capital blocked in debtors. Debtor turnover ratio also shows the effectiveness in collection of debts due, time taken in converting sales in to cash the effectiveness in formulating ratio the better it is since, it would indicate that debts are would indicate too liberal and inefficient credit and collection policy. This ratio is also known as Accounts Receivable Turnover Ratio, or Debtors velocity.

The debtor’s turnover ratio has been calculated by dividing the net sales by the debtors at the end of the year. Following aspects are to be considered while using this ratio:
1) Amount of the sales is taken for the whole accounting year while the amount of debtors does not represent on accounting year.

2) The sales include both cash and credit sales. Hence, segregation of the sales is required for more scientific results.

Receivable from an important part of the current assets and it is important to know how liquid they are. To estimate the liquidity of receivables, sales are divided by that proportion of sales for which payment has not yet been received or realized Sales (Accounts Receivables). This gives the Accounts Receivable Turnover Ratio. While a high ratio shows a strict credit policy and aggressive collection procedure, a low ratio indicates that, perhaps the firm is experiencing difficulties in collecting its unpaid bills. The average debt collection periods arrived at by dividing accounts receivable with daily sales. The debtor’s turnover suggests the number of times the amount of credit sale is collected during the year, while debtors ratio indicates the number of days during which the dues for credit sales are collected. (If Bills Receivables is given, it should be included)

\[
\text{Credit Sales} \\
\text{Debtors Turnover} = \frac{\text{Credit Sales}}{\text{Average Debtors}}
\]

Where,

\[
\text{Average Debtors} = \frac{\text{Opening Debtors} + \text{Closing Debtors}}{2}
\]
Table No - 6.3
Debtors Turnover Ratio in Tea Industry in India
(In times)

<table>
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<td>47.71</td>
<td>45.11</td>
<td>32.55</td>
<td>28.85</td>
<td>17.05</td>
<td>59.09</td>
<td>8.21</td>
<td>47.71</td>
</tr>
<tr>
<td>GOODRICK</td>
<td>13.25</td>
<td>14.9</td>
<td>10.61</td>
<td>10</td>
<td>11.92</td>
<td>12.27</td>
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<td>1.78</td>
<td>14.64</td>
<td>10.00</td>
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<tr>
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<td>11.79</td>
<td>4.61</td>
<td>3.24</td>
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<td>2.51</td>
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<td>64.60</td>
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<tr>
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<td>8.01</td>
<td>7.68</td>
<td>7.68</td>
<td>8.54</td>
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<td>1.52</td>
<td>21.60</td>
<td>4.77</td>
<td>8.54</td>
</tr>
<tr>
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<td>17.09</td>
<td>18.46</td>
<td>22.46</td>
<td>25.35</td>
<td>20</td>
<td>19.42</td>
<td>20.46</td>
<td>2.99</td>
<td>14.59</td>
<td>17.09</td>
<td>25.35</td>
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<td>13.73</td>
<td>46.74</td>
<td>28.68</td>
<td>8.42</td>
<td>19.58</td>
<td>15.26</td>
<td>77.96</td>
<td>8.42</td>
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<td>8.99</td>
<td>7.72</td>
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<td>25.98</td>
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<td>26.86</td>
<td>71.78</td>
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<td>2.82</td>
<td>15.69</td>
<td>13.30</td>
<td>21.75</td>
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</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 6.3
Debtors Turnover Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

DEBTORS TURNOVER RATIO

110% 100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

ART
DHUNSERI
GOODRICK
GREENLINE
JAYSHREE
PARRY AGRO
ROSSEL IND.
TATA TEA
WARREN TEA
WILLIAMSON
Average

Table No-6.3 reveals that debtors turnover ratio in AFT Ind. Ltd. recorded a fluctuating trend during the study period. It was 30.44 times in 1997-1998 then after it decreased to 8.21 times in 1999-2000. It rose 47.71 times 2000-2001 then it decreased 45.11 times and in the last year, it was also 32.55 times. The average ratio of the company was 28.85 times during the study period. The debtor turnover ratio of the company was very good.

In Dhunseri Tea & Ind. Ltd., debtor’s turnover ratio registered fluctuating trend. The ratio increased from 11.56 times in 1997-98 to 16.14 in 1998-99, but the ratio declined to 11.25 times in 1999-2000. It rose to 12.45 times in 2000-2001 and further increased to 12.57 times in 2001-2002. However it decreased to 10.32 times in the last year of the study period. The average ratio of the company was 12.32 times which was lower than the average ratio of the tea industry. Debtor turnover ratio of the company was satisfactory.

The ratio of debtor turnover in Goodricke Group Ltd. witnessed a high fluctuating trend during the study period. It ranged between 10 times in 2000-2001 to 14.9 times in 1998-1999. The average ratio of the company was 12.16 times which was lower than the average ratio of the tea
industry. On the basis of above analysis the performance of the company was best as regard to the debtor turnover ratio

Debtor turnover ratio in Greenline Tea & Exports Ltd. Shows a down wards trend and it ranged 2.51 times in 2002-2003 to 11.79 times in 1998-1999. The ratio was 11.79 times in 1998-1999 which went down to 4.61 times in 1999-2000. The ratio was also decreasing during the last three years of the study period which was not a good indicator. The company is advised to increase the ratio.

The debtor's turnover ratio in Jay Shree Tea & Ind. Ltd. also witnessed a fluctuating trend during the study period. It varied between 4.7 times to 8.54 times. It was 4.77 times in 1997-1998 which stepped up 5.5 times in 1998-1999 and 8.01 times 1999-2000 and it decreased 7.68 times in 2000-2001. It rose during the last year of the study period. Thus it can be said that the collection policy of the debt increased in the last year.

The debtor's turnover ratio in Parry Agro Ind. Ltd. is seen in above table. It showed a fluctuating trend during the study period. The ratio ranged between 17.09 times to 25.35 times. It increased from 17.09 times in 1997-1998 to 25.35 times in 2000-2001, but decreased during the last two years of the study period. The average ratio of the company was
20.46 times which was higher than the average ratio of the tea industry. Thus the collection of the debt in Parry Agro Ind. Ltd. was not stable but it was satisfactory.

In Rossell Ind. Ltd. the debtor's turnover ratio registered a progressive trend during the first four years but it decreased during the last two years of the study period. It varied between 8.42 times to 46.74 times. The average ratio of the company was 19.58 times which was considered to be satisfactory.

The debtor turnover ratio of the Tata Tea Ltd. is manifested in the above table. The ratio witnessed an increasing trend during the study period. It ranged between 8.55 times in 1997-1998 to 13.09 times in 2002-2003. The average ratio of the company was 11.19 times which was lower than the average ratio of the tea industry. Looking to the ratio of debt collection it can be said satisfactory.

The ratio of debtor turnover in Warren Tea Ltd. registered a fluctuating trend. It was ranged 7.72 times in 2002-2003 to 15.02 times in 1998-1999. The average ratio of the company was 10.18 times which was below the average ratio of the tea industry. The overall debt collection of this company was not up to the mark except in the year of 1998-1999.
Debtor turnover ratio in Williamson Tea Assam Ltd. showed a downwards trend. It ranged 20.91 times in 2000-2001 to 104.79 times in 1997-1998. The ratio was 104.79 times in 1997-1998 which went down to 26.86 times in 2000-2001. Then it rose up to 71.78 times in 2002-2003. In the last year of the study period it improved due to proper debt collection policy and high demand of the product.

On the basis of above analysis it can be said that the debtor's turnover ratio of the tea industry showed a fluctuating trend with an average of 17.98 times. The ratio of debtor's turnover in AFT Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Williamson Tea Assam Ltd. was higher than the average ratio of the tea industry. The average ratio of the other selected companies under the study such as Goodricke Group Ltd., Dhunseri Tea & Ind. Ltd., Greenline Tea & Exports Ltd., Jay Shree Tea & Ind. Ltd. and Warren Tea Ltd. was below than the average ratio of the tea industry.

4. CREDITORS TURN OVER RATIO:

In a business concern, it is also necessary to know as to how much time is given to the firm by its trade creditors in respect of purchases. If more time is given by creditors, then naturally the concern will have a breathing time. In this
respect it should be ascertained whether the concern is enjoying actually the credit period promised by suppliers.

The calculation is similar to that shown in respect of the debtor's turnover ratio i.e. it is calculated by dividing the amount of purchases by creditors. Here it has been assumed that all of the purchases have been made as credit purchases.

We have seen in the Debtors ratio that the debtors' ratio gives us the number of days within which amount due for credit sales is collected. Similarly, the number of days within which we make to our creditors for credit purchases is obtained from creditors velocity. Suppose the credit period is 45 days, i.e. our creditors allow us a credit period of 45 days and if creditors is 30 days i.e. we are making payment within 30 days, it means that we do not take full advantage of credit period allowed to us.

\[
\text{Creditors Ratio} = \frac{\text{Creditors + Bills Payable}}{\text{Average Daily Purchases}}
\]

The ratio has been exhibited in the following table. The creditor's turnover ratio of AFT Ind. Ltd. registered a fluctuating trend it was varied from 3.7 times in 1997-1998 to 4.75 in 2002-2003. The average ratio of the company was
Table No - 6.4
Creditors Turnover Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

<table>
<thead>
<tr>
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<td>0.38</td>
<td>9.60</td>
<td>3.70</td>
<td>4.75</td>
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<tr>
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<td>4.3</td>
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<td>4.13</td>
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<td>0.29</td>
<td>7.05</td>
<td>3.75</td>
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<td>1.87</td>
<td>2.82</td>
<td>1.05</td>
<td>37.20</td>
<td>1.79</td>
<td>4.69</td>
</tr>
<tr>
<td>JAYSHREE</td>
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<td>9.71</td>
<td>8.47</td>
<td>8.7</td>
<td>10.14</td>
<td>9.74</td>
<td>9.27</td>
<td>0.68</td>
<td>7.37</td>
<td>8.47</td>
<td>10.14</td>
</tr>
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<td>4.88</td>
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<td>8.63</td>
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<td>27.23</td>
<td>4.28</td>
<td>8.63</td>
</tr>
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<td>39.27</td>
<td>18.26</td>
<td>22.57</td>
<td>23.67</td>
<td>8.24</td>
<td>34.83</td>
<td>17.12</td>
<td>39.27</td>
</tr>
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<td>5.43</td>
<td>5.93</td>
<td>6.21</td>
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<td>1.18</td>
<td>18.19</td>
<td>5.43</td>
<td>8.74</td>
</tr>
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<td>5.53</td>
<td>5.44</td>
<td>6.01</td>
<td>6.15</td>
<td>0.59</td>
<td>9.66</td>
<td>5.44</td>
<td>6.86</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>11.14</td>
<td>10.34</td>
<td>8.8</td>
<td>8.47</td>
<td>9.8</td>
<td>11.63</td>
<td>10.03</td>
<td>1.26</td>
<td>12.52</td>
<td>8.47</td>
<td>11.63</td>
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<tr>
<td>Average</td>
<td>8.00</td>
<td>8.18</td>
<td>7.88</td>
<td>9.24</td>
<td>7.64</td>
<td>8.34</td>
<td>8.21</td>
<td>0.56</td>
<td>6.80</td>
<td>7.64</td>
<td>9.24</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 6.4
Creditors Turnover Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

Creditors Turnover Ratio

- AFT
- DHUNSERI
- GOODRICK
- GREENLINE
- JAYSHREE
- PARRY AGRO
- ROssel IND.
- TATA TEA
- WARREN TEA
- WILLIAMSON
- Average

0% 20% 40% 60% 80% 100%

- 1997-98
- 1998-99
- 1999-00
- 2000-01
- 2001-02
- 2002-03
- AVE.
4.01 times which was higher than 8.21 times, the average ratio of the tea industry.

Table No-6.4 indicated the creditor turnover ratio of Dhunseri Tea & Ind. Ltd. It marked decreasing trend after the first year of the study period. It ranged 7.85 times in 2002-2003 to 14.07 times in 1998-1999 with an average ratio of 9.11 times. In the last year the ratio decreased.

From the above table it can be seen that the creditors turnover ratio of Goodricke Group Ltd. marked decreasing trend. It varied 3.75 times in 2000-2001 to 4.63 times in 1997-1998. The average ratio of the company was 4.18 times which was below the average ratio of the tea industry.

The creditor’s turnover ratio of Greenline Tea & Exports Ltd. registered a fluctuating trend. It varied from 1.79 times in 1999-2000 to 4.69 times in 1998-1999. The average ratio of the company was 2.8 times which was lower than 8.21 times, the average ratio of tea industry.

Table No-6.4 indicated the creditor turnover ratio of Jay Shree Tea & Ind. Ltd. It marked fluctuating trend during the study period. It ranged 8.47 times in 1999-2000 to 10.14 times in 2001-2002 with an average ratio of 9.27 times. In the last year of the study period it decreased.
The creditor turnover ratio of Parry Agro Ind. Ltd. can be seen in table No-6.4. The ratio showed increasing trend during the research period. It increased from 5.85 times in 1997-1998 to 8.63 times in 2002-2003. The average ratio of the company was 6.42 times which was considering being a low with the comparison of the average ratio of the tea industry.

In the above table it can be seen that the creditors turnover ratio of Rossell Ind. Ltd. marked fluctuating trend. It varied between 17.12 times in 1998-1999 to 39.27 times in 2000-2001. The average ratio of the company 23.67 times which was the highest ratio among the selected companies under the study.

In Tata Tea Ltd. the creditor's turnover ratio during the first five years of the study period showed a decreasing trend but in the last year of the study period it increased. The highest ratio of the company was 8.74 times in 1997-1998 and the lowest ratio was 5.43 times in 2000-2001. The average ratio of the company was 6.47 times which was below than the average ratio of the tea industry.

The creditor turnover ratio of Warren Tea Ltd. can be seen in table No-6.4. The ratio showed fluctuating trend during the study period. It varied between 5.44 times in
2001-2002 to 6.86 times in 1997-1998. The average ratio of the company was 6.15 times which was lower than the 8.21 times, the average ratio of the tea industry.

In Williamson Tea Assam Ltd., the creditor’s turnover ratio registered a decreasing trend during the first four years of the study period but during the last two years it increased. It decreased from 11.14 times in 1997-1998 to 10.34 times in 1998-1999; it again dropped to 8.8 times in 1999-2000. It further again dropped to 8.47 times in 2000-2001. But it marked 9.8 times in 2002-2003. The average ratio of the company was 10.03 times which was second highest among the selected companies under the study.

The creditor turnover ratio of the tea industry depicts a decreasing trend except in the year of 2002-2003 during the study period. The average ratio of the tea industry was 8.21 times. On comparing the average creditor’s turnover ratio of the company with the average ratio creditor’s turnover ratio of the tea industry, we can say that the performance of Rossell Ind. Ltd., Parry Agro Ind. Ltd, Williamson Tea Assam Ltd. and Dhunseri Tea & Ind. Ltd were satisfactory.
5. Average Days of Debtors:

Average debt collection periods a tool to aid in the analysis of company's credit policy and the quality of debtors more clearly. This ratio is calculated as follows:

\[
\text{Average Days of Debtors} = \frac{\text{Total Debtors}}{\text{Net Credit Sales}} \times 365
\]

The average debt collection period represents the average number of days for which the firm must wait after a sale before collecting cash from the customer.

The average debt collection period ratio measures a quality of debtors, since it indicates the rapidity or slowness of their collectibles. The shorter or smaller the average collection period, the better the quality of debtors, as a short collection period implies the prompt payments by debtors. The average debt collection period should compare against the firm's credit terms and policies to judge its credit and collection efficiency. Higher the ratio from the terms of credit is not good for concern point of view and also indicates that management have failed to adopt a sound policy in this regard. A conventional rule, average debt collection period of 30 days is considered to be satisfactory in a manufacturing industry.
### Table No - 6.5

Average Debt Collection Period in Tea Industry in India  
(In days)

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<td>36</td>
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<td>4.43</td>
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<tr>
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<td>35.2</td>
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<td>3.32</td>
<td>9.67</td>
<td>30.10</td>
<td>40.20</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 6.5
Average Debt Collection Period in Tea Industry in India
(From 1997-1998 to 2002-2003)(In days)

Average Days of Debtors (Collection)
In AFT Ind. Ltd. the ratio of average debt collection period was ranged from 7 days to 44 days. The average ratio of the company was 20.17 days during the research period. The ratio of average debt collection Period increased from 11 days in 1997-1998 to 40 days in 1998-1999, it further increased to 44 days in 1999-2000 but it came down to 7 days in the year of 2000-2001. It slightly increased in the year of 2001-2002 and marked 8 days and increased up to 11 days in the year of 2002-2003. It can be inferred that the AFT Ind. Ltd. could achieve quick collection from the debtors.

Dhunseri Tea & Ind. Ltd. depicted the average debt collection period in the above table. The average ratio of the company was 29.67 days during the research period. It declined from 31 days in 1997-1998 to 22 days in 1998-1999 but it rose to 32 days in 1999-2000. It again decreased to 29 days in the year of 2000-2001 and remained the same in the year of 2001-2002. It was marked further increasing to 35 days in the year of 2002-2003. It can be inferred from the above ratio that the company adopted good strategy throughout the study period to improve it.

Table No-6.5 shows the ratio of average debt collection period of Goodricke Group Ltd. The average ratio of the company was 30 days which was lower than the average ratio of the tea industry during the research period. It ranged
between 24 days in 1998-99 to 36 days in 2000-2001. The firm showed a relaxation in its credit and collection policy to enhance sales level and improve profitability.

The ratio of average debt collection period in Greenline Tea & Exports Ltd. had an increasing trend. It rose continuously from 46 days in 1997-1998 to 145 days in 2002-2003. It was 30 days which is lowest in the year of 1998-99 but it very high during the last three years of the study. The average ratio of the company was the highest ratio among the selected tea companies under the study. It shows that the company has relaxed its credit policy. The company is advised to minimise the credit policy because it would increase debt collection expense and bad debts.

Jay Shree Tea & Ind. Ltd. limited showed a fluctuating trend. It decreased from 76 days in 1997-1998 to 66 days in 1998-1999. It further reduced to 45 days in 1999-2000 but went up to 47 days in 2000-2001 and further increased to 47 days in the year of 2001-2002. The average ratio of the company was 53.83 days which was higher than the average ratio of the tea industry, i.e. 34.38 days. Despite of all, in the last year Jay Shree Tea & Ind. Ltd. could achieve a reasonable period for collection period of debtors.
In Parry Agro Ind. Ltd. the ratio of average debt collection period was showed decreasing and mix trend during the study period. The ratio varied from 14 days to 21 days with an average ratio of 17.67 days. It decreased to 21 days in 1997-1998 to 19 days in 1998-1999 and further went down to 16 days 1999-2000. It was further again came down to 14 days in 2000-2001 but increased to 18 days in the year of 2001-2002 and remained the same ratio in the last year of the study period. It can be inferred that the Parry Agro Ind. Ltd. could achieve quick collection from the debtors.

The ratio of average debt collection period in Rossell Ind. Ltd. depicts fluctuating trend with an average ratio of 26.83 days during the study period. It declined from 37 days in 1997-1998 to 36 days in 1998-1999, and again declined to 26 days in 1999-2000. It further again declined 7 days in the year of 2000-2001. But it went up to 12 days in 2001-2002 and marked to 43 days in the last year of the study period. It can be inferred from the above ratio that company adopted well through out strategy to improve it sales and profitability.

Tata Tea Ltd. Showed decreasing trend in the ratio of average debt collection. The average ratio of the company was 32.67 days during the study period. The ratio ranged between 27 days in 2002-2003 to 42 days in 1997-1998. The average ratio was lower than the industry average of 34.48
days. The firm tightened its credit and collection policy to reduce collection expense and risk of bad debts.

Warren Tea Ltd. showed a fluctuating trend from 38 days in 1997-1998 to 24 days in 1998-1999. It rose 32 days in 1999-2000 and went up to 42 days in 2000-2001. In 2001-2002 it was 40 days and rose 47 days in 2002-2003. The average debt collection period was 37.17 days. Warren Tea Ltd. could achieve a reasonable period for collection from debtors.

The ratio of average debt collection period of Williamson Tea Assam Ltd. recorded a fluctuating trend with the average of 9.17 days. The ratio ranged between 3 days in 1997-1998 to 17 days in 2000-2001. The average ratio of the company was below than the average of the tea industry. It can be inferred that the Williamson Tea Assam Ltd. should tightened its credit policy.

The ratio of debt collection period of selected tea companies under the study varied from 9.7 days to 8.6 days. However it can be stated on the basis of annual reports of the companies should not adopted so liberal credit facilities.
6. **Average Days of Creditors:**

   Proper employment of capital being part of good management of working capital, one should ascertain whether the firm is enjoying actually the credit promised by suppliers. Thus average credit payment period:

   \[
   \text{Ave. Credit Payment period} = \frac{\text{Creditors} + \text{Bills payable}}{\text{Ave. Credit Purchases}}
   \]

   We have seen in the Debtors ratio that the debtor ratio gives us the number of days within which amount due for credit sales is collected. Similarly, the number of days within which we make to our creditors for credit purchases is obtained from creditors velocity. Suppose the credit period is 45 days, i.e. our creditors allow us a credit period of 45 days and if creditors is 30 days i.e. we are making payment within 30 days, it means that we do not take full advantage of credit period allowed to us.

   In AFT Ind. Ltd., the ratio of average credit payment showed a fluctuating trend. The ratio fluctuated throughout the study period. It declined from 92 days in 1997-1998 to 90 days 1998-1999 and again marked 92 days in 1999-2000. It increased to 98 days in 2000-2001 and also remained the same in 2001-2002. It reduced to 76 days in the last year of the study. The average ratio was 91 days which was the second
Table No - 6.6  
Average Credit Payment Period in Tea Industry in India  
(In days)

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Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 6.6
Average Credit Payment Period in Tea Industry in India
(In days)

AVERAGE DAYS OF CREDITORS (PAYMENT)
highest among the selected tea companies under the study. Thus, we can say that the company maintains a prudent credit disposal system and shows an excellent goodwill among its suppliers.

In Dhunseri Tea & Ind. Ltd., the ratio of average credit payment showed a mix trend. The average ratio of the company was 41.33 days during the span of the research period. It ranged from 25 days in 1998-1999 to 46 days in 2002-2003. It reduced from 45 days in 1997-1998 to 25 days in 1998-1999 but it increased to 41 days in 1999-2000. It further increased to 45 days in 2000-2001. It was 46 days during the last two years of the study period. It can be inferred from the ratio that company loosened up its payment policy during the study period.

In case of Goodrick the ratio of average credit payment period was fluctuating. It increased from 78 days in 1997-1998 to 86 days in 1998-1999 but dropped to 84 days in 1999-2000. It again increased to 97 days in 2000-2001 but reduced to 90 days in 2001-2002 and 88 days in the year of 2002-2003. The average ratio of the company was 87 days which was above the average ratio of the tea industry. The company was enjoying the advantages of long term payment to suppliers.
Greenline Tea & Exports Ltd. depicted a fluctuating trend in the ratio of average credit payment period during the study period. The ratio of average credit payment period reduced from 129 days in 1997-1998 to 77 days in 1998-1999 but increased to 203 days in 1999-2000. It decreased to 133 days in 2000-2001 and again decreased to 120 days in 2001-2002. It rose to 195 days in last year of the study period. We can conclude from the ratio that the company was not able to meet out its suppliers well in time and loosing the benefit of cash discount.

Jay Shree Tea & Ind. Ltd. showed the ratio of average credit payment period fluctuating throughout the study period. It reduced from 41 days in 1997-1998 to 37 days 1998-1999, but it increased to 43 days in 1999-2000. It again decreased to 41 days in 2000-2001 and further again reduced to 35 days in 2001-2002 but it was rose to 37 days in last year of research period. The average ratio of the company was 39 days which was more than the average ratio of the tea industry. The company maintains a prudent credit disposal system and shows an excellent goodwill among its suppliers.

In Parry Agro Ind. Ltd. the ratio of average credit payment period showed an average of 60.17 days during the span of the research period. It ranged from 42 days in 2002-
2003 to 85 days in 1998-1999. The ratio was showing a decreasing trend during the study period except the first year of the study. It can be said that the credit disposal system of the company was improved.

The above table shows the ratio of average credit payment period of Rossell. The ratio fluctuated during the research period. It fluctuated from a lowest 9 days in 2000-2001 to a highest 21 days in 1998-1999. The average ratio of the company was only 16.17 days which was the lowest among the selected tea companies under the study. The company was able to meet out its current liabilities efficiently during the study period and was tried to improve on credit management.

In case of Tata Tea Ltd. the ratio of average credit payment period was fluctuated. It was increased from 41 days in 1997-1998 to 55 days in 1998-1999 and further increased to 61 days in 1999-2000. It was the highest 67 days in 2000-2001 and then decreased to 61 days in 2001-2002 and reached to 58 days in 2002-2003. The average ratio of the company was 57.17 days which was below the average of tea industry. The ratio was satisfactory from the view point of creditors.
Table No-6.6 showed the ratio of average credit payment period of Warren Tea Ltd. The ratio showed an increasing trend during the research period. The ratio varied from 53 days in 1997-1998 to 67 days in 2001-2002 with an average of 59.33 days. The average ratio of the company was below the average ratio of the tea industry. It was considered to be satisfactory from the view point of the creditors.

In Williamson Tea Assam Ltd. the ratio of average creditors was showing fluctuating trend. It increased during first four years of the study period from 32 days in 1997-1998 to 43 days in 2000-2001 but it decreased during the last two years of the study period from 37 days in 2001-2002 to 31 days in 2002-2003. The average ratio of the company was 36.67 days which was below the average ratio of the tea industry. Thus we can say that Williamson Tea Assam Ltd. maintains a prudent credit disposal system and shows an excellent goodwill among its suppliers.

On the basis of the above analysis we can say that Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Warren Tea Ltd. maintain a quick disposal of creditor where as the remaining companies like Aft Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd. Williamson Tea Assam Ltd. adopted a relaxed payment policy to creditors.
7. Gross Working Capital cycle:

The working capital is of major importance to internal and external analysis because of its close relationship to current day-to-day operations of the business. Inadequacy or mismanagement of working capital is the leading causal of business failure. “The working capital of a company is the lifeblood which flows through the veins and arteries of the structure. It engaged every part of the structure, gives coverage and moral to the brain (management) and muscles (personnel), to the best degree the raw material used by its organs, flow and return working capital is lacking or slows down, the financial body dies and has value only as junk”.

The efficiency of a firm in managing its working capital is ascertained by computing working capital turnover ration which is arrived at by dividing the net sales by the figures of working capital. In the present study, working capital has been taken as the excess of current assets over current liabilities. An attempt has been made here to analyses the efficiency of the selected tea companies as regard to working capital management through the ratio of working capital turnover. The faster the working capital turnover, the lower is the total investment and the profits are greater. However, a very high turnover of working capital may in some cases denote deficiency of working funds for the given volume of
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Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 6.7
Gross Working Capital Cycle in Tea Industry in India
(In days)

GROSS WORKING CAPITAL CYCLE

[Bar chart showing the gross working capital cycle for different companies from 1997-98 to 2002-03, with an average line.]
business which is allowed to persist will result into less production and sales and ultimately the profitability.

In AFT Ind. Ltd., The ratio of gross working cycles registered a fluctuating trend during the study period. It ranged 157 days to 228 days during the research period. The average gross working capital cycle was 190 days which was higher than 178.67 days, the average gross working capital cycle of tea industry. Gross working capital cycle shows favorable condition in the unit.

In Dhunseri Tea & Ind. Ltd. the ratio of gross working cycle registered a vast fluctuating trend during the study period. It decreased from 211 days in 1997-1998 to 105 days in 1998-1999 days but increased to 119 days in 1999-2000 and to 126 days in 2000-2001. It then decreased to 116 days in 2001-2002 but it further increased to 162 days in the last year of the study. The average ratio of gross working capital cycle of the company was 133 days which was lower than the average ratio of gross working capital cycle of the tea industry.

In Goodricke Group Ltd. the ratio of Gross working cycle depicted a fluctuating trend during the study period giving an average of 234.5 days which was higher than 178.67 days, the average ratio of gross working capital cycle of the tea industry. The ratio of Gross working cycle of the company varied between 225 days to 245 days. The ratio of
Gross working cycle was very high so the management should think about to reduce this ratio.

The ratio of Gross working cycle of Greenline Tea & Exports Ltd. showed a high fluctuation during the study period. The ratio varied from zero days to 1034 days during the study period. The ratio was zero during the last two years of the study period due to negative Gross working capital. The ratio of Gross working capital cycle of the company was approximately 6 times than the average ratio of gross working capital cycle of the tea industry. The company should immediate increase the current asset to balance this ratio.

The above table shows the ratio of Gross working cycle of Jay Shree Tea & Ind. Ltd. registering a fluctuating trend. The ratio decreased from 207 days in 1997-1998 to 205 days in 1998-1999 and further decreased to 152 days in 1999-2000. It rose to 205 days in 2000-2001. During the last two years of the study period it dropped to 169 days 2001-2002 and to 164 days in 2002-2003. The average ratio of gross working capital cycle of the company was 190.83 days being above the ratio of gross working capital cycle of the tea industry.

The table No-6.7 indicates the ratio of Gross working cycle of Parry Agro Ind. Ltd. The ratio in days depicted a
decreasing trend during the study period except in the last year. The ratio of the company decreased from 93 days in 1997-1998 to 62 days in 2001-2002 and it increased to 72 days in 2002-2003. The average ratio of gross working capital cycle of the company was 73.67 days which was the lowest ratio among the ratio of selected tea companies under the study. It indicates good working capital management by the firm.

Table No-6.7 showed the ratio of Gross working cycle of Rossell Ind. Ltd. The ratio of the company marked decreasing trend from 265 days in 1997-1998 to 80 days in 2001-2002 but it rose 150 days in 2002-2003. The average ratio of gross working capital cycle of the company was 166.83 which was the nearest to the ratio of gross working capital cycle of the tea industry.

In Tata Tea Ltd., the ratio of Gross working cycle shows a fluctuating trend during the study period. The ratio of the company dropped from 173 days in 1997-1998 to 182 days in 1998-1999 and 181 days in 1999-2000. It rose to 240 days in 2000-2001 but it again declined to 182 days in 2001-2002 and reached up to 141 days in the last year of the study period. The average ratio of gross working capital cycle of the company was 183.17 days which was nearest to the average ratio of gross working capital cycle of the tea
industry. It showed good management of working capital by the company.

Above table reveals the ratio of Gross working cycle of Warren Tea Ltd. showing an increasing trend during the study period except the last year of the study. It increased from 106 days in 1997-1998 to 187 days in 2001-2002 but it declined to 134 days in 2002-2003. The average ratio of gross working capital cycle of the company was 146 days which was lower than the average ratio of gross working capital cycle of the tea industry. It is considered being satisfactory position of the working capital in the company.

Williamson Tea Assam Ltd. shows the ratio of Gross working cycle in the above table. The ratio showed fluctuating trend during the study period. It fluctuated from a lowest 105 days in 2002-2003 to the highest 190 days in 2000-2001. The average ratio of gross working capital cycle of the company was 143 days which was lower than the average ratio of gross working capital of the tea industry. The ratio was showing good management of the working capital in the company.

On the basis of above analysis it can be said that Dhunseri Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd., Warren Tea Ltd. and Williamson Tea Assam Ltd. had the lower average ratio of gross working capital cycle from
the average ratio of the tea industry. On the other hand AFT Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd., Jayhree Tea & Ind. Ltd., and Tata Tea Ltd. showed the average ratio of gross working capital cycle were above the average ratio of the tea industry.

8. Net Working Capital Cycle:

The difference between current assets and current liabilities excluding short term borrowings is called net working capital or net current assets. Net working capital is sometimes used as a measure of firm’s liquidity. It is considered that, between two firms, the one having the larger net working capital has the greater ability to meet its current obligations. This is not necessarily so; the measure of liquidity is a relationship, rather than the difference between current assets and current liabilities. Net working capital, however, measures the firm’s potential reservoir of funds. It can be related to net assets or capital employed:

\[
\text{Net Working Capital Ratio} = \frac{\text{Net Working Capital}}{\text{Net Assets}}
\]

In AFT Ind. Ltd., the ratio of Net working cycles registered a fluctuating trend during the study period. It ranged 64 days in 1997-1998 to 135 days in 1999-2000. The average ratio of the company was 98.67 times which was lower than the average ratio of the tea industry. Thus it can
### Table No - 6.8
Net Working Capital Cycle in Tea Industry in India
(From 1997-1998 to 2002-2003) (In days)

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Sources: computed from the annual reports and accounts of the Tea companies.
ANALYSIS OF WORKING CAPITAL

Graph No. - 6.8
Net Working Capital Cycle in Tea Industry in India
(From 1997-1998 to 2002-2003) (In days)

NET WORKING CAPITAL CYCLE
be inferred that the ratio of the ratio of Net working capital cycle shows favorable condition in the company.

Dhunseri Tea & Ind. Ltd. shows the ratio of Net working capital cycle registered vast fluctuating trend during the study period. It jumped from 185 days in 1997-1998 to 79 days in 1998-1999 days and it dropped to 77 days in 1999-2000 but it rose to 81 days in 2000-2001. The ratio of the company again reduced to 69 days in 2001-2002 but it marked 74 days by increasing in the last year of the study period. The average ratio of the company was 94.17 times which was below the average ratio of the tea industry. However the ratio of gross working capital cycle was quite low among the tea companies.

In Goodricke Group Ltd. the ratio of Net working capital cycle depicted a fluctuating trend during the study period. The average ratio of Net working capital cycle of the company was 147 days which above the average ratio of the tea industry i.e., 120.87 days. The ratio of Net working capital cycle ranged between 137 days in 2002-2003 to 165 days in 1997-1998. The ratio of Net working capital cycle was very high so the management should think about this ratio.

The ratio of Net working capital cycle of Greenline Tea & Exports Ltd. showed a high fluctuation during the study
period. The ratio of the company varied from 0 days to 900 days during the study period. The ratio was zero during the last two years of the study period due to negative ratio of Net working capital. The company should increase the current asset to balance this ratio.

The above table shows the ratio of Net working capital cycle of Jay Shree Tea & Ind. Ltd. registering a fluctuating trend. The ratio increased from 165 days in 1997-1998 to 167 days in 1998-1999 but it declined 152 days in 1999-2000. It rose to 163 days in 2000-2001 but again dropped to 133 days 2001-2002. The ratio was marked to 127 days in the last year of the study period. The average ratio of the company was 151.17 days being above the average ratio of the tea industry.

The table No-6.8 indicates the ratio of Net working capital cycle of Parry Agro Ind. Ltd. The ratio in days depicted a high fluctuating trend during the study period. The ratio was marked zero in 1998-1999 and 1999-2000 from 31 days in 1997-1998 due to the negative the ratio of Net working capital. The ratio increased to 11 days in 2000-2001 from zero and reached to 29 days in the last year of the study period i.e. 2002-2003. The average ratio of the company was 14.67 days which was the lowest average ratio among the selected tea companies under the study. The
ratio was indicating good working capital of the management of the firm.

Table No-6.8 shows the ratio of Net working capital cycle of Rossell Ind. Ltd. The ratio of the company marked decreasing trend from 246 days in 1997-1998 to 61 days in 2001-2002 and it rose to 134 days in 2002-2003. The average ratio of the company was 150.50 days which cannot be considered satisfactory.

In Tata Tea Ltd., the ratio of Net working capital cycle showed highly fluctuated trend during the study period. The ratio dropped from 131 days in 1997-1998 to 127 days in 1998-1999; still it dropped 119 days in 1999-2000. It rose 172 days in 2000-2001 and declined 121 days in 2001-2002 and 82 days in 2002-2003 showing good improvement in working capital management.

Above table reveals the ratio of Net working capital cycle of Warren Tea Ltd. showing a progressive trend. It increased from 53 days in 1997-1998 to 120 days in 2001-2002 but declined 73 days in 2002-2003. The average ratio of the company was 86.33 days considered to be satisfactory.

Williamson Tea Assam Ltd. showed the ratio of Net working capital cycle in the above table. The ratio showed fluctuating trend. It was ranging from a lowest 74 days in
2002-2003 to the highest 147 days in 2000-2001. The average ratio of the company was 105.83 days which was lower than the average of the tea industry. The ratio was showing good working capital management.

On the basis of above analysis it can be said that AFT Ind. Ltd., Dhunseri Ind. Ltd., Parry Agro Ind. Ltd., Warren Tea Ltd. and Williamson Tea Assam Ltd. had the lower average ratio than the average ratio of the tea industry. On the other hand Goodricke Group Ltd., Greenline Tea & Exports Ltd., Jay Shree Tea & Ind. Ltd., Rossell Ind. Ltd. and Tata Tea Ltd. showed the average ratio higher than the average ratio of the tea industry.

9. Inventories to Gross Working Capital:

Inventory Turnover indicates the Efficiency of firm’s Inventory management. It shows rapidity of turning inventories into sales. Generally, a high turnover is indicative of good inventory management. Simultaneously, a low inventory turnover implies excessive inventory level that Warren Tea Ltd. by production and sales activities, or a slow moving or obsolete inventory. A high level of sluggish inventory amounts to unnecessary tie-up of funds, impairment of profit and increased cost. On the other hand a very high inventory turnover may be the result of a very low level of inventory turnover may be the result of a very low
level of inventory which results in frequent stockiest. The inventory will also be high if the firm replenishes its inventory in too many small lot sizes. The situation of frequent stock outs and too many small inventory replacements are costly for the firm. Thus, too high and too low inventory turnover rates are not preferred.

The inventory turnover ratio has been calculated by dividing the figure of sales by the figure of the inventory. The ratio (which is shown in days) is to be worked out by 7 dividing the inventory and receivables with the Net Sales. A low ratio indicates that the inventory/receivables are being turned over a large number of times during the year or in other words, goods are being sold promptly and sales proceeds realized quickly, that inventory management and control is good. This also indicates lesser accumulation of stocks and therefore lesser change of the stocks containing obsolete or unsaleable items. A high ratio on the other hand indicates lock up of larger sums in inventory and or slow moving stocks. If the ratio shows an increasing trend, this would indicate that sales are falling or that there are inventory hold-ups.

In AFT Ind. Ltd., Inventories to Gross working capital ratio registered a fluctuating trend during the study period. It ranged 5.44 percent to 12.74 percent during the research period. The average inventories to gross working capital ratio was 8.90 percent which was lower than 28.03 percent, the
### Table No - 6.9

Inventories to Gross Working Capital Ratio in Tea Industry in India  

<table>
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Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 6.9
Inventories to Gross Working Capital Ratio in Tea Industry in India

INVENTORIES/GROSS WORKING CAPITAL
average inventories to gross working capital ratio of tea industry.

Dhunseri Tea & Ind. Ltd. shows Inventories to gross working capital ratio fluctuating trend during the study period. It decreased from 46.08 percent in 1997-1998 to 33.19 days in 1998-1999 days but increased to 37.13 percent in 1999-2000. It then decreased to 36.05 percent in 2000-2001 and 33.6 percent in 2001-2002 but further increased to 35.54 percent in the last year of the study. The average inventory to gross working capital ratio of the company was 36.93 percent which was higher than the average ratio of inventories to gross working capital of the tea industry.

In Goodricke Group Ltd. Inventories to gross working capital ratio depicted a fluctuating trend during the study period. The average ratio of the company was 46.59 percent which was higher than the average ratio of inventories to gross working capital of the tea industry, 28.03 percent. Inventories to Gross working capital ratio of the company varied between 41.34 to 54.62 percent. The Inventory to Gross working capital ratio was very high so the management should think about to reduce this ratio.

The Inventories to Gross working capital of Greenline Tea & Exports Ltd. showed a high fluctuated trend during the study period. The ratio varied from 2.62 percent to 17.84
percent during the study period. An inventory to Gross working capital ratio of the company was 10.25 percent which was lower than the average ratio of inventories to gross working capital of the tea industry.

The above table showed Inventories to Gross working capital ratio of Jay Shree Tea & Ind. Ltd. registering a decreasing trend except the first year of the study period. The ratio increased from 35.27 percent in 1997-1998 to 38.86 percent in 1998-1999 but then it decreased to the last year of the study and marked 24.51 percent in 2002-2003. The average inventory to gross working capital ratio was of the company 32.54 percent being above the average inventory to gross working capital ratio of tea industry.

The table No-6.9 indicates Inventories to Gross working capital ratio of Parry Agro Ind. Ltd. The ratio depicted a fluctuating trend during the study period. The ratio increased from 23.93 percent in 1997-1998 to 26.98 percent in 1998-1999 and further increased to 33.83 days in 1999-2000. It decreased slightly to 33.72 percent in 2000-2001 and again decreased to 27.04 percent in 2001-2002 but increased to 40.07 percent in the last year of the study period. The average inventory to gross working capital ratio was 30.93 percent which was the higher than the average
inventory to gross working capital ratio among the selected tea companies under the study.

Table No-6.9 shows Inventories to Gross working capital ratio of Rossell Ind. Ltd. The ratio of this company marked fluctuating trend. It increased from 48.67 percent in 1997-1998 to 54.11 percent in 1998-1999 and again increased to 69.19 percent in 1999-2000. Then it decreased in 2000-2001 to 37.72 percent and it rose during the last two years of the study period and reached 56.63 percent in 2002-2003. The average inventory to gross working capital ratio of the company was 53.59 percent which was the nearest to twice than the average ratio of the tea industry.

In Tata Tea Ltd. Inventories to Gross working capital ratio showed fluctuated trend during the study period. The ratio increased from 28.07 percent in 1997-1998 to 42.19 percent in 1998-1999 and further increased to 48.87 percent in 1999-2000. It decreased to 43.59 percent in 2000-2001 and again decreased to 31.41 percent in 2001-2002 but it increased to 32.24 percent in 2002-2003. The average inventory to gross working capital ratio was 37.73 percent of the company which was higher than the average inventory to gross working capital ratio of the tea industry. It showed good management of the company.
Above table reveals Inventories to Gross working capital ratio of Warren Tea Ltd. showing a fluctuating trend during the study period. It fluctuated from 8.82 percent to 15.54 percent during the study period. The average inventory to gross working capital ratio of the company was 12.12 which were less than 50 percent of the average ratio of the tea industry.

Williamson Tea Assam Ltd. showed Inventory to Gross working capital ratio in the above table. The ratio showed fluctuating trend ranging from a lowest 3.08 percent to the highest 24.18 percent during the study period. The average inventory to gross working capital ratio was 10.75 percent which was lower than average inventories to gross working capital ratio of the tea industry.

On the basis of above analysis it can be said that average ratio of AFT Ind. Ltd., Greenline Tea & Exports Ltd., Parry Agro Ind. Ltd., Warren Tea Ltd. and Williamson Tea Assam Ltd. had the lowest from the average ratio of the tea industry on the other hand the ratio of the Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Tata Tea Ltd. showed the higher average ratio than the average ratio of the tea industry.
10. Inventories to Net Working Capital:

The ratio of inventory to working capital indicates the relationship between inventory and working capital. This is useful in analyzing the liquid financial position of a business enterprise. Ordinarily, there should be equal matching of inventory to working capital. However, blind use of the standard should be avoided as the ratio varies from industry to industry. The inventory to working capital can be computed as follows:

\[
\text{Inventory to Net Working Capital} = \frac{\text{Inventory}}{\text{Working Capitals}} \times 100
\]

In AFT Ind. Ltd., Inventories to Net working capital ratio registered a fluctuating trend during the study period. It ranged 9.62 percent to 1080.25 percent during the research period. The average inventories to Net working capital ratio was 197.20 percent which was higher than 94.22 percent, the average inventories to Net working capital ratio of tea industry.

Dhunseri Tea & Ind. Ltd. shows Inventories to net working capital ratio fluctuating trend during the study period. It increased from 135.09 percent in 1997-1998 to 580.67 percent in 1998-1999 but decreased to 182.37 percent in 1999-2000. It was further decreased to 81.33 percent in 2000-2001. It was zero percent in 2001-2002 but further
Table No - 6.10
Inventories to Net Working Capital Ratio in Tea Industry in India

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Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 6.10
Inventories to Net Working Capital Ratio in Tea Industry in India
increased to 81.87 in 20002-2003. The average inventories to Net working capital ratio of the company was 176.89 percent which was higher than the average inventories to Net working capital ratio of the tea industry.

In Goodricke Group Ltd. Inventories to net working capital ratio depicted a decreasing trend during the study period giving an average 181.14 percent which was higher than the average Inventories to net working capital ratio of tea industry, 94.22 percent. Inventories to Net working capital ratio of the company varied between 150.42 to 230.32 percent.

The Inventories to Net working capital ratio of Greenline Tea & Exports Ltd. showed a zero during the study period.

The above table showed Inventories to Net working capital ratio of Jay Shree Tea & Ind. Ltd. registered a fluctuating trend during the study period. The ratio increased from 54.57 percent in 1997-1998 to 55.75 percent in 1998-1999 and further increased to 72.63 percent in 1999-2000 but it decreased to 66.04 percent in 2000-2001. It again decreased to 46.22 percent in 2001-2002 but slightly increased to 46.82 percent in 2002-2003. The average inventory to Net working capital ratio was of the company
57.01 percent being below the average inventories to Net working capital ratio of tea industry.

The table No-6.10 indicates Inventories to Net working capital ratio of Parry Agro Ind. Ltd. The ratio was zero during the first three year of the study period and marked 251.77 percent in 2000-2001. The ratio decreased to 63.47 percent in 2001-2002 but increased in the last year of the study period to 74.03 percent. The average inventory to Net working capital ratio was 64.88 percent which was the below the average inventory to Net working capital ratio among the selected tea companies under the study.

Table No-6.10 showed Inventories to net working capital ratio of Rossell Ind. Ltd. The ratio of the company was 453.24 in 1997-1998 but it was zero during the next five years of the study period.

In Tata Tea Ltd. Inventories to Net working capital ratio showed fluctuated trend during the study period. The ratio increased from 67 percent in 1997-1998 to 122.97 percent in 1998-1999 and further increased to 176.04 percent in 1999-2000. It decreased to 119.58 percent in 2000-2001 and again decreased to 69.54 percent in 2001-2002 but it increased to 116.44 percent in 2002-2003. The average inventory to Net working capital ratio was 111.93 percent of
the company which was higher than the average inventory to Net working capital ratio of the tea industry.

Table No.6.10 depicts Inventories to Net working capital ratio of Warren Tea Ltd. It was showing a fluctuating trend during the research period. It fluctuated from 18.61 percent to 35.36 percent during the study period. The average inventory to Net working capital ratio of the company was 26.80 which were lower than the average ratio of the tea industry.

Williamson Tea Assam Ltd. shows Inventory to Net working capital ratio in the above table. The ratio shows fluctuating trend ranging from a lowest zero percent to the highest 139.73 percent during the study period. The average inventory to Net working capital ratio was 50.83 percent which was lower than average inventories to gross working capital ratio of the tea industry.

On the basis of above analysis it can be said that ratio of AFT Ind. Ltd. was the highest among the all selected companies followed by Dhunseri Tea & Ind., Goodricke Group Ltd. and Tata Tea Ltd. In Rossell Ind. Ltd. the inventory to working capital ratio was 75.54 percent followed by Williamson, Parry Agro Ind. Ltd., Jay Shree Tea & Ind. Ltd. and Warren Tea Ltd. Tea., the average ratio of inventory
to gross working capital of all these companies were lower than the average ratio of the tea industry. The average ratios of these companies were below 100 percent which means that the inventories were lower than the working capital.

11. FINISHED GOODS(STOCK) TURNOVER:

The number of times the average stock is turned over during the year is known as stock turnover. It is computed by dividing the cost of goods sold by the average stock in the business. Average stock is the average of opening and closing stock of the year. If however, the monthly figures of the stocks are available, the average monthly stock will give a better turnover ratio.

\[
\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}}
\]

Where average stock = \((\text{Opening stock} + \text{Closing stock})/2\)

This ratio signifies that the average stock is turned over four times during the year. If figures for cost of goods sold are not available, then the ratio may be calculated on the basis of sales.

The ratio is very important in judging the ability of management with which it can move the stock. The higher
the turnover ratio, the more profitable the business would be. The firm in such a case will be able to trade on a smaller margin of gross profit. A low turnover indicates accumulation of slow-moving, obsolete and low-quality goods, which is a danger signal to the management.

The Table No. 6.11 showed the finished goods turnover ratio of AFT Ind. Ltd. The ratio showed the fluctuating trend during the study period. The average ratio was 24.38 times ranging from 14.62 times in 2002-2003 to 37.61 times in 1999-2000. The average ratio of the company was above the ratio of tea industry. The finished goods turnover ratio was very good which showed that the company earning good profit.

The above table shows the finished goods turnover ratio of Dhunseri Tea & Ind. Ltd. The trend of the ratio was mix and decreasing. The ratio of the company varied from 2.95 times in 1997-1998 to 8.14 times in 1999-2000 with an average ratio of 6.66 times. The average ratio of the company was lower than the average ratio of the tea industry. The finished goods turnover ratio of the company was satisfactory.
Table No - 6.11
Finished Goods Turnover Ratio (Stock Turnover) in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

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<td>69.77</td>
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Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 6.11
Finished Goods Turnover Ratio (Stock Turnover) in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

FINISHED GOODS TURNOVER (TIMES)

[Bar chart showing the finished goods turnover ratio for different tea companies from 1997-1998 to 2002-2003, with a legend indicating the years (1997-98, 1998-99, 1999-00, 2000-01, 2001-02, 2002-03) and the average (AVE.).]
The finished goods turnover ratio of Goodricke Group Ltd. is seen in the above table. The ratio showed the mix and increasing trend. The ratio of the company varied from 3.88 times in 1998-1999 to 5.40 times in 2002-2003 with an average of 4.58 times during the study period. The average ratio of the company was considered to be very low. The company should increase the ratio by increasing sales.

The above table manifested the finished goods turnover ratio of Greenline Tea & Exports Ltd. The ratio of the company varied during the study period. The ratio increased from 4.86 times in 1997-1998 to 15.8 times in 1998-1999 but it decreased to 7.66 times in 1999-2000. After this year the ratio showed increasing trend during the last years of study period and marked 28 times. The ratio of the company was satisfactory.

Table No-6.11 reveals that finished goods turnover ratio of Jay Shree Tea & Ind. Ltd. recorded a fluctuating trend during the study period. It decreased from 8.25 times in 1997-1998 to 7.03 times in 1998-1999 and further decreased to 6.85 times in 1999-2000. But the ratio increased to 7.49 times 2001-2002 and further increased to 8.59 times in 2002-2003. The average ratio of the company was 7.55 times which was above the average of the tea industry. The ratio of the company considered to be good.
The Parry Agro Ind. Ltd. Finished goods turnover ratio registered a fluctuating trend during the study period. The ratio of the company varied from 8.54 times in 2002-2003 to 20.26 times in 1997-1998. The average ratio of the company was 13.88 times which was above the average ratio of the tea industry. The stock turnover ratio of the company is giving very good gross profit.

In Rossell Ind. Ltd. Finished goods turnover ratio marked a varying trend for the study period, 1997-1998 to 2002-2003 with an average ratio of 7.95 times. The ratio increased from 5.32 times in 1997-1998 to 5.94 times in 1999-2000 and further increased to 12.13 times in 2000-2001 and it was the highest ratio 12.35 times in 2001-2002. But during the last year of the study period it declined to 6.64 times. Considering the average ratio stock turnover was satisfied.

Tata Tea Ltd. showed finished goods turnover ratio in the above table marking a decreasing trend. The ratio decreased from 8.78 times in 1997-1998 to 7.96 times in 1998-1999 and sharply dropped it to 7.92 times in 1999-2000. It further decreased to 7.44 times in 2000-2001 and also decreased by 0.01 times in 2001-2002. The ratio marked to 7.93 times in the last year of the study. The average ratio of the company was 7.91 times which was
indicating the good sign of profitability. The management always interested to increase this ratio.

In Warren Tea Ltd. Finished goods turnover ratio registered high fluctuating trend during the study period. It ranged between 17.60 times to 89.24 times in during the study period. The average ratio of the company was 38.11 times which the second highest among the selected tea companies under the study. This ratio is giving good ability to earn a gross profit.

Finished goods turnover ratio in Williamson Tea Assam Ltd. showed a fluctuating trend. It ranged between 31.96 times in 2002-2003 to 69.77 times in 1999-2000. The ratio of the company had gone up from 40.66 times in 1997-1998 to 45.90 times in 1998-1999 and further gone up to 69.77 times in 1999-2000. But it was declined during the last three years of the study from 46.36 times in 2000-2001 to 31.96 times in 2002-2003. However the average ratio of the company was the highest among the selected tea companies.

On the basis of the above analysis it can be said that the average ratio of the tea industry had a fluctuating trend with an average ratio of 16.72 times. The finished goods turnover ratio of Williamson Tea Assam Ltd., Warren Tea Ltd. and AFT Ind. Ltd. had the higher ratio followed by Parry
Agro Ind. Ltd., Jay Shree Tea & Ind. Ltd., Rossell Ind. Ltd., Tata Tea Ltd., Goodricke Group Ltd. and Greenline Tea & Exports Ltd.

Conclusion:

Chapter titled “Analysis of Working Capital” describe that it’s one of the important measurement of the financial position of the business organisation. The concept and nature of working capital or current assets denotes that “Investment in current assets is turned over many times in a year. Investment in current assets such as inventories and book debts (accounts receivable) is realised during the firms operating cycle which is usually less than year.” Therefore measurement liquidity has its own importance. Importance of liquidity describe that it’s a life blood and controlling nerve centre of the business. Without circulation of blood no one can live, just like without circulation of liquidity business can’t maintain.

The performance of liquidity can be judged by investment in working capital, short term creditors, and efficiency in working capital. In the present study there where eleven types of ratios was calculated i.e. Current Ratio, Quick Ratio, Debtor’s Turnover Ratio, Creditor’s Turnover Ratio, Average Days of Debtor’s, Average Days of Creditor’s,
ANALYSIS OF WORKING CAPITAL

Gross Working Capital Cycle, Ratio of Net working capital cycle, Inventory to Gross Working Capital Ratio, Inventory to Net Working Capital Ratio and Finished Goods Turnover Ratio. Thus above analysis describe that the need for liquidity to rub day to day business activities can’t be over emphasised.

References:
11. IBID.


CHAPTER– 7

ANALYSIS OF ACTIVITY

v Introduction
v Nature and Concept of Fixed Assets
v Analysis of Activity of Selected Tea Companies of Tea Industry in India:

(A) Activity in Relation to Total Resources
   (1) Total Assets Turnover Ratio
   (2) Gross Assets Turnover Ratio
   (3) Net Assets Turnover Ratio
   (4) Current Assets Turnover Ratio

(B) Conduct of Activity
   (1) Operating Expenses Ratio
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   (4) Wages and Salaries to Sales Ratio
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   (6) Selling and Distributing Exp. to Sales Ratio
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v Conclusion
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CHAPTER– 7
ANALYSIS OF ACTIVITY

Introduction:

Asset Turnover is an important variable for assessing the profitability of an industry; therefore the study of assets turnover becomes essential. This chapter studies the changes in assets turnover and the degree of productivity incurred from the assets of the Tea Industry in India and also analyses the cause responsible for such changes.

The term ‘Asset’ has different meanings, when it is defined in economics, assets, means man-made sources, which are not consumed, but help in production of other consumables. In accounting sense ‘assets’ means the total financial resources (Long term) invested by the enterprises. Therefore, the term assets have different meaning from the point of view economists and accountants. Generally, it can be used in three senses.

It highlights the amount of assets the concern used to produce its total sales. The ability to produce a large volume of sales on a small asset base is an important part of the borrower’s profit picture; idle or improperly used assets increase the need for costly financing and the expenses for
maintenance and upkeep. By achieving a high asset turnover, a firm reduces costs and increases the eventual profit to its owners.

The ratio would be dependent upon the type of activity being pursued, thus it could be less than 1 for a highly capital intensive company, but much higher for a trading concern. The ratio is compared with averages in the industry and the higher the ratio vis-à-vis the average, the more is the likelihood of the concerned earning higher profits. An unusually low ratio could be indicative of investments in assets not directly associated with the turnover.

**Nature and Concept of Fixed Assets:**

The successful operation of a business generally requires some assets of fixed character. These assets are used primarily in producing goods and in operating the business. With the help of these assets raw material is converted into finished products. Fixed assets are not meant for sale and are kept as a rule permanently in the business in order to carry on day-to-day operations. Their cost is charged as depreciation charges over a period of years.

R. N. Anthony and J. S. Reece observe that "Fixed asset is an asset that is expected to provide service for more than one year, usually for several years."
Analysis of fixed assets is very important from investor’s point of view because investors are more concerned with long-term assets. John N. Myer observes; "The credit man is primarily interested, in the short range study, while the investment analyst is primarily interested in long range study." Fixed assets are 'property of non-current nature' which is acquired to provide facilities to carry on business. They include land, building equipment, furniture etc. They are generally shown in balance sheet by aggregating them into groups of gross block as reduced by the accumulated amount of depreciation till date. In the words of H. A. Finney and H. E. Miller, "Fixed assets are assets of a relatively permanent nature used in the operation of the business and not intended for sale." "Fixed assets are also known as long lived assets."

The total assets of an organisation can be classified into fixed assets and current assets on the basis of the purpose for which they are used. The assets that are turned into finished products through the production process are generally known as current assets. Those assets, which help the current assets to move into the production process, are generally known as fixed assets. This classification of total assets into fixed assets and current assets is desired for the purpose of financial planning and control. It helps the management in timely
procurement of funds and ensures their efficient utilisation. It also ensures a fair rate of return on the funds employed through effective planning and implementation process.

On the basis of the physical presence of assets in a business, there are two types of assets, viz., Tangible Assets, and (ii) Intangible Assets.

The importance of this classification lies in the fact that although intangible assets are useful in evaluating the total credibility of a business, it cannot be provided within the life span of the business. Therefore, to evaluate the financial strength of an organisation, this classification is of utmost importance.

**Tangible Assets**

A tangible asset, to quote Anthony and Reece is "one that has physical substance such as a building, a machine as contrasted with stocks, bonds, patent rights or other intangibles." Thus, by and large, tangible assets are those assets, which are fixed in nature.

**Intangible Assets**

These are the assets of value to a business but they are not of tangible nature. They are non-physical assets having quite a long period of usefulness in business. R. A. Foulke has rightly started: "Intangible assets are not
available for the payment of debts of a going business.” R. D. Kennedy and S. Y. McMullen also opine that, "An intangible asset, from an accounting point of view, is an asset (i) the value of which resides in the rights which its possession confers upon the owner and (ii) that does not represent a claim against individual or business."

The amount of funds invested in fixed assets in a business organisation largely depends upon the nature of that business. The ratio of the fixed assets to the total investment varies from industry to industry. Generally a high proportion of fixed assets is required when the industry is capital intensive and comparatively lower proportion of fixed assets is required in a consumer goods industry. Air-Corporations fall in the category of capital-intensive service industry. The requirement of the fixed assets in these corporations is proportionately higher as compared to other assets.

**Objectives of Analysis**

Fixed assets utilise working capital and in turn produce finished goods. The efficiency with which the fixed assets are utilised is known as productivity of the fixed assets. A detailed study of the funds employed in fixed assets is desired for the following objectives:
1. To find out the growth rate of fixed assets over the period of study;
2. To analyse the impact of fixed assets on sales and profit margin;
3. To determine the efficiency with which fixed assets are utilised in a business;
4. To know the adequacy of depreciated funds and depreciation; and
5. To know the adequacy of long-term funds for fixed assets.

**Analysis of Activity of Selected Tea Companies of Tea Industry in India:**

In order to attain the above-mentioned objectives, the following aspects of fixed assets are being analysed in the present study through the ratio analysis.

The analysis of activity can be divided in two parts i.e. Activity in Relation to Total Resources and Conduct of Activity.

**(A) Activity in Relation to Total Resources:**

**1 Total Assets Turnover Ratio:**

The Total Assets Turnover Ratio is an indication of financial soundness of the business in terms of the sales revenue generated against total funds employed in the
business. This ratio also indicates the efficiency with which the assets of the company have been utilized. A high ratio suggests better utilization of the total assets of vice-versa. However, care should be taken in drawing conclusions. Sometimes the purchase of assets may not result in higher the sales but may, however, cause reduction in cost and thereby result in an increasing the profit. In such cases even if the ratio declines, the situation is considered favorable. Thus, this ratio is a measure of performance of the business.

This is also termed as capital turnover ratio. This ratio can be calculated as:

\[
\text{Total Assets Turnover} = \frac{\text{Net Sales}}{\text{Total Assets}}
\]

A high ratio depicts that total assets were utilized efficiently, but a low ratio may be caused due to large outlays on fixed assets. A company must manage its total assets efficiently and generates maximum sales through proper utilization of assets. The total assets turnover in the tea industry in India for a period of six years covered by the study is shown in the table

Table NO.-7.1 marked that the total assets turnover ratio in AFT Ind. Ltd. was decreasing continuously during the study period. It declined from 1.17 times in 1997-1998 to
Table No. - 7.1

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Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 7.1
0.61 times in 2002-2003. The average ratio of the company was 0.83, times which was above the average ratio of tea industry. The ratio of the company decreased during the study period due to continuously decreasing in sales.

The total assets turnover ratio of Dhunseri Tea & Ind. Ltd. is seen in the above table. The ratio of the company increased due to increase in sales from 0.75 times in 1997-1998 to 0.95 times in 1998-1999 but it declined to 0.71 times in 1999-2000 and further declined to 0.57 times in 2000-2001. The ratio shows declined trend to the last year of the study period due to decrease in sales. The average ratio of the company was 0.65 times which was below the average ratio of the tea industry.

It is cleared from the above table that the total assets turnover ratio of Goodricke Group Ltd. reflected the slightly fluctuating trend during the study period. The ratio declined from 1.51 times in 1997-1998 to 1.25 times in 1998-1999 and it remained constant 1.25 times in the year of 1999-2000 but it slightly increased to 1.28 times in 2000-2001. The ratio again marked 1.25 times in 2001-2002 and increased up to 1.30 times in 2002-2003. The average ratio of the company was 0.90 times which was second highest among the selected companies under the study. The ratio of the
company showed that the sale of the company was slightly fluctuated during the research period.

The total assets turnover ratio of Greenline Tea & Exports Ltd. is seen in the above table. The ratio increased from 0.17-times in 1997-1998 to 0.26 times in 1998-1999 but it declined to 0.14 times in 1999-2000 and further declined to 0.10 times in 2000-2001 due to decreased in sales. It reduced up to 0.09 times during the last two years of the study period, which were lowest ratio. It showed that the sale of the company declined during this period. The average ratio of the company was 0.14 which the lowest ratio among the selected companies under the study.

The Table No.-7.1 shows the total assets turnover ratio of Jay Shree Tea & Ind. Ltd. The ratio showed decreasing trend varying from 0.60 times in 2001-2002 to 1.08 times in 1997-1998. The average ratio of the company was 0.78 times which was lower than the average ratio of the tea industry. The ratio was considered to be quite satisfactory during the research period.

Total assets turnover ratio of Parry Agro Ind. Ltd. can be seen in the above table. The ratio showed decreasing trend during the research period. It decreased from 1.20 times in 1997-1998 to 0.54 times in 2002-2003. The ratio
showed decreasing trend owing to declined in the sales during the research period. The average ratio of the company was 0.76 times which was below the average ratio of the tea industry.

Rossell Ind. Ltd. showed the total assets turnover ratio, it reflected the fluctuating trend during the study period. It decreased slightly from 0.74 times in 1997-1998 to 0.73 times in 1998-1999 and increased to 0.91 times in 1999-2000 and it further increased to 1.14 times in 2000-2001. The ratio was highest 1.21 times in 2001-2002 but again declined to 0.65 times in 2002-2003 due to declined in the sales. The sale was constant except in the last years. The ratio reflected good position of company during the study period.

The above table showed the total assets turnover ratio of Tata Tea Ltd. The ratio was decreasing during the span of the research period. It declined from 1.05 times in 1997-1998 to 0.52 times in 2002-2003. The ratio explained that the sales of the company were declining through out the study period. The company should increase and utilized the assets efficiency to increase the sales.

The total assets turnover ratio of Warren Tea Ltd. shows the decreasing trend during the study period. The
ratio decreased from 1.19 times in 1997-1998 to 0.73 times in 2002-2003. The average ratio of the company was 0.90 times which the third highest ratio among the selected companies under the study. The total assets turnover ratio of the company was satisfactory.

The above table showed the total assets turnover ratio of Williamson Tea Assam Ltd. The ratio reflected fluctuating trend during the span of the research period. The ratio decreased from 1.07 times in 1997-1998 to 1.04 times in 1998-1999 and it further declined to 0.90 times in 1999-2000. But it increased to 0.98 times and again gone up to 1.10 times in 20002-2003 which was highest during the study period. The average ratio of the company was 1.0 times which second highest ratio among the selected tea companies under the study.

It can be concluded from the above analysis that the highest average ratio was in Goodricke Group Ltd., followed by Williamson Tea Assam Ltd., Rossell Ind. Ltd., Warren Tea Assam Ltd., AFT Ind. Ltd., Jay Shree Tea & Exports Ltd., Parry Agro Ind. Ltd., Tata Tea Ltd., Dhunseri Tea & Ind. Ltd. and Greenline Tea & Ind. Ltd.
2 Gross Fixed Assets Turnover Ratio:

The Gross Fixed Assets Turnover ratio means the efficiency with which the firm is utilizing fixed assets. It also indicates the adequacy of sales in relation to the investment in fixed assets. The turnover ratio is sales divided by gross fixed assets and can be expressed as:

\[
\text{Net Sales} \\
\text{Gross Fixed Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Gross Fixed Assets}}
\]

Generally, a high fixed assets turnover indicates efficient utilization of fixed assets in generating sales while a low ratio indicates inefficient management and utilization of fixed assets. It also indicates that the company has an excessive investment in fixed assets in comparison of the volume sales. To obtain fixed turnover ratio sales are divided by the depreciated value of fixed assets, not the market value. Thus, a firm whose plant and machinery has considerably depreciated may show a higher fixed assets turnover ratio than firm, which has purchased plant and machinery recently. The fixed assets turnover ratio of the selected tea companies in India has been cataloged in table.

The gross fixed assets turnover ratio of AFT Ind. Ltd. shows a decreasing trend during the study period. The average gross fixed assets turnover ratio of the company
### Table No. - 7.2
Gross Fixed Assets Turnover Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>1.73</td>
<td>1.48</td>
<td>1.17</td>
<td>0.96</td>
<td>0.87</td>
<td>0.81</td>
<td>1.17</td>
<td>0.37</td>
<td>31.34</td>
<td>0.81</td>
<td>1.73</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>1.63</td>
<td>2.20</td>
<td>1.71</td>
<td>1.50</td>
<td>1.65</td>
<td>1.27</td>
<td>1.66</td>
<td>0.31</td>
<td>18.67</td>
<td>1.27</td>
<td>2.20</td>
</tr>
<tr>
<td>GOODRICKE</td>
<td>2.03</td>
<td>1.71</td>
<td>1.67</td>
<td>1.69</td>
<td>1.57</td>
<td>1.49</td>
<td>1.69</td>
<td>0.18</td>
<td>10.91</td>
<td>1.49</td>
<td>2.03</td>
</tr>
<tr>
<td>GREENLINE TEA</td>
<td>0.42</td>
<td>0.59</td>
<td>0.28</td>
<td>0.22</td>
<td>0.19</td>
<td>0.17</td>
<td>0.31</td>
<td>0.16</td>
<td>52.42</td>
<td>0.17</td>
<td>0.59</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>1.92</td>
<td>1.87</td>
<td>1.60</td>
<td>1.19</td>
<td>1.02</td>
<td>1.12</td>
<td>1.45</td>
<td>0.39</td>
<td>27.15</td>
<td>1.02</td>
<td>1.92</td>
</tr>
<tr>
<td>PARRY AGRO</td>
<td>2.02</td>
<td>1.88</td>
<td>1.81</td>
<td>1.55</td>
<td>1.49</td>
<td>1.65</td>
<td>1.73</td>
<td>0.20</td>
<td>11.73</td>
<td>1.49</td>
<td>2.02</td>
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<tr>
<td>ROSSELL IND.</td>
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<td>1.06</td>
<td>0.84</td>
<td>0.90</td>
<td>0.96</td>
<td>0.52</td>
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<td>0.27</td>
<td>28.49</td>
<td>0.52</td>
<td>1.33</td>
</tr>
<tr>
<td>TATA TEA LTD.</td>
<td>2.63</td>
<td>2.60</td>
<td>2.38</td>
<td>1.87</td>
<td>1.58</td>
<td>1.50</td>
<td>2.09</td>
<td>0.51</td>
<td>24.26</td>
<td>1.50</td>
<td>2.63</td>
</tr>
<tr>
<td>WARREN TEA</td>
<td>1.43</td>
<td>1.37</td>
<td>1.35</td>
<td>1.14</td>
<td>0.93</td>
<td>0.84</td>
<td>1.18</td>
<td>0.25</td>
<td>21.07</td>
<td>0.84</td>
<td>1.43</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>1.11</td>
<td>1.17</td>
<td>1.05</td>
<td>0.95</td>
<td>0.82</td>
<td>0.77</td>
<td>0.98</td>
<td>0.16</td>
<td>16.43</td>
<td>0.77</td>
<td>1.17</td>
</tr>
<tr>
<td>Average</td>
<td>1.62</td>
<td>1.59</td>
<td>1.39</td>
<td>1.20</td>
<td>1.11</td>
<td>1.01</td>
<td>1.32</td>
<td>0.28</td>
<td>24.25</td>
<td>0.99</td>
<td>1.71</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 7.2
Gross Fixed Assets Turnover Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

GROSS FIXED ASSETS RATIO
ANALYSIS OF ACTIVITY

was 1.17 times which was lower than 1.32 times, the average ratio of the tea industry. It decreased from 1.73 times in 1997-1998 to 0.81 times in 2002-2003.

Dhunseri Tea & Ind. Ltd. depicted a fluctuating trend in the gross fixed asset turnover ratio. It was fluctuating between 1.27 times to 2.20 times. It increased from 1.63 times in 1997-1998 to 2.20 times in 1998-1999 but it decrease to 1.71 times in 1999-2000. It further decreased up to 1.50 times in 2000-2001 but increased to 1.65 times in 2001-2002 and marked 1.27 times decreasing in 2002-2003.

The above table indicated the gross fixed asset turnover ratio of Goodrick Tea Ltd. The ratio showed a decreasing trend during the study period except 2000-2001. The average gross fixed asset turnover ratio of the company was 1.69 times which was higher than 1.32 times, the average ratio of tea industry. It was highest 2.03 times in 1997-1998 and lowest was 1.49 times in 2002-2003 during the study period.

The gross fixed assets turnover ratio of Greenline Tea & Exports Ltd. fluctuated during the study period. The average gross fixed assets turnover ratio of the company was 0.31 times which lowest ratio among the companies selected under the study and it was also below the average
ANALYSIS OF ACTIVITY

ratio of the tea industry, i.e. 1.32 times. It increased from 0.42 times in 1997-1998 to 0.59 times in 1998-1999 which was the highest during the study period and dropped it to 0.28 times in 1999-2000. It further dropped during the last three years of the study period and marked 0.17 times in the last year of the study i.e. 2002-2003 in which the ratio was lowest.

The above table depicted that the gross fixed asset turnover ratio of Jay Shree Tea & Ind. Ltd. Showed decreasing trend except the last year of the study. The average ratio of the company was 1.45 times which was higher than 1.32 times, the average ratio of the tea industry. In 1997-1998 it was highest 1.92 times and lowest was 1.02 times in 2001-2002.

In Parry Agro Ind. Ltd. gross fixed turnover ratio also showed a decreasing trend except the last year of the study period. The average gross fixed asset turnover ratio of the company was 1.73 times was more than the average ratio of the tea industry. It was 2.02 times in 1997-1998, which was highest and lowest was 1.49 times in 2001-2002 during the study period.

The Table No.-7.2 indicated the average gross fixed assets turnover ratio of Rossell Ind. Ltd. The average ratio of
the company during the study period was 0.94 times, which was less than the average ratio of the tea industry. The ratio fluctuated between 0.52 to 1.33 times during the study period. It was 1.33 times in 1997-1998 which was highest where as lowest ratio was 0.52 times in 2002-2003. The ratio of the company was satisfactory during the study period.

The above table indicated the average gross fixed assets turnover ratio of Tata Tea Ltd. It showed decreasing trend during the study period. It was highest 2.09 times among all the companies under the study. It was also higher than the average ratio of the tea industry i.e. 1.32 times. The ratio was decreasing during the study period from 2.63 times in 1997-1998 to 1.50 times in 2002-2003. The ratio of the company was satisfactory throughout the study period.

The gross fixed assets turnover ratio of Warren Tea Ltd. was showed decreasing trend. The ratio of the company was highest 1.43 times in 1997-1998 and lowest 0.84 times in 2002-2003 by decreasing throughout the study period. The average gross fixed assets turnover ratio was 1.18 times which was lower than the average ratio of the tea industry. The ratio of the company was satisfactory during the study period.
The gross fixed turnover ratio of Williamson Tea Assam Ltd. was fluctuating during the study period. It fluctuated between 0.77 times to 1.17 times. It increased to 1.11 times in 1997-1998 to 1.17 times in 1998-1999. But the ratio decreased from 1.05 in 1998-1999 to 0.77 times in 2002-2003. The average ratio of the company was 0.98 times which was lower than the average ratio of the tea industry.

It can be concluded from the analysis, that Parry Agro Ind. Ltd., Goodricke Group Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Warren Tea Ltd., AFT IND. LTD., Williamson Tea Assam Ltd., Rossell Ind. Ltd. and Greenline Tea & Exports Ltd in Tata Tea Ltd. followed the highest ratio.

3 Net Fixed Assets Turnover Ratio:

The Net Fixed Assets Turnover Ratio means the efficiency with which the firm is utilizing in fixed assets. It also indicates the adequacy of sales in relation to the investment in fixed assets turnover ratio is sales divided by fixed assets less depreciation and can be expressed as:

\[
\text{Net Fixed Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Gross Fixed Assets (less Depreciation)}}
\]
Generally, a high fixed assets turnover indicates efficiently utilization of fixed assets in generating sales while a low ratio indicates inefficient management and utilization of fixed assets. It also indicates that the company has an excessive investment in fixed assets in comparison of the volume sales. To obtain fixed turnover ratio sales are divided by the depreciated value of fixed assets, not the market value. Thus, a firm whose plant and machinery has considerably depreciated may show a higher fixed assets turnover ratio than firm, which has purchased plant and machinery recently. The fixed assets turnover ratio of the selected tea companies in India has been cataloged in table

Table No.-7.3 indicated the Net fixed assets turnover ratio of AFT Ind. Ltd. The ratio was witnessed continuously decreasing through out the study period. The ratio declined due to reduction in sales through out the study period. The average ratio of the company was 3.57 times which was higher than the average ratio of the tea industry. The ratio of the company was considered to be satisfactory.

The Net fixed assets turnover ratio of Dhunseri Tea & Ind. Ltd. revealed a fluctuating trend during the study period. It increased from 1.98 times in 1997-1998 to 2.71 times in 1998-1999. The ratio decreased from 2.15 times in 1999-2000 to 1.80 times in 2002-2003. The ratio was showed the
### Table No.- 7.3
**Net Fixed Assets Turnover Ratio in Tea Industry in India**
*(From 1997-1998 to 2002-2003)(In times)*

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>4.83</td>
<td>4.54</td>
<td>3.72</td>
<td>2.94</td>
<td>2.70</td>
<td>2.68</td>
<td>3.57</td>
<td>0.95</td>
<td>26.60</td>
<td>2.68</td>
<td>4.83</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>1.98</td>
<td>2.71</td>
<td>2.15</td>
<td>1.96</td>
<td>1.84</td>
<td>1.80</td>
<td>2.07</td>
<td>0.34</td>
<td>16.23</td>
<td>1.80</td>
<td>2.71</td>
</tr>
<tr>
<td>GOODRICKE</td>
<td>3.81</td>
<td>3.34</td>
<td>3.45</td>
<td>3.66</td>
<td>3.60</td>
<td>3.59</td>
<td>3.58</td>
<td>0.16</td>
<td>4.58</td>
<td>3.34</td>
<td>3.81</td>
</tr>
<tr>
<td>GREENLINE TEA</td>
<td>0.47</td>
<td>0.66</td>
<td>0.32</td>
<td>0.25</td>
<td>0.23</td>
<td>0.21</td>
<td>0.36</td>
<td>0.18</td>
<td>49.44</td>
<td>0.21</td>
<td>0.66</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>3.75</td>
<td>3.42</td>
<td>2.89</td>
<td>2.10</td>
<td>1.63</td>
<td>2.03</td>
<td>2.64</td>
<td>0.85</td>
<td>32.23</td>
<td>1.63</td>
<td>3.75</td>
</tr>
<tr>
<td>PARRY AGRO</td>
<td>3.73</td>
<td>3.31</td>
<td>3.11</td>
<td>2.74</td>
<td>2.72</td>
<td>3.16</td>
<td>3.13</td>
<td>0.38</td>
<td>12.14</td>
<td>2.72</td>
<td>3.73</td>
</tr>
<tr>
<td>ROSELL IND.</td>
<td>2.10</td>
<td>1.75</td>
<td>1.49</td>
<td>1.69</td>
<td>1.85</td>
<td>1.05</td>
<td>1.66</td>
<td>0.36</td>
<td>21.61</td>
<td>1.05</td>
<td>2.10</td>
</tr>
<tr>
<td>TATA TEA LTD.</td>
<td>3.75</td>
<td>3.86</td>
<td>3.59</td>
<td>2.79</td>
<td>2.41</td>
<td>2.38</td>
<td>3.13</td>
<td>0.68</td>
<td>21.82</td>
<td>2.38</td>
<td>3.86</td>
</tr>
<tr>
<td>WARREN TEA</td>
<td>2.58</td>
<td>2.34</td>
<td>2.35</td>
<td>2.01</td>
<td>1.66</td>
<td>1.50</td>
<td>2.07</td>
<td>0.43</td>
<td>20.60</td>
<td>1.50</td>
<td>2.58</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>2.45</td>
<td>2.62</td>
<td>2.39</td>
<td>2.25</td>
<td>2.01</td>
<td>1.94</td>
<td>2.28</td>
<td>0.26</td>
<td>11.61</td>
<td>1.94</td>
<td>2.62</td>
</tr>
<tr>
<td>Average</td>
<td>2.95</td>
<td>2.85</td>
<td>2.55</td>
<td>2.24</td>
<td>2.06</td>
<td>2.03</td>
<td>2.45</td>
<td>0.46</td>
<td>21.69</td>
<td>1.92</td>
<td>3.07</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.- 7.3
Net Fixed Assets Turnover Ratio in Tea Industry in India
(From 1997-1998 to 2002-2003) (In times)

<table>
<thead>
<tr>
<th>NET FIXED ASSETS RATIO</th>
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<tr>
<td>4.00</td>
</tr>
<tr>
<td>5.00</td>
</tr>
<tr>
<td>6.00</td>
</tr>
</tbody>
</table>

AFT DHUNSERI GOODRICK GREENLINE JAYSHREE PARRY AGRO ROSELL IND. TATA TEA WARREN TEA WILLIAMS Average

decreasing trend due to continuously reduction in sales during that period. The average ratio of the company was 2.07 times which was lower than the average ratio of the tea industry even though the ratio was considered to be satisfactory.

The Net fixed assets turnover ratio of Goodricke Group Ltd. was seen in the above table. The ratio showed fluctuating trend during the study period. The ratio of the company went down from 3.81 times in 1997-1998 to 3.34 times in 1998-1999 but it increased to 3.45 times in 1999-2000. The ratio further increased to 3.66 times in 2000-2001 but again went down to 3.60 times in 2001-2002 and marked 3.59 times by reducing 0.01 times in 2002-2003. The average ratio of the company was 3.58 was highest from the average ratio of the tea industry.

The above table showed the Net fixed assets turnover ratio of Greenline Tea & Exports Ltd. The ratio showed decreasing trend except in the year of 1998-1999. The ratio ranged between 0.21 times in 2002-2003 to 0.66 times in 1998-1999. The average ratio of the company was 0.36 times which was comparatively very lower than the average ratio of the tea industry. The Net fixed assets turnover ratio of the company was not satisfactory.
In Jay Shree Tea & Ind. Ltd. the Net fixed assets turnover ratio showed the decreasing trend except last year of the study. The ratio went down from 3.75 times in 1997-1998 to 1.63 times in 2001-2002 but it was gone up to 2.03 times in the last year of the study i.e., 2002-2003. The average ratio of the company was 2.64 times which was higher than the average ratio of the study. During the first two years of the study period the ratio was good and satisfactory.

The table No.-7.3 showed the Net fixed assets turnover ratio of Parry Agro Ind. Ltd. The ratio indicated decreasing trend during the study period except the last year of the study. The ratio decreased from the highest ratio 3.73 times in 1997-1998 to 2.72 times in 2001-2002 but it increased to 3.16 times. The average ratio of the company was 3.13 times was more than the average ratio of the tea industry. The company was efficiently utilizing its net fixed assets to generate sales.

The Net fixed assets turnover ratio of Rossell Ind. Ltd. was seen in the above table. The ratio indicated fluctuating trend throughout the study period. The ratio of the company varied between 1.05 times in 2002-2003 to 2.10 times in 1997-1998. The average ratio of the company was 1.66 times which was lower than the average ratio of the tea
industry. The ratio of the company was satisfactory during the study period.

The Net fixed assets turnover ratio of Tata Tea Ltd. was seen in the above table. The ratio showed the decreasing trend during the study period except in the year of 1998-1999. The ratio ranged from 2.38 times in 2002-2003 to 3.86 times in 1998-1999. The average ratio of the company was 3.13 times which was higher than the average ratio of the tea industry. The ratio of the company was satisfactory and the company was utilizing its net fixed assets efficiently.

The above table showed Net fixed assets turnover ratio of Warren Tea Ltd. The ratio showed decreasing trend during the study period. It decreased from 2.58 times in 1997-1998 to 1.50 times in 2002-2003 due to declined in sales. The average ratio of the company was 2.28 times which was lower than the average ratio of the tea industry.

The Net fixed assets turnover ratio of Williamson Tea Assam Ltd. was seen in the above table. The ratio increased from 2.45 times in 1998-1999 to 2.62 times 1998-1999. But the ratio decreased from 2.39 times in 1999-2000 to 1.50 times in 2002-2003, i.e. the last years of study period. The average ratio of the company was 2.28 times was below than
the average ratio of the tea industry. The ratio of the company was quite satisfactory.

AFT IND. LTD., Tata Tea Ltd., Jay Shree Tea & Ind. Ltd., Williamson Tea Assam Ltd., Warren Tea Ltd., Dhunseri Tea & Ind. Ltd. and Greenline Tea & Exports Ltd can generalize it from the above analysis that the highest Net fixed assets turnover ratio was found in the Goodricke Group Ltd. followed.

4. Current Assets Turnover Ratio:

This ratio is applied to measure the turnover and profitability of total current assets applied to conduct the operation of firm. The ratio is calculated by dividing the amount of sales by the amount of current assets. It can be expressed thus:

\[
\text{Current Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Current assets}}
\]

The idea behind the current assets turnover is to give an over-all impression of how rapidly the total investment in current assets is being turned and is thought of by some as an index of 'efficiency' or 'profitability'. The lower the turnover of the current assets, the better is the use of current assets.
### Table No-7.4

**Current Assets Turnover Ratio in Tea Industry in India**

(From 1997-1998 to 2002-2003) In times

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>1.04</td>
<td>0.84</td>
<td>0.91</td>
<td>0.93</td>
<td>0.90</td>
<td>0.79</td>
<td>0.90</td>
<td>0.08</td>
<td>9.44</td>
<td>0.79</td>
<td>1.04</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>1.19</td>
<td>2.19</td>
<td>1.79</td>
<td>1.44</td>
<td>1.46</td>
<td>1.58</td>
<td>1.61</td>
<td>0.35</td>
<td>21.50</td>
<td>1.19</td>
<td>2.19</td>
</tr>
<tr>
<td>GOODRICKE</td>
<td>2.49</td>
<td>2.15</td>
<td>2.08</td>
<td>1.92</td>
<td>1.75</td>
<td>1.88</td>
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<tr>
<td>GREENLINE TEA</td>
<td>1.37</td>
<td>1.68</td>
<td>0.89</td>
<td>0.61</td>
<td>0.54</td>
<td>0.54</td>
<td>0.94</td>
<td>0.48</td>
<td>51.36</td>
<td>0.54</td>
<td>1.68</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>1.33</td>
<td>1.19</td>
<td>1.02</td>
<td>0.94</td>
<td>0.99</td>
<td>1.03</td>
<td>1.08</td>
<td>0.15</td>
<td>13.54</td>
<td>0.94</td>
<td>1.33</td>
</tr>
<tr>
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<td>0.28</td>
<td>24.47</td>
<td>0.92</td>
<td>1.65</td>
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<tr>
<td>WILLIAMSON</td>
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<td>1.91</td>
<td>2.65</td>
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<td>0.86</td>
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<td>0.44</td>
<td>26.86</td>
<td>1.20</td>
<td>2.27</td>
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</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.- 7.4
Current Assets Turnover Ratio in Tea Industry in India (From 1997-1998 to 2002-2003)In times

CURRENT ASSETS

[Graph showing current assets turnover ratio for different companies from 1997-98 to 2002-03]
Table No.-7.4 depicted the current assets turnover ratio of AFT Ind. Ltd. It was showing the fluctuating trend throughout the study period. The ratio varied from 1.04 times in 1997-1998 to 0.79 times in 2002-2003. The average ratio of the company was 0.90 times which was above the average ratio of the tea industry. The ratio of the company was not satisfactory, so company is advised to utilize its current assets efficiently to generate sales.

The above table reflected the current assets turnover ratio of Dhunseri tea & Ind. Ltd. The ratio showed fluctuating trend during the study period. The ratio increased from 1.19 times in 1997-1998 to 2.19 times in 1998-1999, which was the highest during the study period. The ratio declined to 1.79 times in 1999-2000 and it further declined to 1.44 times in the year of 2000-2001. But the ratio was improved to 1.46 times in 2001-2002 and again increased to 1.58 times in 2002-2003. The average ratio of the company was 1.61 times which was just below to the average ratio of the tea industry. However, the ratio of the company was satisfactory.

The Table No.-7.4 shows current assets turnover ratio of Goodricke Group Ltd. The ratio showed declining trend during the study period except last year of the study. It decreased from 2.49 times in 1997-1998 to 1.75 times in 2001-2002 but the ratio increased during the last year of the
The current assets turnover ratio of Greenline Tea & Exports Ltd. was manifested from the above table. The current assets turnover ratio showed fluctuating trend during the study period. The ratio increased from 1.37 times in 1997-1998 to 1.68 times in 1998-1999 but the ratio was decreased during the next four years of the study period and marked to 0.54 times in 2001-2002 and remains the same ratio in the last year of the study. The average ratio of the company was 0.94 times which was lower than the average ratio of the tea industry. The ratio of the company was not satisfactory and the company is advised to utilize its current assets efficiently.

Table No-7.4 registered fluctuating trend of current assets turnover ratio of Jay Shree Tea & Ind. Ltd. The ratio went down during the first four year of the study period from 1.33 times in 1997-1998 to 0.94 times in 2001-2002. But the ratio rose to 0.99 times in 2001-2002 and again rose 1.03 times in 2002-2003. The average ratio of the company was 1.08, which considered being satisfactory. However the ratio was not up to the mark.
Table No-7.4 showed the current assets turnover ratio of Parry Agro Ind. Ltd. The ratio showed decreasing trend during the study period except the first year of the study. It increased from 2.85 times in 1997-1998 to 2.95 times in 1998-1999 but then after it decreased throughout the study up to 1.92 times in 2002-2003. The average ratio of the company was 2.44 times was the second highest ratio among the selected tea companies under the study. The current assets turnover ratio was indicating very good utilization of current assets.

In Rossell Ind. Ltd. the current assets turnover ratio was fluctuated throughout the study period. The ratio varied from 2.02 times in 2002-2003 to 5.22 times in 2001-2002. The average ratio of the company was 3.31 was the highest among the selected companies of tea industry. The ratio was showed the best utilization of current assets.

The current assets turnover ratio of Tata Tea Ltd. showed fluctuating trend. The ratio increased during the first four year of the study period from 1.48 times in 1997-1998 to 1.53 times in 1998-1999. But the ratio declined during the last two years of the study period and declined to 1.39 times in the last year of the study. The average ratio of the company was 1.49 times which was lower than the average
ratio of the tea industry. The ratio showed the satisfactory utilization of the current assets.

The above table showed the Current assets turnover ratio of Warren Tea Ltd. The ratio was registered a decreasing trend during the study period except the last years of the study. It decreased from 1.65 times in 1997-1998 to 0.92 times in 2001-2002 but increased to 0.96 times in 2002-2003. The average ratio of the company was 1.13 times which was lower than the average ratio of the tea industry.

The current assets turnover ratio of Williamson Tea Assam Ltd. was fluctuated during the study period. The ratio varied from 0.55 times in 1999-2000 to 2.65 times in 2002-2003. The average ratio of the company was 1.23 times which was lower than the average ratio of the company. The company improved the ratio during the last two years of the study period due to increase in the sales.

On the basis of the above analysis it can be said that the performance of Rossell Ind. Ltd. was the best followed by Parry Agro Ind. Ltd., Goodricke Group Ltd., Tata Tea Ltd., Warren Tea Ltd., Williamon Tea Assam Ltd., Dhunseri Tea & Ind. Ltd., Greenline Tea & Exports Ltd., Jay Shree Tea & Ind. Ltd. and AFT Ind. Ltd.
Table No. - 7.4.1

Kruskal Wallis one-way analysis of variance test of Current Assets Turnover Ratio of Tea Industry

| YEAR       | AFTIL | R1  | DT&IL | R2  | GGL | R3  | GT&EL | R4  | JST&IL | R5  | PAIL | R6  | RIL | R7  | TTL | R8  | WTL | R9  | WTAL | R10 |
|------------|-------|-----|-------|-----|-----|-----|-------|-----|--------|-----|------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|
| 1997-1998  | 1.04  | 21  | 1.19  | 23  | 2.49| 52  | 1.37  | 27  | 1.33   | 36  | 2.85 | 57  | 2.75| 56  | 1.48| 32  | 1.65| 37  | 0.66 | 6   |
| 1998-1999  | 0.84  | 8   | 2.19  | 49  | 2.15| 48  | 1.68  | 38  | 1.19   | 24  | 2.95 | 58  | 2.25| 51  | 1.53| 33  | 1.22| 25  | 0.63 | 5   |
| 1999-2000  | 0.91  | 11  | 1.79  | 10  | 2.08| 47  | 0.89  | 9   | 1.02   | 19  | 2.63 | 54  | 2.58| 53  | 1.54| 34  | 1.07| 22  | 0.55 | 3   |
| 2000-2001  | 0.93  | 13  | 1.44  | 30  | 1.92| 43  | 0.61  | 4   | 0.94   | 14  | 2.24 | 50  | 5.06| 59  | 1.55| 35  | 0.96| 16  | 0.95 | 15  |
| 2001-2002  | 0.9  | 10  | 1.46  | 31  | 1.75| 39  | 0.54  | 1   | 0.99   | 18  | 2.05 | 46  | 5.22| 60  | 1.43| 29  | 0.92| 12  | 1.91 | 42  |
| 2002-2003  | 0.79  | 7   | 1.58  | 36  | 1.88| 41  | 0.54  | 1   | 1.03   | 20  | 1.92 | 43  | 2.02| 45  | 1.39| 28  | 0.96| 16  | 2.65 | 55  |

|          | 70   | 179 | 270  | 80  | 131 | 308 | 324  | 191 | 128   | 126 |

\[
H = \frac{12}{60(61)} \left[ \frac{(70)^2}{6} + \frac{(179)^2}{6} + \frac{(270)^2}{6} + \frac{(80)^2}{6} + \frac{(131)^2}{6} + \frac{(308)^2}{6} + \frac{(324)^2}{6} + \frac{(191)^2}{6} + \frac{(128)^2}{6} + \frac{(126)^2}{6} \right] - 3 \cdot (61)
\]

\[
H = 36.66
\]
Current Assets Turnover Ratio of Tea Industry and Kruskal Wallis one-way analysis of Variance test:

Null hypothesis: There is no significance difference between the Current Assets Turnover Ratio of selected tea companies.

Alternative Hypothesis: There is significance difference between the Current Assets Turnover Ratios of selected tea companies.

Level of Significance: 5 percent

Statistical test used: Kruskal Wallis one-way analysis variance test.

Critical value: 16.92

The above table describes that the calculated value of 'H' was greater than the table value of 16.92. Hence the null hypothesis is rejected and alternative hypothesis is accepted and it can be said that there is a significance difference between the current assets ratios in the tea industry.

(B) Conduct of Activity:

1 Operating Expenses Ratio:

It is a ratio showing relationship between Cost of goods sold plus Operating expenses and Net Sales. It shows the efficiency of the management. The higher the ratio, the less will be the margin available to proprietors. This ratio is also usually expressed as a percentage.
Cost of Sales = Opening stock + Net purchases + Purchases Expenses - Closing stock.

OR

Cost of Sales = Net Sales - Gross Profit.

Cost of Goods Sold + Operating Exp.

Operating Exp. Ratio = -------------------------------x 100
Net Sales

This ratio suggests that a particular share of selling price is absorbed by cost of sales and other operating expenses and the remainder is left for the owners of the business. Hence, the higher this ratio, the less profitable it is, because it would prove insufficient to pay dividend and create necessary reserves.

The ratio Operating Costs to Sales is complementary to the Net profit Ratio. This ratio indicates the operational efficiency with which the business is being carried out. The reasons for increase, if any over the previous year should be critically gone into.

Table No.7.5 makes it clear that the operating expenses ratio in AFT Ind. Ltd. recorded a fluctuating trend during the study period. The ratio was below the 100 percent in most of the years of the study period. The ratio increased from 64.70 percent in 1997-1998 to 77.40 times in 1998-1999 but reduced to 76.58 percent in 1998-1999. It
### Table No. - 7.5

**Operating Expenses Ratio in Tea Industry in India**
(From 1997-1998 to 2002-2003) *(In percentage)*

<table>
<thead>
<tr>
<th></th>
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<td>14.54</td>
<td>64.70</td>
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<td>97.40</td>
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</tr>
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<td>99.31</td>
<td>104.59</td>
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<td>165.47</td>
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<td>33.31</td>
<td>26.98</td>
<td>94.79</td>
<td>165.47</td>
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<tr>
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<td>89.33</td>
<td>100.56</td>
<td>101.47</td>
<td>94.75</td>
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<td>11.09</td>
<td>12.31</td>
<td>74.02</td>
<td>101.47</td>
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<td>PARRY AGRO</td>
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<td>98.45</td>
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<td>99.99</td>
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<td>7.66</td>
<td>8.92</td>
<td>78.08</td>
<td>99.99</td>
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<td>97.95</td>
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<td>97.95</td>
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<td>12.32</td>
<td>14.15</td>
<td>75.90</td>
<td>108.16</td>
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<td>92.12</td>
<td>100.20</td>
<td>105.65</td>
<td>110.87</td>
<td>95.58</td>
<td>14.97</td>
<td>14.69</td>
<td>79.01</td>
<td>115.95</td>
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</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. - 7.5
Operating Expenses Ratio in Tea Industry in India
further increased to 92.72 percent in 2000-2001 but again slightly reduced to 91.87 times in 2001-2002 and marked the highest ratio 95.20 percent in the last year of the study. The increased trend in operating expenses ratio indicated that the operational efficiency of the company was not satisfactory.

Table No. - 7.5 showed the Operating expense ratio of Dhunseri Ind. Ltd. The ratio indicated fluctuating trend throughout the study period. The ratio ranged from 79.02 percent in 1997-1998 to 97.40 percent in 2002-2003. The average ratio of the company was 87.23 percent, which was below the average ratio of the tea industry. The ratio was satisfactory but management should advise to control the operating expenses to increase its profitability.

The Operating expenses ratio of Goodricke Group Ltd. was depicted in the above table. The ratio increased from 80.27 percent in 1997-1998 to 99.27 percent and again increased to 104.59 percent in 2002-2003 by slightly decreasing in the year of 2000-2001. The ratio in the last year was not satisfactory due to increase in expenses because it was more than 100 percent. The ratio showed the operating loss in that year. The average ratio of the company was 95.14, which considered being high.
The table No.-7.5 showed the Operating expense ratio of Greenline Tea & Exports Ltd. The ratio was increasing throughout the study period. The ratio in the last three years showed more than 100 percent, which means that the company was making loss during this period. The management was failed to manage the operating expenses.

The Operating expense ratio of Jay Shree Tea & Ind. Ltd. was framed in the above table. The ratio was highly fluctuated during the study period. The ratio increased from 74.02 percent in 1997-1998 to 80.32 percent in 1998-1999. It further increased to 89.33 percent in 1999-2000. And the ratio was more than 100 percent in the year of 2000-2001 and 2001-2002. It got reduced to 94.75 percent in the last year of the study period. The average ratio of the company was 90.07 percent during the study period.

The Operating expense ratio of Parry Agro Ind. Ltd. was increasing throughout the study period. The ratio varied from 77.42 percent in 1997-1998 to 104.06 percent in 2002-2003. The ratio was more than 100 percent, which result net loss during the last three-year of the study period. However the ratio of company showed good operating position during the first two years of the study period. The average ratio of the company was 90.65 percent, which was higher than the average ratio of the tea industry.
Operating expense ratio of Rossell Ind. Ltd. was seen in the above table. The ratio was fluctuated from 91.57 percent in 1997-1998 to 185.57 percent in 2002-2003. The average ratio of the company was 126.89 percent. The ratio in most of the years was more than the 100 percent, which showed net loss. The management was not able to cut the operating expenses.

In Tata Tea Ltd. the Operating, expense ratio was increasing throughout the study period except in the first year. The ratio varied from 78.08 percent in 1998-1999 to 99.99 percent in 2002-2003. The average ratio of the company was 85.90 percent. The ratio was satisfactory during the first four year of the study period.

The Operating expense ratio of Warren Tea Ltd. was showing an increasing trend during the study period. The ratio increased from 74.30 percent in 1997-1998 to 97.95 percent in 2002-2003. The average ratio of the company was 86.31 percent, which was lower than the average ratio of the tea industry. The Operating expense ratio of the company was not satisfactory during the last years of the study period.

Operating expense ratio of Williamson Tea Assam Ltd. registered a fluctuating trend during the study period. The
ANALYSIS OF ACTIVITY

ratio increased from 75.90 percent in 1997-1998 to 79.60 percent in 1998-1999 but decreased to 77.61 percent in 1999-2000. It again increased during the last three years of the study period and marked 108.16 percent in 2002-2003. The average ratio of the company was 87.04 percent. The ratio of the company was not good during the last three years of the study period.

It can be generalized from the above analysis that the Operating expense ratio in AFT Ind. Ltd. showed good position of operating express followed by Tata Tea Ltd., Warren Tea Ltd., Williamson Tea Assam Ltd., Dhunseri Tea & Ind. Ltd. and other selected companies under the study.

**Operating Expenses Ratio of Tea Industry and Kruskal Wallis one way analysis of Variance test:**

Null hypothesis: There is no significance difference between the Operating Expense Ratio of selected tea companies.

Alternative Hypothesis: There is significance difference between the Operating Expenses Ratios of selected tea companies.

Level of Significance: 5 percent

Statistical test used: Kruskal Wallis one-way analysis variance test.

Critical value: 16.92
### Table No. 7.5.1

Kruskal Wallis one-way analysis of variance test of Operating Expenses Ratio of Tea Industry

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<th>GGL</th>
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<th>GT&amp;EL</th>
<th>R4</th>
<th>JST&amp;IL</th>
<th>R5</th>
<th>PAIL</th>
<th>R6</th>
<th>RIL</th>
<th>R7</th>
<th>TTL</th>
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<td>91.6</td>
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</table>

\[
H = \frac{12}{60(61)} \left( \frac{(104)^2}{6} + \frac{(141)^2}{6} + \frac{(226)^2}{6} + \frac{(286)^2}{6} + \frac{(175)^2}{6} + \frac{(170)^2}{6} + \frac{(299)^2}{6} + \frac{(134)^2}{6} + \frac{(95)^2}{6} + \frac{(161)^2}{6} \right) - 3 \left( \frac{61}{6} \right)
\]

\[
H = 16.67
\]
On the basis of above the calculation value of 'H' was the 16.67, which was less than the table value of 16.92. Hence the null hypothesis is accepted, and alternative hypothesis is rejected. It can be said that there is no significant different among the Operating Expenses Ratios of tea industry.

2 Raw Materials to Sales Ratio:

“The modifier ‘raw’ is used in broader sense, as this category includes all the materials used in broader sense, i.e. all the materials used in production, whether in a natural state or changed by previous processing.” Raw materials mean the material used in the manufacturing process. The figure of raw materials consumed has been arrived by adding the purchases of raw material and the totals reduced by the closing stock of raw material given at the end of the financial year.

Raw material consumed to net sales ratio indicates the relationship between the raw materials consumed and the net sales in the tea processing units in India. It can be calculated on the basis of the following formula:

\[
\text{Raw materials Consumed To Net Sales} = \frac{\text{Raw materials Consumed}}{\text{Net Sales}} \times 100
\]
Table No. - 7.6

**Raw Materials to Net Sales Ratio in Tea Industry in India**

<table>
<thead>
<tr>
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</thead>
<tbody>
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<td>25.91</td>
<td>26.11</td>
<td>33.21</td>
<td>35.1</td>
<td>35.08</td>
<td>32.08</td>
<td>31.25</td>
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<td>13.50</td>
<td>25.91</td>
<td>35.10</td>
</tr>
<tr>
<td>GOODRICK</td>
<td>21.53</td>
<td>17.64</td>
<td>26.61</td>
<td>28.23</td>
<td>24.57</td>
<td>21.69</td>
<td>23.38</td>
<td>3.86</td>
<td>16.52</td>
<td>17.64</td>
<td>28.23</td>
</tr>
<tr>
<td>GREENLINE</td>
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<td>23.39</td>
<td>9.64</td>
<td>2.21</td>
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<td>0</td>
<td>6.48</td>
<td>9.01</td>
<td>139.14</td>
<td>0.00</td>
<td>23.39</td>
</tr>
<tr>
<td>JAYSHREE</td>
<td>27.49</td>
<td>32.17</td>
<td>29.51</td>
<td>27.56</td>
<td>29.42</td>
<td>30.63</td>
<td>3.82</td>
<td>12.48</td>
<td>27.49</td>
<td>37.61</td>
<td></td>
</tr>
<tr>
<td>PARRY AGRO</td>
<td>13.11</td>
<td>16.45</td>
<td>23.6</td>
<td>28.87</td>
<td>34.36</td>
<td>42.01</td>
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<td>10.92</td>
<td>41.38</td>
<td>13.11</td>
<td>42.01</td>
</tr>
<tr>
<td>ROSSEL IND.</td>
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<td>17.84</td>
<td>15.48</td>
<td>12.85</td>
<td>31.05</td>
<td>23.68</td>
<td>19.48</td>
<td>6.73</td>
<td>34.57</td>
<td>12.85</td>
<td>31.05</td>
</tr>
<tr>
<td>TATA TEA</td>
<td>33.04</td>
<td>26.5</td>
<td>29.71</td>
<td>27.19</td>
<td>21.88</td>
<td>23.38</td>
<td>26.95</td>
<td>4.08</td>
<td>15.16</td>
<td>21.88</td>
<td>33.04</td>
</tr>
<tr>
<td>WARREN TEA</td>
<td>16.01</td>
<td>13</td>
<td>14.02</td>
<td>17.08</td>
<td>16.98</td>
<td>23.46</td>
<td>16.76</td>
<td>3.67</td>
<td>21.88</td>
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<td>23.46</td>
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<tr>
<td>Average</td>
<td>17.06</td>
<td>19.28</td>
<td>19.48</td>
<td>19.50</td>
<td>20.93</td>
<td>22.37</td>
<td>19.77</td>
<td>5.04</td>
<td>34.38</td>
<td>14.41</td>
<td>27.76</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.- 7.6
Raw Materials to Net Sales Ratio in Tea Industry in India
The ratio of Raw Material to Net Sales is given in the table no.-7.6 of tea industry during the study period.

Raw material to sales ratio of AFT Ind. Ltd. was seen in the above table. The ratio showed fluctuating trend throughout the study period. The ratio ranged from 6.11 percent in 1999-2000 and 13.52 percent in 1998-1999. The average ratio of the company was 9.18 percent, which was lower than the average ratio of the tea industry.

Raw materials to sales ratio of Dhunseri Tea & Ind. Ltd. increased except last year during the study period. The ratio increased from 25.91 percent to 35.08 percent in 2001-2002 but decreased up to 32.08 percent in 2002-2003. It was highest 35.10 percent in 2001-2002 and lowest 25.91 in 1997-1998. The average ratio of the company was 31.25 was highest among the average ratio of the selected tea companies under the study.

Raw material to sales ratio of Goodricke Group Ltd. registered a fluctuating trend with an average of 23.38 percent. The ratio declined from 21.53 percent in 19997-1998 to 17.64 percent in 1998-1999 but increased to 26.61 percent in 1999-2000 and further increased to 28.83 percent in 2000-2001, which was the highest. After this year the ratio was slightly decreased to 24.57 percent in 2001-2002 and
further declined to 21.69 percent in the last year of the study. The average ratio was 23.38 percent, which was higher than the average ratio of the tea industry.

The Table No.-7.6 reveals the Raw material to sales ratio of Greenline Tea & Exports Ltd. The ratio of the company ranged from zero percent in 2002-2003 and 23.39 percent in 1997-1998 with an average ratio of 6.48 percent. The average ratio of the company was below than the average ratio of the tea industry. The ratio was comparatively low.

In Jay Shree Tea & Ind. Ltd. Limited Raw materials to sales ratio shows fluctuating trend during the study period. It increased from 27.49 percent in 1997-1998 to 32.17 percent in 1998-1999 and decreased up to 29.51 percent in 1999-2000. It further decreased up to 27.56 percent in 2000-2001. It increased up to 29.42 percent in 2001-2002. It increased to 37.61 in 2002-2003, which was the highest during the study period. The average ratio was 30.63 which were the second highest among the selected tea companies under the study.

Raw material to sales ratio of Parry Agro Ind. Ltd. showed increasing trend from 1997-1998 to 2002-2003. The ratio varied from 13.11 percent in 1997-98 to 42.01 percent
in 2002-2003 with an average of 26.40 percent. The average ratio of the company was higher than the average ratio of the tea industry.

Raw material to sales ratio of Rossell Ind. Ltd. registered a fluctuating trend throughout the study period. The ratio increased from 15.95 percent in 1997-1998 to 17.84 percent in 1998-1999 but declined to 15.48 percent due to lower use of raw materials in 1999-2000. In 2000-2001, it was 12.85 percent it then reached to pick level 31.05 percent in 2001-2002 and then fall dawn to 23.68 percent in the last year of the study period. The average ratio of the company was 19.48 percent, which was just near to the average ratio of the tea industry.

Raw materials consumed to sales ratio of Tata Tea Ltd. Shows fluctuating trend during the study period. It varied between 21.88 to 33.04 percent during the study period. The average ratio of the company was 26.95 percent, which was higher than the average ratio of the tea industry.

Raw material to sales ratio of Warrant Tea Ind. registered a fluctuating trend during the study period. The ratio ranged between 13.00 percent in 1998-1999 to 23.46 percent in 2002-2003 with an average ratio of 16.76 percent, which was lower than the average ratio of the tea industry.
Raw material to sales ratio of Williamson Tea Assam Ltd. showed fluctuating trend with an average of 7.21 percent. It was fluctuating between 6.14 percent in 2000-2001 to 10.17 percent in 2002-2003. The average ratio of the company was below than the average ratio of the tea industry.

It can be generalized that the average raw material to sales ratio of the tea companies under the study showed increasing trend throughout the study period. The ratio was the highest 31.25 percent in Dhunseri Tea & Ind. Ltd. Followed by Jay Shree Tea & Ind. Ltd., Tata Tea Ltd., Parry Agro Ind. Ltd., Goodricke Group Ltd., Rossell Ind. Ltd. and other selected units.

Raw Material Consumed to Sales Ratio of Tea Industry and Kruskal Wallis one-way analysis of Variance test:
Null hypothesis: There is no significance difference between the Raw Material consumed to Sales Ratios of selected tea companies.
Alternative Hypothesis: There is significance difference between the Raw Materials consumed to Sales Ratios of selected tea companies.
Level of Significance: 5 percent
Table No. 7.6.1
Kruskal Wallis one-way analysis of variance test of Raw Material to Sales Ratio of Tea Industry

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AFTIL</th>
<th>R1</th>
<th>DT&amp;IL</th>
<th>R2</th>
<th>GGL</th>
<th>R3</th>
<th>GT&amp;EL</th>
<th>R4</th>
<th>JST&amp;IL</th>
<th>R5</th>
<th>PAIL</th>
<th>R6</th>
<th>RIL</th>
<th>R7</th>
<th>TTL</th>
<th>R8</th>
<th>WTL</th>
<th>R9</th>
<th>WTAL</th>
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<td>25.9</td>
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<td>53</td>
<td>10</td>
<td>16</td>
<td>7.07</td>
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<td>28</td>
<td>23.4</td>
<td>14</td>
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<td>25</td>
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<td>27.19</td>
<td>43</td>
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<td>1</td>
<td>29.5</td>
<td>49</td>
<td>34.4</td>
<td>55</td>
<td>31.1</td>
<td>51</td>
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<td>32</td>
<td>17</td>
<td>26</td>
<td>6.77</td>
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<td>31</td>
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<td>1</td>
<td>39.6</td>
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<td>23.38</td>
<td>33</td>
<td>23.5</td>
<td>35</td>
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</tbody>
</table>

<p>| |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
</table>

\[
H = \frac{12}{60(61)} \left( \frac{(76)^2}{6} + \frac{(305)^2}{6} + \frac{(215)^2}{6} + \frac{(37)^2}{6} + \frac{(297)^2}{6} + \frac{(238)^2}{6} + \frac{(182)^2}{6} + \frac{(252)^2}{6} + \frac{(145)^2}{6} + \frac{(58)^2}{6} \right) - 3(61)
\]

\[
H = 45.28
\]
Statistical test used: Kruskal Wallis one-way analysis variance test.
Critical value: 16.92

The calculated value of tea industry was 45.28 which were greater than the table value of 16.92. The Ho is rejected and alter native hypothesis is accepted. It can be said that there is significance different among the ratio of the tea industry.

3. Powers and Fuel (Energy) To Sales Ratio:

In Tea Industry Power and fuel is an essential requirement, not only in its continuous availability but also in adequate supply. It is calculated on the basis of the following formula

\[
\text{Power and Fuel to Net Sales Ratio} = \frac{\text{Power and Fuel}}{\text{Net Sales}} \times 100
\]

Power and fuel to sales ratio of AFT Ind. Ltd. was seen in the above table. The ratio increased from 6.46 times in 1997-1998 to 7.45 times in 1998-1999 and it further rose to 8.93 times in 1999-2000. It was 11.34 times in 2000-2001 and in the last years, it reached to 11.51 times. The average ratio of the company was 9.5 times which was higher than the average ratio of the tea industry.
### Table No-7.7

Power and Fuel (Energy) to Sales Ratio in Tea Industry in India  

<table>
<thead>
<tr>
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<td>11.34</td>
<td>11.29</td>
<td>11.51</td>
<td>9.50</td>
<td>2.21</td>
<td>23.26</td>
<td>6.46</td>
<td>11.51</td>
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<td>5.95</td>
<td>6.82</td>
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<td>1.36</td>
<td>27.01</td>
<td>3.26</td>
<td>6.82</td>
</tr>
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<td>8.87</td>
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<td>1.01</td>
<td>12.48</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
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<td>6.43</td>
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<td>8.87</td>
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<td>1.16</td>
<td>14.86</td>
<td>6.43</td>
<td>9.00</td>
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<tr>
<td>PARRY AGRO</td>
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<td>7.45</td>
<td>8.54</td>
<td>9.97</td>
<td>10.48</td>
<td>12.86</td>
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<td>1.99</td>
<td>20.77</td>
<td>7.45</td>
<td>12.86</td>
</tr>
<tr>
<td>ROSSELL IND.</td>
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<td>8.71</td>
<td>7.69</td>
<td>9.58</td>
<td>15.48</td>
<td>9.20</td>
<td>3.26</td>
<td>35.41</td>
<td>6.54</td>
<td>15.48</td>
</tr>
<tr>
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<td>4.43</td>
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<td>5.57</td>
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<td>0.94</td>
<td>22.01</td>
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<td>WILLIAMSON</td>
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<td>5.44</td>
<td>5.48</td>
<td>4.44</td>
<td>1.05</td>
<td>23.57</td>
<td>3.05</td>
<td>5.48</td>
</tr>
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<td>6.68</td>
<td>1.50</td>
<td>20.18</td>
<td>4.99</td>
<td>8.76</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No-7.7
Power and Fuel (Energy) to Sales Ratio in Tea Industry in India

POWER AND FUEL TO SALES RATIO

[Bar chart showing the power and fuel to sales ratio for different companies over the years 1997-1998 to 2002-2003, with a focus on the years 1997-98 to 2002-03.]

AFT
DHUMSERI
GOODRICK
GREENLINE
JAYSHREE
PARRY AGRO
ROSSEL IND.
TATA TEA
WARREN TEA
WILLIAMSON
Average

Power and fuel to sales ratio of Dhunseri Tea & Ind. Ltd. showed increasing trend during the study period except the second year of the study. The ratio decreased from 3.96 times in 1997-1998 to 3.26 times in 1998-1999 but then rose up to the last year of the study period and achieved the highest level of 6.82 times in 2002-2003. The average ratio of the company was 5.04, which were lower than the average ratio of the tea industry. The C.V. was 27.01 showing the fluctuation in the ratio.

The power and fuel to sales ratio of Goodricke Group Ltd. was manifested in the above table. The ratio showed increasing trend during the study period. The ratio was lowest 6.7 times in 1997-1998 and highest 9.3 times in 2002-2003. The average ratio of the company was 8.07 times and C.V was 12.48 showing less fluctuation in the ratio of power and fuel to sales.

In Greenline Tea & Exports Ltd., the power and fuel to sales ratio indicated zero percent during the study period due to zero amounts of power and fuel.

In Jay Shree Tea Ind. Ltd. Power and fuel to sales ratio showed fluctuating trend during the study period. The ratio increased from 6.43 times in 1997-98 to 7.05 times in 1998-1999 and further increased to 8.78 times in 1999-2000 but
declined to 6.9 times. The ratio then increased to 9.00 times in 2000-2001 which was highest during the study period but decreased in the last year to 8.87 times in 2002-2003. The average ratio of the company was 7.84 times and c.v was 14.86 percent.

The power and fuel to sales ratio of Parry Agro Ind. Ltd. was indicating the increasing trend during the study period except first year. The ratio decreased from 8.04 times in 1997-1998 to 7.45 times in 1998-1999 but then increased and marked highest ratio 12.86 times in 2002-2003. The average ratio of the company was 9.56 times and c.v. Was 20.77 percent showing fluctuation in the ratio.

The above table showed the power and fuel to sales ratio of Rossell Ind. Ltd. The ratio showed increasing trend during the study period. The ratio increased from lowest 6.54 times in 1997-1998 to highest 15.48 times in 2002-2003. The average ratio of the company was 3.26 times which was lower than the average ratio of the tea industry. The C.V. was 35.41 percent.

The power and fuel to sales ratio of Tata Tea Ltd. showed increasing trend during the study period. It increased from lowest 3.26 times in 1997-1998 to highest 5.57 times in 2002-2003. The average ratio of the company was 4.26
times which was lower than the average ratio of the tea industry. The C.V. of the company was 22.01 percent.

The power and fuel to sales ratio of Warren Tea Ltd. reveals increasing trend during the study period. The ratio increased from lowest 3.05 times in 1997-1998 to highest 5.48 times in 2002-2003. The average ratio of the company was 4.4 times which was lower than the average ratio of the tea industry. The C.V was 23.57 percent, which was, indicated highly fluctuation among the ratio.

The power and fuel to sales ratio of Williamson Tea Assam Ltd. is seen in the above table. The ratio declined from 7.11 times in 1997-1998 to 6.75 times in 1998-1999 but it increased to the last year of the study period and marked highest 11.55 times in 2002-2003. The, average ratio of the company was 8.93 times which was higher than the average ratio of the tea industry. The C.V. was 22.44 percent showing high fluctuation.

The power and fuel to sales ratio was very lowest, 4.26 times of Tata Tea Ltd. followed by Warren Tea Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Goodricke Group Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Williamson Tea Assam Ltd. The three companies like Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Williamson Tea Assam Ltd. had
the highest ratio, so company was advised to cut the power and fuel expenses to increase the profit.

**Power and Fuel (Energy) to Sales Ratio of Tea Industry and Kruskal Wallis One-Way Analysis of Variance Test:**

Null hypothesis: There is no significance difference between the Power and Fuel to Sales Ratio of selected tea companies.

Alternative Hypothesis: There is significance difference between the Power and Fuel to Sales Ratio of selected tea companies.

Level of Significance: 5 percent

Statistical test used: Kruskal Wallis one-way analysis of variance test.

Critical value: 16.92

The calculated value of tea industry was 42.28, which was greater than the table value of 16.92. It means that null hypothesis is rejected and alternative hypothesis is accepted. It proved that there is a significance difference between among the power-fuel to gross sales ratio of tea group.
Table No.- 7.7.1

Kruskal Wallis one-way analysis of variance test of Power and Fuel Expenses to Sales Ratio of Tea Industry

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AFTIL</th>
<th>R1</th>
<th>DT&amp;IL</th>
<th>R2</th>
<th>GGL</th>
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<th>TTL</th>
<th>R8</th>
<th>WTL</th>
<th>R9</th>
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\[
H = \frac{12}{60(61)} \left[ \frac{(275)^2}{6} + \frac{(113)^2}{6} + \frac{(235)^2}{6} + \frac{(6)^2}{6} + \frac{(222)^2}{6} + \frac{(282)^2}{6} + \frac{(250)^2}{6} + \frac{(84)^2}{6} + \frac{(89)^2}{6} + \frac{(261)^2}{6} \right] - 3 \left( \frac{61}{6} \right)
\]

\[
H = 42.28
\]
4. Wages and Salaries to Net Sales Ratio:

In the present study analysis, wages and salaries comprise of included bonus, gratuity, provident fund, and other allowance and welfare expenses etc. In the Tea companies, a large number of labour force are required, as manufacture of tea is an extremely complex industry undertaking, in the Tea industry labor cost have been examined by the ratio of wages and salaries to net sales ratio is calculated on the basis of the following formula:

\[
\frac{\text{Wages and Salaries}}{\text{Net Sales}} \times 100
\]

Wages and salaries to sales ratio of AFT Ind. Ltd. was seen in the above table. The ratio registered an increasing trend during the study period except in 2001-2002. The ratio increased from 35.26 percent in 1997-1998 to 49.83 percent in 2000-2001 but decreased to 48.75 in 2001-2002. The ratio increased to 54.08 percent in 2002-2003, which was highest during the study period. The average ratio of the company was 45.17, which was the second highest average ratio among the selected tea companies under the study. The ratio was not satisfactory for the company.

In Dhunseri Tea & Ind. Ltd. Wages and salaries to sales ratio shows increasing trend during the study period
## Table No-7.8
Wages and Salaried to Sales Ratio in Tea Industry in India

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<td>7.30</td>
<td>21.98</td>
<td>26.20</td>
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Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. 7.8
Wages and Salaried to Sales Ratio in Tea Industry in India
except the second year of the study. The ratio was declined from 19.03 percent in 1997-1998 to 15.68 percent in 1998-1999. But it increased then throughout the study period and reached 27.01 percent in 2002-2003. The average ratio of the company was 21.28 percent, which was lower than the average ratio of the tea industry. The C.V was 19.82 percent.

Wages and salaries to sales ratio of Goodricke Group Ltd. were seen in the above table. The ratio increased from lowest 34.07 percent in 1997-1998 to the highest 44.26 percent in 2002-2003. The average ratio of the company was 40.19, which were second highest among the selected companies under the study. The ratio proves inefficiency of the management and it is advisable for the company to control the Wages and salaries.

The Wages and salaries to sales ratio of Greenline Tea & Exports Ltd. registered a very high fluctuating trend during the study period. The ratio was reduced from 11.4 percent in 1997-1998 to 4.97 times in 1998-1999, which was lowest ratio during the study period. The highest ratio of the company was 25.44 percent in 2002-2003. The average ratio of the company was 16.03 percent, which was lower among the average ratio of the selected tea companies under the study. The ratio was comparatively very low which was satisfactory.
The wages and salaries to sales ratio of Jay Shree Tea Ind. Ltd. marked a varying trend during the research period. The ratio increased from 27.16 percent in 1997-1998 to 42.36 percent in 2000-2001 i.e. during the first four years of the study period. But the ratio decreased during the last two years of the study and marked 37.45 percent in 2002-2003. The average ratio of the company was 35.42 percent, which was just higher than the average ratio of the tea industry.

The above table showed wages and salaries to sales ratio of Parry Agro Ind. Ltd. The ratio shows mix and increasing trend during the study period. The ratio increased from 33.78 percent in 1997-1998 to 38.42 percent in 2000-2001 i.e. during the first four years of the study period. But the ratio decreased during the last two years of the study and marked 33.64 percent in 2002-2003. The average ratio of the company was 35.64 percent, which was just higher than the average ratio of the tea industry.

Wages and salaries to sales ratio of Rossell Ind. Ltd. show very high fluctuating trend during the study period. The ratio varied from 35.13 percent in 1997-1998 to 102.54 percent in 2002-2003 with an average of 57.34 percent. The average ratio of the company was the highest among the selected companies under the study. The ratio was not
satisfactory because it showed very high ratio in the last two years of the study period.

Table No.-7.8 indicated Wages and salaries to sales ratio of Tata Tea Ltd. The ratio registered an increasing trend during the span of research period except the last year of the study. The ratio increased from 13.71 percent in 1997-1998 to 22.08 percent in 2001-2002 but it declined to 21.18 percent in 2002-2003. The average ratio of the company was 18.08 percent, which was second lowest ratio among the selected companies under the study. It showed satisfactory control over Wages and salaries by the management.

The above table reveals Wages and salaries to sales ratio of Warren Tea Ltd. The ratio shows fluctuating trend in this company. The ratio increased from 33.22 percent in 1997-98 to 35.25 percent in 1998-1999 but it then declined to 34.79 percent in 1999-2000. The ratio further increased to 41.77 percent in 2000-2001 and further again increased to 49.41 percent in 2001-2002 but finally, it decreased to 46.08 percent in the last year of the study period. The average ratio of the company was 40.08 percent, which was higher than the average ratio of the tea industry.
The table No.-7.8 showed Wages and salaries to sales ratio of Williamson Tea Assam Ltd. The ratio showed fluctuating trend during the study period. The ratio decreased from 30.16 in 1997-1998 to 29.11 percent in 1998-1999 which was lowest ratio but increased up to the last year of the study and reached highest level to 46.41 percent in 2002-2003. The average ratio of the company was 36.19 percent, which was nearest to the average ratio of the tea industry. The C.V. was 29.11 percent.

The Wages and salaries to sales ratio of the tea industry show an increasing during the study period. The average ratio of the tea industry during the study period was 34.54 percent. The ratio varied from 27.29 percent in 1997-1998 to 43.83 percent in 2002-2003. The following companies average ratio had the above the combined average ratio of the tea industry like AFT Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd., Warren Tea Ltd., and Williamson Tea Assam Ltd. The Dhunseri Tea & Ind. Ltd., Greenline Tea & Exports Ltd., and Tata Tea Ltd. had the average ratio lower than the average ratio of the tea industry, which showing good profitability for these companies.
### Table No. 7.8.1

Kruskal Wallis one-way analysis of variance test of Wagws and Salaries to Sales Ratio of Tea Industry

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<th>JST&amp;IL</th>
<th>R5</th>
<th>PAIL</th>
<th>R6</th>
<th>RIL</th>
<th>R7</th>
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\[
H = \frac{(287)^2}{60(61)} + \frac{(69)^2}{6} + \frac{(248)^2}{6} + \frac{(52)^2}{6} + \frac{(195)^2}{6} + \frac{(193)^2}{6} + \frac{(305)^2}{6} + \frac{(50)^2}{6} + \frac{(234)^2}{6} + \frac{(197)^2}{6} - \frac{3(61)^2}{60(61)}
\]

\[
H = 0.003278(69283.67) - 183
\]

\[
H = 44.11
\]
Wages and Salaries to Sales Ratio of Tea Industry and Kruskal Wallis one-way analysis of Variance test:

Null hypothesis: There is no significance difference between the Wages and Salaries to Sales Ratio of selected tea companies.

Alternative Hypothesis: There is significance difference between the Wages and Salaries to Sales Ratio of selected tea companies.

Level of Significance: 5 percent

Statistical test used: Kruskal Wallis one-way analysis variance test.

Critical value: 16.92

The calculated value of the ratio was 39.45 which was more than the critical value. So the null hypothesis is rejected and alternative hypothesis is accepted. The ratio was significance in tea group of companies.

5. Depreciation to Net Sales Ratio:

The fixed assets help to generate income over a long period. To determine a period’s net income correctly, important part of costs in each period’s, expired portion of original outlay for an asset and the cost related to the use of fixed assets must properly match against revenues.
Depending on the type of assets involved cost of expired portion of original fixed assets is called depreciation, depletion or amortization. However, all these terms have the same meaning in accounting i.e., “Periodic charging of expenses.”

According to Nikolia and Buzely, “The depreciation expenses is the part of the cost of long term physical assets allocated as an expenses to each accounting period in the assets useful life.”

The amount of depreciation can be judged either in relation to Sales and/or in relation to gross block. Depreciation to Sales is calculated on the basis of the following formula:

\[
\text{Depreciation to Sales Ratio} = \frac{\text{Depreciation}}{\text{Net Sales}} \times 100
\]

Depreciation to sales ratio of AFT Ind. Ltd. was seen in the above table. The ratio registered an increasing trend during the study period except the last year of the study. It increased from 1.42 percent in 1997-98 to 3.98 percent in 2001-2002 but it decreased slightly in the last years and reached to 3.80 percent. The average ratio of the company was 2.58 percent which was lower than the average ratio of
## Table No-7.9
### Depreciation Charges to Sales Ratio in Tea Industry in India

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<td>2.71</td>
<td>3.59</td>
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<td>3.75</td>
<td>6.38</td>
<td>3.66</td>
<td>1.42</td>
<td>38.82</td>
<td>2.53</td>
<td>6.38</td>
</tr>
<tr>
<td>TATA TEA</td>
<td>1.68</td>
<td>2.02</td>
<td>2.04</td>
<td>2.47</td>
<td>2.84</td>
<td>3.03</td>
<td>2.35</td>
<td>0.52</td>
<td>22.31</td>
<td>1.68</td>
<td>3.03</td>
</tr>
<tr>
<td>WARREN TEA</td>
<td>3.7</td>
<td>3.53</td>
<td>3.58</td>
<td>4.37</td>
<td>5.51</td>
<td>5.9</td>
<td>4.43</td>
<td>1.04</td>
<td>23.44</td>
<td>3.53</td>
<td>5.90</td>
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<tr>
<td>WILLIAMSON</td>
<td>3.42</td>
<td>3.21</td>
<td>3.58</td>
<td>3.84</td>
<td>4.4</td>
<td>4.31</td>
<td>3.79</td>
<td>0.48</td>
<td>12.71</td>
<td>3.21</td>
<td>4.40</td>
</tr>
<tr>
<td>Average</td>
<td>2.63</td>
<td>2.54</td>
<td>3.20</td>
<td>3.70</td>
<td>3.92</td>
<td>4.48</td>
<td>3.41</td>
<td>0.85</td>
<td>22.60</td>
<td>2.40</td>
<td>4.55</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.-7.9
Depreciation Charges to Sales Ratio in Tea Industry in India

DEPRECIATION TO SALES RATIO
the tea industry. The C.V was the 41.64 percent which high fluctuation among the ratio in comparison to other units.

Depreciation to sales ratio of Dhunseri Tea & Ind. Ltd. remarked a increasing trend during the study period except the second year of the study. The ratio decreased from 2.24 percent in 1997-1998 to 1.52 percent in 1998-1999 and then it increased throughout the study period and reached highest level of 3.03 percent in 2002-2003. The average ratio of the company was 2.39 which were lower than the average ratio of the tea industry.

The table No.-7.9 showed the Depreciation to sales ratio of Goodricke Group Ltd. The ratio varied from lowest 2.96 percent in 1998-1999 to the highest 2.77 percent in 2001-2002. The average ratio of the company was 2.85 percent which was lower than the average ratio of the tea industry.

Depreciation to sales ratio of Greenline Tea & Exports Ltd. was depicts in the above table. The ratio shows fluctuating trend during the research period. The ratio fluctuated between lowest 3.51 percent in 1998-1999 to the highest 10.53 percent in 2002-2003. The average ratio of the company was 7.27 which were highest among the selected companies under the study. The ratio was high
which is not satisfactory. The company is advised to improve the depreciation policy.

The Depreciation to sales ratio of Jay Shree Tea & Ind. Ltd. was manifested in the table No.-7.9. The ratio was fluctuating during the study period. The ratio fluctuated between lowest 1.84 percent in 1997-1998 to the highest 2.8 percent in 2000-2001. The average ratio of the company was 2.44 which were lower than the average ratio of the tea industry. The c.v was 15.43 percent.

Above table showed Depreciation to sales ratio of Parry Agro Ind. Ltd. The ratio fluctuated during the research period. It fluctuated from lowest 1.98 percent in 1997-98 to the higher of 2.50 percent in 2001-2002. The average ratio of the company was 2.24 percent which was lower than the average ratio of the tea industry. It showed C.V. of 9.61 percent. The ratio was satisfactory.

Table No.-7.9 showed Depreciation to sales ratio of Rossell Ind. Ltd. The ratio shows an increasing trend during the study period except the fourth year of the study period. The lowest ratio was 2.53 percent in 1997-1998 and the highest ratio was 6.38 in 2002-2003. The average ratio of the company was 3.66 percent which was slightly higher than that of the average ratio of the tea industry.
The Depreciation to sales ratio of Tata Tea Ltd. registered an increasing trend during the study period. The ratio increased from 1.68 percent in 1997-1998 to 3.03 percent in 2002-2003. The average ratio of the company was 2.5 percent which was lower than the average ratio of the tea industry. The C.V. was 22.31 percent.

Depreciation to sales ratio of Warren Tea Ltd. shows fluctuating trend during the study period. The ratio was fluctuated between the lowest 3.53 percent in 1998-1999 to the highest 5.9 percent in 2002-2003. The average ratio of the company was 4.43 percent which was higher than the average ratio of the tea industry. The C.V. was 23.44 percent. The ratio was comparatively high which is not good for the company.

The Depreciation to sales ratio of Williamson Tea Assam Ltd. depicts in the above table. The ratio shows fluctuating trend during the study period. The ratio decreased from 3.42 percent in 1997-1998 to 3.21 percent in 1998-1999 but the ratio continuously increased next four year of the study and marked highest 4.4 percent in 2001-2002. The ratio decreased to 4.31 percent in the last year of the study. The average ratio of the company was 3.79 percent, which was higher than the average ratio of the tea industry. The C.V was 12.71 percent.
The average ratio of the tea industry was fluctuated during the study period except the second year. The average ratio of the tea industry during the study period was 3.42 percent. The following companies average ratio had the above the combined average ratio of the tea industry like Greenline Tea & Exports Ltd., Rossell Ind. Ltd., Warren Tea Ltd., and Williamson Tea Assam Ltd. The AFT Ind. Ltd., Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., and Tata Tea Ltd. had the average ratio lower than the average ratio of the tea industry.

**Depreciation Charges to Sales Ratio of Tea Industry and Kruskal Wallis one way analysis of Variance test:**

Null hypothesis: There is no significance difference between the Depreciation charges to Sales Ratio of selected tea companies.

Alternative Hypothesis: There is significance difference between the Depreciation charges to Sales Ratio of selected tea companies.

Level of Significance: 5 percent

Statistical test used: Kruskal Wallis one-way analysis variance test.

Critical value: 16.92
Table No.- 7.9.1
Kruskal Wallis one-way analysis of variance test of Depreciation charges to Sales Ratio of Tea Industry

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AFTIL</th>
<th>R1</th>
<th>DT&amp;IL</th>
<th>R2</th>
<th>GGL</th>
<th>R3</th>
<th>GT&amp;EL</th>
<th>R4</th>
<th>JST&amp;IL</th>
<th>R5</th>
<th>PAIL</th>
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<td>1.84</td>
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<td>1.98</td>
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<td>2.97</td>
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<td>2002-2003</td>
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<td>36</td>
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<td>2.35</td>
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</tr>
</tbody>
</table>

\[
H = \frac{12}{60(61)} \left[ \frac{(149)^2}{6} + \frac{(107)^2}{6} + \frac{(175)^2}{6} + \frac{(327)^2}{6} + \frac{(117)^2}{6} + \frac{(74)^2}{6} + \frac{(222)^2}{6} + \frac{(105)^2}{6} + \frac{(289)^2}{6} + \frac{(270)^2}{6} \right] - 3(61)
\]

\[
H = 0.003278(67849.83) - 183
\]

\[
H = 39.458
\]
The table value was 16.92 which was and calculated value of the ratio was 39.458 which was more than the critical value. So the null hypothesis is rejected and alternative hypothesis is accepted. The ratio so it can be said that there is significance in the ratios of the tea industry.

6. Selling & Distribution to Net Sales Ratio:

Commission and discount on sale, traveling expenses, expenses on advertisement, transportation and forwarding expenses, freight outward commission to sole selling agent, salaries of sales & publicity staff, expenses of branches and agencies, cost of preparing tenders and estimates, stock shortage etc., are included in selling and distribution expenses. These expenses are essential for creating new customers and for selling goods in the market. For new enterprise, these expenses increase considerably because they have to establish themselves in the market.

\[
\text{Selling & Distribution Exp. to Net Sales Ratio} = \frac{\text{Selling & Distribution Exp.}}{\text{Net Sales}} \times 100
\]

The selling and distribution expenses to sales ratio of AFT Ind. Ltd. was seen in the above table. The ratio shows the fluctuating trend during the study period. It was slightly decreased from 4.58 percent in 1997-1998 to 4.54 percent in 1998-1999 but increased to 4.77 percent in 1999-2000 and
### Table No-7.10

**Selling & Distribution Expenses Ratio in Tea Industry in India**  

<table>
<thead>
<tr>
<th></th>
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<td>5.38</td>
<td>6.56</td>
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<td>16.60</td>
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<td>6.25</td>
<td>8.12</td>
<td>9.63</td>
</tr>
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<td>6.14</td>
<td>7.43</td>
<td>4.07</td>
<td>54.83</td>
<td>4.82</td>
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</tr>
<tr>
<td>JAYSHREE</td>
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<td>6.37</td>
<td>6.51</td>
<td>6.2</td>
<td>6.36</td>
<td>0.15</td>
<td>2.39</td>
<td>6.20</td>
<td>6.56</td>
</tr>
<tr>
<td>PARRY AGRO</td>
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<td>2.04</td>
<td>1.99</td>
<td>2.21</td>
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<td>0.22</td>
<td>10.44</td>
<td>1.87</td>
<td>2.49</td>
</tr>
<tr>
<td>ROSSEL IND.</td>
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<td>4.47</td>
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<td>72.64</td>
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<td>11.98</td>
<td>13.34</td>
<td>11.56</td>
<td>1.19</td>
<td>10.25</td>
<td>9.90</td>
<td>13.34</td>
</tr>
<tr>
<td>Average</td>
<td>7.75</td>
<td>7.34</td>
<td>6.84</td>
<td>7.90</td>
<td>7.23</td>
<td>7.56</td>
<td>7.44</td>
<td>1.43</td>
<td>20.96</td>
<td>5.76</td>
<td>9.66</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No. -7.10
Selling & Distribution Expenses Ratio in Tea Industry in India

SELLING & MARKETING TO SALES RATIO
further increased to 5.38 percent in 2000-2001. It was highest to 6.56 percent in 2001-2002 and in the last year it declined to 6.3 percent. The average ratio of the company was 5.36 percent which was lower than the average ratio of the tea industry.

The selling and distribution expenses to sales ratio of Dhunseri Tea & Ind. Ltd. registered a fluctuating trend during the span of study period. The ratio was fluctuated between lowest from 6.33 percent in 2001-2002 to 8.71 percent in 2002-2003. The average ratio of the company was 7.64 percent which was nearest to the average ratio of the tea industry. The C.V. was 10.55 percent.

The selling and distribution expenses to sales ratio of Goodricke Group Ltd. was seen in the above table. The ratio was fluctuating during the study period. The ratio fluctuated between 8.12 percent in 1997-1998 to 9.63 percent in 2000-2001. The average ratio of the company was 8.87 percent which was the higher than the average ratio of the tea industry.

Table No. 7.10 shows the selling and distribution expenses to sales ratio of Greenline Tea & Exports Ltd. The ratio was highly fluctuating during the study period. The ratio decreased from 7.77 percent in 1997-1998 to 4.82 percent in
1999-2000. The ratio increased to the highest 15.44 percent in 2000-2001 but it declined to 5.41 percent in 2001-2002. It was the 6.14 percent in 2002-2003. The average ratio of the company was 7.43 percent which was just nearest to the average ratio of the tea industry.

Selling and distribution expense to sales ratio of Jay Shree Tea & Ind. Ltd was fluctuating during the study period. The ratio was fluctuating between 6.20 to 6.56 percent. The average ratio of the company was 6.36 percent which was lower than the average ratio of the tea industry. The c.v was 2.39 which show very low fluctuation during the study period. The ratio of the company was satisfactory.

The selling and distribution expense to sales ratio of Parry Agro Ind. Ltd. The ratio showed fluctuating trend during the study period. The ratio was declined from 2.49 percent in 1997-1998 to 1.87 percent in 1998-1999 but increased to 2.01 percent in 1999-2000. It was again increased to 2.04 percent 2000-2001 but decreased to 1.99 percent in 2001-2002. It was 2.21 percent in the last year of the study period. The average ratio of the company was 2.10 percent which was very low than the average ratio of the tea industry.

The selling and distribution expense to sales ratio of Rossell Ind. Ltd. Depicts in the above table. It shows
fluctuating trend during the study period. During the first four years of the study period it decreased from 11.31 percent in 1997-1998 to 0.59 percent in 2000-2001 but it increased during the last two years and reached to 4.47 percent. The average ratio of the company was 5.38 percent which was lower than the average ratio of the tea industry.

Table No.-7.10 reveals the selling and distribution expenses to sales ratio of Tata Tea Ltd. The ratio fluctuated during the study period. It varied from lowest 8.04 percent in 1997-98 to 12.16 percent in 2002-2003. The average ratio of the company was 10.66 percent which was the second highest ratio among the selected tea companies. The C.V. was 13.81 percent showed the fluctuation among the ratio during the study period.

Above table registered the selling and distribution expenses to sales ratio of Warren Tea Ltd. The ratio indicated mix during the span of the research period. The ratio increased from 8.86 percent in 1997-1998 to 10.37 percent in 200-2001. It declined to 9.11 percent in 2000-2001 and further declined to 7.2 percent in 2002-2003. The average ratio of the company was 9.03 percent which was higher than the average ratio of the tea industry. The C.V. was 11.80.
The selling and distribution expenses to sales ratio of Williamson is depicted in the above table. The ratio decreased from 12.13 percent to 9.9 percent during the first three years of the study and reached to 11.56 percent by increasing during the last three years of the study. The average ratio of the company was 11.56 percent which was the highest among all the selected companies under the study.

It can be generalized on the above analysis that the average ratio of the tea industry during the study was nearest to the combined average the tea industry, i.e. 7.44 percent. The average ratio of the companies like Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Tata Tea Ltd., and Williamson Tea Assam Ltd. had higher than the combined average ratio of the tea industry. While Greenline Tea & Exports Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd., and Warren Tea Ltd. had the lower average ratio than the combined average ratio of the tea industry.

Selling and Distribution Expenses to Sales Ratio of Tea Industry and Kruskal Wallis one way analysis of Variance test:
Table No. 7.10.1
Kruskal Wallis one-way analysis of variance test of Selling and Distribution Expenses to Sales Ratio of Tea Industry

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AFTIL</th>
<th>R1</th>
<th>DT&amp;IL</th>
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<td>52</td>
<td>2.03</td>
<td>19</td>
<td>1.29</td>
<td>10</td>
<td>1.16</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>9.73</td>
<td>59</td>
<td>1.71</td>
<td>14</td>
<td>4.74</td>
<td>46</td>
</tr>
<tr>
<td>2002-2003</td>
<td>3.56</td>
<td>36</td>
<td>5.28</td>
<td>48</td>
<td>5.56</td>
<td>51</td>
<td>1.75</td>
<td>15</td>
<td>1.29</td>
<td>10</td>
<td>1.16</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>10.73</td>
<td>60</td>
<td>1.59</td>
<td>13</td>
<td>6.18</td>
<td>54</td>
</tr>
</tbody>
</table>

\[
H = \frac{12}{60(61)} \left[ (200)^2 \left( \frac{261}{6} \right)^2 + (269)^2 \left( \frac{161}{6} \right)^2 + (118)^2 \left( \frac{50}{6} \right)^2 + (67)^2 \left( \frac{343}{6} \right)^2 + (99)^2 \left( \frac{265}{6} \right)^2 \right] - 3 \left( \frac{61}{6} \right)
\]

\[
H = 0.003278(70831.83) - 183
\]

\[
H = 49.18
\]

416
Null hypothesis: There is no significance difference between the Selling and Distribution Charges to Sales Ratio of selected tea companies.
Alternative Hypothesis: There is significance difference between the Selling and Distribution Charges to Sales Ratio of selected tea companies.
Level of Significance: 5 percent
Statistical test used: Kruskal Wallis one-way analysis variance test.
Critical value: 16.92

The calculated value of 49.239, which was greater than the critical value of 16.92, so null hypothesis, is rejected and alternative is accepted. There is significance difference among the ratios of the tea industry.

7. Financial Charges to Sales Ratio:

In the present study analysis, financial charges comprise of included interest, lease rent and other financial charges. Financial charges to net sales Ratio is calculated on the basis of the following formula:

\[
\text{Financial Charges to Net Sales Ratio} = \frac{\text{Financial Charges} + \text{Int.} + \text{Lease Rent}}{\text{Net Sales}} \times 100
\]
**Table No-7.11**  
Financial Charges to Sales Ratio in Tea Industry in India  

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFT IND. LTD.</td>
<td>0.53</td>
<td>0.45</td>
<td>0.56</td>
<td>0.8</td>
<td>2.75</td>
<td>3.45</td>
<td>1.42</td>
<td>1.32</td>
<td>92.92</td>
<td>0.45</td>
<td>3.45</td>
</tr>
<tr>
<td>DHUNSERI</td>
<td>5.63</td>
<td>5.1</td>
<td>8.41</td>
<td>8.95</td>
<td>11.33</td>
<td>8.63</td>
<td>8.01</td>
<td>2.31</td>
<td>28.79</td>
<td>5.10</td>
<td>11.33</td>
</tr>
<tr>
<td>GOODRICKE</td>
<td>4.34</td>
<td>2.11</td>
<td>1.92</td>
<td>1.76</td>
<td>2.1</td>
<td>1.49</td>
<td>2.29</td>
<td>1.03</td>
<td>45.15</td>
<td>1.49</td>
<td>4.34</td>
</tr>
<tr>
<td>GREENLINE TEA</td>
<td>30.05</td>
<td>17.84</td>
<td>30.12</td>
<td>44.12</td>
<td>47.97</td>
<td>19.3</td>
<td>31.57</td>
<td>12.41</td>
<td>39.31</td>
<td>17.84</td>
<td>47.97</td>
</tr>
<tr>
<td>JAY SHREE TEA</td>
<td>3.83</td>
<td>4.2</td>
<td>5.54</td>
<td>5.86</td>
<td>4.46</td>
<td>3.54</td>
<td>4.57</td>
<td>0.93</td>
<td>20.43</td>
<td>3.54</td>
<td>5.86</td>
</tr>
<tr>
<td>PARRY AGRO</td>
<td>3.6</td>
<td>2.74</td>
<td>7.82</td>
<td>8.54</td>
<td>8.27</td>
<td>13.88</td>
<td>13.88</td>
<td>7.48</td>
<td>4.01</td>
<td>53.63</td>
<td>2.74</td>
</tr>
<tr>
<td>ROSSELL IND.</td>
<td>9.96</td>
<td>7.86</td>
<td>6.79</td>
<td>3.73</td>
<td>4.89</td>
<td>15.24</td>
<td>8.08</td>
<td>4.14</td>
<td>51.22</td>
<td>3.73</td>
<td>15.24</td>
</tr>
<tr>
<td>TATA TEA LTD.</td>
<td>3.94</td>
<td>3.74</td>
<td>3.99</td>
<td>4.44</td>
<td>4.22</td>
<td>3.74</td>
<td>4.01</td>
<td>0.28</td>
<td>6.87</td>
<td>3.74</td>
<td>4.44</td>
</tr>
<tr>
<td>WARREN TEA</td>
<td>1.09</td>
<td>1.84</td>
<td>1.69</td>
<td>2.02</td>
<td>3.91</td>
<td>4.54</td>
<td>2.52</td>
<td>1.38</td>
<td>54.69</td>
<td>1.09</td>
<td>4.54</td>
</tr>
<tr>
<td>WILLIAMSON</td>
<td>4.97</td>
<td>3.92</td>
<td>4.12</td>
<td>3.75</td>
<td>2.62</td>
<td>2.29</td>
<td>3.61</td>
<td>0.99</td>
<td>27.54</td>
<td>2.29</td>
<td>4.97</td>
</tr>
<tr>
<td>Average</td>
<td>6.79</td>
<td>4.98</td>
<td>7.10</td>
<td>8.40</td>
<td>9.25</td>
<td>7.61</td>
<td>7.35</td>
<td>2.88</td>
<td>42.06</td>
<td>4.20</td>
<td>11.60</td>
</tr>
</tbody>
</table>

Sources: computed from the annual reports and accounts of the Tea companies.
Graph No.- 7.11
Financial Charges to Sales Ratio in Tea Industry in India
In AFT Ind. Ltd. financial charges to sales ratio showed fluctuating trend during the study period. The ratio decreased from 0.53 percent in 1997-98 to 0.45 percent in 1998-1999 but it increased then to the last year of the study period and marked 3.45 percent in 2002-2003 which was highest ratio. The average ratio of the company was 1.42 percent which was far below than the average ratio of the tea industry.

The financial charges to sales ratio of Dhunseri Tea & Ind. Ltd. was shown in the above table. The ratio fluctuated during the study period. It decreased from 5.63 percent in 1997-1998 to 5.10 percent in 1998-1999. But it increased from 8.41 percent in 1999-2000 to 11.33 percent in 2001-2002. The ratio was 8.63 times in the last year of the study period. The average ratio of the company was 8.01 which were higher than the average ratio of the tea industry.

Financial charges to sales ratio of Goodricke was manifested in the above table. The ratio was decreasing during the study period except in the year of 2001-2002. The ratio decreased from 4.34 percent in 1997-98 to 1.76 percent in 2001-2002 but sharply increased to 2.1 percent in 2001-2002. The ratio again decreased to 1.49 percent in 2002-2003. The average ratio of the company was 2.29 percent, which was below than the average ratio of the tea industry.
The above table shows financial charges to sales ratio of Greenline Tea & Exports Ltd. The ratio of the company was fluctuating during the study period. It fluctuated between 17.84 percent in 1998-1999 to 47.97 percent in 2001-2002. The average ratio of the company was 31.57 percent which was the highest among all the selected tea companies under the study. The c.v of the company was 39.31 percent. The ratio was very high which shows very danger situation for the company. The company must take immediate steps to decrease financial charges and to increase sales.

Table No -7.11 depicts financial charges to sales ratio of Jay shree Tea Ind. Ltd. The ratio was fluctuating during the study period. The ratio increased from 3.83 percent in 1997-1998 to 5.86 percent in 2000-2001 but decreased during the last two years of the study period and reached up to 3.54 percent in 2002-2003. The average ratio of the company was 4.57 percent which was lower than that of the tea industry.

The above table showed financial charges to sales ratio of Parry Agro Ind. The ratio shows fluctuating trend during the study period. The ratio decreased from 3.6 percent in 1997-1998 to 2.74 percent in 1998-1999 but it went up to 7.82 percent in 1999-2000 and further went up to 8.54 percent in 2000-2001. But the ratio dropped to 8.27
percent in 2001-2002 and it reached at highest 13.88 percent in 2002-2003 during the study period. The average ratio of the company was 7.48 percent which was higher than that of the tea industry.

In Rossell Ind. Ltd. financial charges to sales ratio indicated fluctuated trend during the study period. The ratio decreased from 9.96 percent in 1997-1998 to 3.73 percent in 2000-2001. But it went up to 4.89 percent in 2000-2001 and further increased tremendously to 15.24 percent in 2002-2003. The average ratio of the company was 8.08 percent which was higher than the average of the tea industry. The ratio was considered being high.

The financial charge to sales ratio of Tata tea shows its performance in the above table. The ratio fluctuated during the study period. The ratio decreased from 3.94 percent in 1997-1998 to 3.74 percent in 1998-1999 but it went up to 3.99 percent in 1999-2000. It was further went up to 4.44 percent in 2000-2001 and then slightly declined to 4.22 percent in 2001-2002. The ratio was 3.74 percent in 2002-2003. The average ratio of the company was 4.01 percent which was below the average of the tea industry.

Financial charges to sales ratio of Warren tea Ltd. were seen in the above table. The ratio was increasing through out
the study period except in the year of 1999-2000. The ratio varied from 1.09 percent in 1997-1998 to 5.54 percent in 2002-2003. The average ratio of the company was 2.52 percent which was lower than the average ratio of the tea industry. The c.v was 54.69 percent.

The above table shows financial charges to sales ratio of Williamson Tea Assam Ltd. The ratio shows decreasing trend throughout the study period except in the year of 1999-2000. The highest ratio was 4.97 percent in 1997-1998 and the lowest ratio was 2.29 percent in 2001-2002. The average ratio of the company was 3.61 percent which was lower than the average ratio of the tea industry.

On the above analysis it can be said that the average ratio of companies like Dhunseri Tea & Ind. Ltd., Greendline Tea & Exports Ltd., Parry Agro Ind. Ltd. and Rossell Ind. Ltd. had the higher than the average ratio of the tea industry. While the average ratio of the companies like AFT Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd., Tata Tea Ltd., Warren Tea Ltd. and Williamson Tea Assam Ltd. had the lower than the average ratio of the tea industry.

Financial Charges to Sales Ratio of Tea Industry and Kruskal Wallis one way analysis of Variance test:
Table No. 7.11.1
Kruskal Wallis one-way analysis of variance test of Financial Charges to Sales Ratio of Tea Industry

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AFTIL</th>
<th>R1</th>
<th>DT&amp;IL</th>
<th>R2</th>
<th>GGL</th>
<th>R3</th>
<th>GT&amp;EL</th>
<th>R4</th>
<th>JST&amp;IL</th>
<th>R5</th>
<th>PAIL</th>
<th>R6</th>
<th>RIL</th>
<th>R7</th>
<th>TTL</th>
<th>R8</th>
<th>WTL</th>
<th>R9</th>
<th>WTAL</th>
<th>R10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-1998</td>
<td>0.53</td>
<td>2</td>
<td>5.63</td>
<td>40</td>
<td>4.34</td>
<td>33</td>
<td>30.1</td>
<td>57</td>
<td>3.83</td>
<td>25</td>
<td>3.6</td>
<td>20</td>
<td>20</td>
<td>7</td>
<td>9.96</td>
<td>51</td>
<td>3.94</td>
<td>28</td>
<td>1.09</td>
<td>5</td>
</tr>
<tr>
<td>1998-1999</td>
<td>0.43</td>
<td>1</td>
<td>5.1</td>
<td>38</td>
<td>2.11</td>
<td>13</td>
<td>17.8</td>
<td>55</td>
<td>4.2</td>
<td>31</td>
<td>2.74</td>
<td>16</td>
<td>16</td>
<td>4</td>
<td>7.86</td>
<td>44</td>
<td>3.74</td>
<td>23</td>
<td>1.84</td>
<td>9</td>
</tr>
<tr>
<td>1999-2000</td>
<td>0.56</td>
<td>3</td>
<td>8.41</td>
<td>47</td>
<td>1.92</td>
<td>10</td>
<td>30.1</td>
<td>58</td>
<td>5.54</td>
<td>39</td>
<td>7.82</td>
<td>43</td>
<td>43</td>
<td>6</td>
<td>6.79</td>
<td>42</td>
<td>3.99</td>
<td>29</td>
<td>1.69</td>
<td>7</td>
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<tr>
<td>2000-2001</td>
<td>0.8</td>
<td>4</td>
<td>8.95</td>
<td>50</td>
<td>1.76</td>
<td>8</td>
<td>44.1</td>
<td>59</td>
<td>5.86</td>
<td>41</td>
<td>8.54</td>
<td>48</td>
<td>48</td>
<td>3</td>
<td>3.73</td>
<td>21</td>
<td>4.44</td>
<td>34</td>
<td>2.02</td>
<td>11</td>
</tr>
<tr>
<td>2001-2002</td>
<td>2.75</td>
<td>17</td>
<td>11.3</td>
<td>52</td>
<td>2.1</td>
<td>12</td>
<td>48</td>
<td>60</td>
<td>4.46</td>
<td>35</td>
<td>8.27</td>
<td>46</td>
<td>46</td>
<td>4</td>
<td>7.89</td>
<td>45</td>
<td>4.22</td>
<td>32</td>
<td>3.91</td>
<td>26</td>
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<tr>
<td>2002-2003</td>
<td>3.45</td>
<td>18</td>
<td>8.63</td>
<td>49</td>
<td>1.49</td>
<td>6</td>
<td>19.3</td>
<td>56</td>
<td>3.54</td>
<td>19</td>
<td>13.9</td>
<td>53</td>
<td>53</td>
<td>5</td>
<td>15.2</td>
<td>54</td>
<td>3.74</td>
<td>23</td>
<td>4.54</td>
<td>36</td>
</tr>
<tr>
<td>2003-2004</td>
<td>4.5</td>
<td>276</td>
<td>82</td>
<td>345</td>
<td>190</td>
<td>226</td>
<td>257</td>
<td>169</td>
<td>14</td>
<td>147</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
H = \frac{12}{60(61)} \left( \frac{(45)^2}{6} + \frac{(276)^2}{6} + \frac{(82)^2}{6} + \frac{(345)^2}{6} + \frac{(190)^2}{6} + \frac{(226)^2}{6} + \frac{(257)^2}{6} + \frac{(169)^2}{6} + \frac{(94)^2}{6} + \frac{(147)^2}{6} \right) - 3(61)
\]

\[
H = 0.003278(69363.5) - 183
\]

\[
H = 44.37
\]
Null hypothesis: There is no significance difference between the Financial Charges to Sales Ratio of selected tea companies.
Alternative Hypothesis: There is significance difference between the Financial Charges to Sales Ratio of selected tea companies.
Level of Significance: 5 percent
Statistical test used: Kruskal Wallis one-way analysis variance test.
Critical value: 16.92

Above table describes that the calculated value of H equal to 44.37, which is greater than the table value of 16.92 hence, the null hypothesis based on Krukal Wallis one-way analysis is rejected. The acceptance of alternative hypothesis described there is significance difference between the financial charges to gross sales ratio of the selected tea companies.

Conclusion:
Chapter titled “Analysis of Activity” describe that its one of the important measurement of the financial performance of the business organisation. Asset Turnover is an important variable for assessing the profitability of an industry; therefore the study of assets turnover becomes essential. This chapter studies the changes in assets turnover and the
degree of productivity incurred from the assets of the Tea Industry in India and also analyses the cause responsible for such changes.

Assets utilises working capital and in turn produce finished goods. The efficiency with which the assets are utilised is known as productivity of the assets. In the present study there where eleven types of ratios was calculated for the Analysis of Activity of Selected Companies of Tea Industry in India in two parts i.e. (i) Activity in Relation to Total Resources ratios like Total Assets Turnover Ratio, Gross Assets Turnover Ratio, Net Assets Turnover Ratio, and Current Assets Turnover Ratio (ii)Conduct of Activity natures ratios i.e. Operating Expenses Ratio, Raw Material to Sales Ratio, Energy to Sales Ratio, Wages and Salary to Sales Ratio, Depreciation to Sales Ratio, Selling and Marketing Expenses to Sales Ratio and Financial Charges to Sales Ratio. Activity analysis of tea companies shows the growth rate of assets over the period of study; impact of assets on sales and profit margin; efficiency with which fixed assets are utilised in a business; adequacy of depreciated funds and depreciation; and the adequacy of long-term funds for fixed assets.
References:


5. Ibid,


9. N. L., Hingorani, Management Accounting.


15. Report of the Study Group to frame Guidelines for follow-up of Bank Credit, Reserve Bank of India.
CHAPTER 8
Conclusions and Suggestions
Chapter – 1: Conceptual Framework of Financial Performance

Financial statements represent the snapshot of a concern's activities at the end of a particular period. These statements are the end product of financial accounting. They reveal how a business has prospered under the leadership of its management personnel. Financial statements are the medium of evaluation of management's performance. The three important financial statements to know and to investigate the financial position and soundness of a business enterprise are the Balance Sheet, the Income Statement and the statement of Owner's Equity. Such statements give a bird's eye view of the financial situation of a concern. Financial statements are of vital importance to all those who are concerned with them directly or indirectly.

The balance sheet shows the financial position of a business on a certain date. Income statement is a statement of net gain or loss resulting from the operations of a business during the period covered by the report.

Financial appraisal is a technique to evaluate past, current and projected performance of a concern. Generally financial appraisal is concerned with the analysis of
financial statements. The main purpose of this analysis is to evaluate past performance, financial position, liquidity position, future prospects for earnings, ability to pay interest and debt on maturity and profitability of a concern.

A study in order to be useful should be object oriented. The overall objective of a business is to earn a satisfactory return on the funds invested in it, consistent with maintaining a sound financial position. Financial appraisal is intended to give an accurate picture of the financial condition of a concern in condensed form.

Collection of financial data is the first step in evaluating the performance of an enterprise. Generally the sources used to collect the information consist of primary data and secondary data.

The second step in the process of financial appraisal is to classify and tabulate the financial data while, the third step is the use and application of appropriate techniques. Accounting techniques used in analyzing financial statements include Ratio Analysis, Trend Analysis, Common-size Analysis, Fund Flow Analysis and Break-even Analysis.

Ratio analysis in this context is the process of computing, determining and presenting the relationship of items and groups of items in financial statements. It is the technique commonly used as a yard-stick to evaluate the financial condition and performance of a concern. Common-
CONCLUSIONS AND SUGGESTIONS

size statement gives an apparent view of the structure of assets and liabilities on the one hand and income and expenditure on the other. Fund flow statement is to indicate where funds come from and where they are used during a certain period. Break-even analysis determines the relationship between sales volume and total costs.

Statistical techniques adopted for the purpose of financial appraisal involve, among others, regression and correlation analysis. Regression and correlation analyses are based on the relationship between two or more variables.

The fourth step in the process of financial appraisal is analysis and interpretation of financial data. Final appraisal of the results is the last but not the least important step involved in financial appraisal. In the case of the tea industry in India it involves: Analysis of profitability, Analysis of financial structure, Analysis of working capital and Analysis of activity.

Chapter -2: Profile of the Tea Industry in India

A Profile of the Tea Industry shows on an average area under tea was 4.45 lakhs hectare. The average area under plucking and production are 4.15 lakhs hectare and 7892.95 lakhs kgs. respectively. During the study period, area under tea, plucked area, production and yield in total India rose up
to 20.63%, 5.28%, 12.24% and 6.59% respectively. During this period average yield was 1898 kg/hectare.

It shows the average number of labour employed in tea plantation of India and improvement in labour force by 21.4% during the last ten years. It was the indicator of great employment opportunity. As the tea is an agricultural product, it provides employment mainly to the backward classes and tribal and improves their living conditions. No other industry can think for backward areas, like tea industry. The tea industry of India provides employment nearest to 10.61 lakhs of employees.

The internal consumption of tea in India as well as the consumption of packet tea and loose tea and increased by 27.8%, 39.2%, and 21.8% respectively during the last ten years.

The total production of tea increased to 846483 Th. kgs. in 2000 from 754192 Th. kgs in 1991, indicating an overall rise of about 12.24% during the same period. Although the export of tea also slightly increased to 206816 Th. kgs in 2000 from 202918 Th. kgs in 1991, the proportion of export in relation to production decreases from 26.9% to 24% during the same period. Domestic consumption of India in the last ten years captured at about 77% of total global production. Many in the industry believed that by 2005, there will be a shortage of tea for the domestic market. At the same time, production of tea cannot be increased sharply due to scarcity of land. Also,
Indian companies have not invested adequately in replanting. Hence, to satisfy the domestic demand India has to import a bulk quantity of tea within a few years.

1. Tea industry being an export oriented industry, plays a significant role for the earning of foreign exchange. It provides a great employment opportunity mainly for the backward classes and tribals. To improve the Indian economic position, Government should take appropriate steps to increase the export of tea and develop the industry as well.

Above all Indian Government should nourish it with proper care and attention to recover the tea industry to its former position, if possible.

**Chapter-3: Research Design**

Research methodology includes the assumptions and values, which are useful for interpreting data and reaching to conclusions.

The data relating to the performance of the ten companies under the study were collected mainly from the published annual reports and accounts of these companies for the financial years from 1997-1998 to 2002-2003. To supplement the data collected from annual reports and accounts, other publications namely Chartered Accountant, Economic and Political Weekly and Company News and
Notes were used. Data relating to general economic conditions were collected from the leading newspapers, government publications and stock exchange directory.

The collected data are duly edited, classified and analysed using all type of relevant statistical techniques and employing the most appropriate parametric and non-parametric test. The data are presented through simple classification and with the help of percentage, average dispersion and the hypothesis are tested at 5% level of significance by employing Kruskal Wallis one way analysis of variance test.

Chapter-4: Analysis of Profitability

Profit planning is an integrated part of overall process of financial planning. The term profitability refers to the ability of a given investment to earn returns from its use. Profitability can be ascertained and analyzed the computation of profits ratio either based on operating profit profits or net profits or both.

In this chapter the concepts of the profit, profitability and rate of return, bases of profitability measuring the profitability in relation to sales and capital employed, shareholders investment and dividend policy of the sample
units have been analysis. The main conclusions drawn are as under:

1. The gross profit in terms relative terms as percent of net sales. As regard the Tea industry, the gross profit ratio ranged from 18.27 percent in 2002-2003 to 39.06 percent in 1997-1998. It showed a decreasing trend from 1997-1998 to 2002-2003 with an average of 26.13 percent. In this ratio, the management was very interest.

As regards this ratio the Williamson Tea Assam Ltd. showed good profitability followed by Warren Tea Ltd., Tata Tea Ltd., Dhunseri Tea & Ind. Ltd., AFT Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd., Parry Agro Ind. Ltd., and other selected units. It is suggest that the Parry Agro Ind. Ltd., Greenline Tea & Exports Ltd., Goodricke Group Ltd., Dhunseri Tea & Ind. Ltd., and Tata Tea Ltd. should reduce the cost of goods sold.

2. The Tea industry showed downward trend of operating profit ratio during the study period. The average ratio of tea industry fluctuated from 20.47 percent in 1997-1998 to minus 9.51 percent in 2002-2003. The average of average ratio was 4.65 percent. The tea companies such as AFT Ind. Ltd., Dhunseri Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd., Tata Tea Ltd., Warren Tea Ltd., and Williamson Tea Assam Ltd. showed higher than the average ratio of the tea industry where as Jay Shree Tea & Ind. Ltd. and Rossell Ind.
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Ltd. had the lower ratio from the average ratio of the tea industry.

It can be inferred that the management of the companies could not control the operating expenses from the viewpoint of the management and owners the performance of AFT Ind. Ltd., Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Parry Agro Ind. Ltd. And, Rossell Ind. Ltd. was not satisfactory. The performance of Warren Tea Ltd., Tata Tea Ltd. and Williamson Tea Assam Ltd. was satisfactory. It is suggest that the tea companies should increase their operating profits.

3. The net profit ratio of tea industry showed the decreasing trend during the study period. The ratio of tea industry ranged from 11.09 percent in 2002-2003 to 13.56 percent in 1997-1998. The average ratio of the tea industry was 1.58 percent which was not good.

On the whole AFT Ind. Ltd. had shown the highest ratio of 11.53 percent on an average in a six years followed by Tata Tea Ltd., Williamson Tea Assam Ltd., Goodricke Group Ltd., Warren Tea Ltd., Dhunseri Tea & Ind. Ltd., Jay shree Tea Ltd., Parry Agro Ind. Ltd. and Greenline Tea & Exports Ltd., Rossell Ind. Ltd.

4. The return on capital employed ratio of tea industry was showed decreasing trend during the study period. The
ratio ranged from 8.22 percent in 2002-2003 to 34.12 percent in 1997-1998 with an average of 12.98 percent. The highest ratio was found in Williamson Tea Assam Ltd. followed by AFT Ind. Ltd., Warren Tea Ltd., Parry Agro Ind. Ltd., Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd. and Rossell Ind. Ltd. The capital structure of major companies consists of large amount of current liabilities, which was not included for computing the net capital employed. However the performance of Rosselagro was not up to the mark.

5. Analysis of return on net worth showed that the management of Greenline Tea & Exports Ltd. and Rossell Ind. Ltd. were unable to get the return on owner’s funds on account of defective leverage policy, ineffective and inefficient production and sales. The management of AFT Ind. Ltd., Williamson Tea Assam Ltd., Warren Tea Ltd., Rossell Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd. and Dhunseri Tea & Ind. Ltd. were able to get the return on net worth due to proper leverage policy and better utilization of funds of owners.

6. The ratio of return on equity share capital in the tea industry showed the declining trend during the study period. The ratio declined from 207.29 percent in 1997-1998 to 162.87 percent in 1998-1999. It rose to 120.89 percent in
1999-2000 and declined to 28.53 percent in 2000-2001 and then it increased to 32.83 percent in 2001-2002. It was minus 7.14 percent in 2002-2003. The average ratio of the selected companies under the study was 90.88 percent.

7. The AFT Ind. Ltd., Warren Tea Ltd., Williamson Tea Assam Ltd., Tata Tea Ltd., Jay Shree Tea, and Parry Agro Ind. Ltd. had higher average ratio than the average ratio of selected tea companies under the study. The other selected companies such as Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd., and Rossell Ind. Ltd. had the below the ratio of return on equity share capital.

On the basis of the above analysis it can be concluded that the performance of AFT Ind. Ltd., Tata Tea Ltd., Williamson Tea Assam Ltd. and Warren Tea Ltd. was satisfactory. In addition to, other companies like Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd., Parry Agro Ind. Ltd., and Rossell Ind. Ltd. was not satisfactory.

8. It can be generalised from the above analysis that the Tata Tea Ltd. had the highest E.P.S. followed by AFT Ind. Ltd., Jay Shree Tea & Ind. Ltd., Warren Tea Ltd. Tea, Williamson Tea Assam Ltd., and Parry Agro Ind. Ltd. The following companies had the E.P.S. below the tea industry
like Dhundseri Tea & Ind. Ltd., Greenline Tea & Exports Ltd. and Rossell Ind. Ltd

9. It can be generalized that the dividend payout ratio of Goodricke Group Ltd. was the highest followed by Warren Tea Ltd., Parry Agro Ind. Ltd., Tata Tea Ltd., and AFT Ind. Ltd.. The following companies showed the dividend payout ratio was lower than the average ratio of tea industry like Dhunseri Tea & Ind. Ltd., Greenline Tea & Exports Ltd., Jay Shree Tea & Ind. Ltd. and Rossell Ind. Ltd.

Chapter-5: Analysis of Financial Structure

A financial analysis should not be interest in the performance of a business enterprise during a short period of time because a company, which is financially sound today, may eventually lose its strength in the long period if it suffers prolonged losses

1. The combined total debt-equity ratio of selected tea companies shows fluctuating trend. The average ratio of the tea industry was 0.48 times. On the basis of analysis, it can be concluded that the highest ratio was of 0.92 times of Parry Agro Ind. Ltd. followed by Rossell Ind. Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Greenline Tea & Exports Ltd., Tata Tea Ltd., Goodricke Group Ltd.,
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Williamson Tea Assam Ltd., AFT Ind. Ltd. and Warren Tea Ltd.

2. On the basis of above analysis it can be concluded that the highest long term debt equity ratio was of 1.00 times of Rossell Ind. Ltd. followed by Parry Agro Ind. Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Tata Tea Ltd., Greenline Tea & Exports Ltd., Williamson Tea Assam Ltd., Warren Tea Ltd., Goodricke Group Ltd. and AFT Ind. Ltd. The average of combined long term debt-equity ratio of selected tea companies was 0.35 times. The ratio in AFT was zero during the study period due to negative net worth. Most of the companies under the study did not maintained the standard norm of 1:1. In Goodricke Group Ltd. The ratio was 0.04 times which was lowest among all the companies under the study and the company was more relied on owner’s funds.

3. The average Capital Gearing Ratio of AFT Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd., Tata Tea Ltd., Warren Tea Ltd. and Williamson Tea Assam Ltd. were 0.17, 0.32, 0.47, 0.39, 0.14 and 0.30 percent respectively, which were lower than the average ratio of 0.48 percent of tea industry. Average Capital Gearing Ratio of tea industry was fluctuating during the study period i.e. from
1997-1998 to 2002-2003. From the analysis we can say that the performance of Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd. and Parry Agro Ind. Ltd. were better as compared to all other companies, where as the performance of AFT Ind. Ltd., Dhunseri Tea & Ind. Ltd., Williamson Tea Assam Ltd., Warren Tea Ltd. and Tata Tea Ltd. were satisfactory compared to other companies selected under the study.

4. Average Financial Leverage Ratio of tea industry was fluctuating during the study period i.e. from 1997-1998 to 2002-2003. The average Financial Leverage Ratio of Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd., Parry Agro Ind. Ltd. and Warren Tea Ltd. were 2.43, 2.36, 4.67, 2.03 and 1.95 percent respectively which were greater than the average ratio of 1.72 percent of tea industry. The average Financial Leverage Ratio of AFT Ind. Ltd., Jay Shree Tea & Ind., Rossell Ind. Ltd., Tata Tea Ltd. and Williamson Tea Assam Ltd. were 1.21, 0.06, 0.39, 1.30 and 0.80 percent respectively which were lower than the average ratio of 1.72 per cent of tea industry. The ratio was increased tremendously due to increasing rate of wages and salaries, cost of raw materials and decreasing trend in sales price of Tea. From the above performance of Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd. and Parry Agro Ind. Ltd. were better as compared to all other companies under the study.
5. Fixed assets to net worth ratio have been calculated for ascertaining the percentage of fixed assets financed by owners of the company. The ratio of Rossell Ind. Ltd. was negative indicating that company had financed its fixed assets by borrowing funds which indicates a weak financial position. The highest ratio was of 1.36 times in Greenline Tea & Exports Ltd. followed by Warren Tea Ltd., Williamson Tea Assam Ltd., Goodricke Group Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Tata Tea Ltd. and AFT Ind. Ltd.

6. The proprietary ratio of the tea industry showed downward trend during the span of research period, which meant that the tea industry was using outsider’s liabilities in the total asset. The average ratio of the tea industry was 55.98 percent. The ratio of the tea industry was ranged between 45.37 to 71.82 percent during the study period. It can be concluded that the highest ratio of 86.54 percent in Warren Tea Ltd. followed by AFT Ind Ltd., Greenline Tea & Exports Ltd. and Tata Tea Ltd. The average ratio of Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Williamson Tea Assam Ltd. were lower than the average ratio of the tea industry.
7. The net fixed assets to long-term debt ratio have been calculated for adjusting the long-term financial strength. Looking the tea industry, as the whole the ratio was always more than one except AFT Ind. Ltd. Indicating a sufficient security available for long-term creditors. On the basis of the analysis it can be concluded that the highest ratio of the company was of 132.39 times in Goodricke Group Ltd. followed by Warren Tea Ltd., Williamson Tea Assam Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Tata Tea Ltd. and Dhunseri Tea & Ind. Ltd.

8. The combined interest coverage ratio of selected tea companies under the study recorded decreasing trend during the study period. It was dropped from 12.85 times in 1997-1998 to 0.51 times in 2002-2003. In comparison of the average ratio of the company lowest ratio was minus 0.91 times and highest was 28.70 times. The combined average ratio of the tea industry was 5.8 times. Except AFT Ind. Ltd. and Tata Tea Ltd. none of the companies under the study were registered a higher ratio than the average ratio of the tea industry. Of course, most of the tea companies under the study shows that the interest coverage ratio was sufficient enough to cover its fixed interest charges but Greenline Tea & Exports Ltd. and Rossell Ind. Ltd. were not able to meet the fixed interest charges.
Chapter- 6: Analysis of Working Capital

Investment in short term funds generally assume the form of working capital. The skills of the working capital management are rather unique; through their goals are the same as in managing the current assets individually. Working capital has been defined in two ways: The different between current assets and currents liabilities (The net working capital approach) and the total of current assets employed (gross working capital approach). For the purpose of the present analysis the net working capital approach has been taken in to consideration. The management of working is one of the most important facets of financial management. The objective of working capital management is to manage current assets and current liabilities in such a way that an acceptable level of networking is maintained so as to protect and preserve liquidity and profitability of the firm.

1. The current ratio in the tea industry on the whole depicts a decreasing trend during the period of study. The average of tea industry was 1.4 times. On comparing the average current ratio of the companies with the average ratio of tea industry, we can say that the performance AFT Ind. Ltd., Jay Shree Tea & Ind. Ltd., Tata Tea Ltd. and Warren Tea Ltd. was better. The average ratio of the rest companies had the lower than the average ratio of the tea industry.
2. On the basis analysis of quick ratio it can be said that the quick ratio of Jay Shree Tea & Ind. Ltd. was the highest followed by AFT Ind. Ltd. Tata Tea Ltd., Warren Tea Ltd., Dhunseri Tea & Ind. Ltd. and Goodricke Group Ltd. Remaining companies under the study did not hold a reasonable and satisfactory position of Liquidity.

3. Debtors turnover ratio shows the firms efficiency in realigning the debtors. The debtor turnover ratio in tea industries taken as a whole revealed a fluctuating trend with an average ratio of 17.98 times. In Most of the companies under the study was more than 10 times which indicates efficient management and utilisation of assets. The Debtor turnover ratio in AFT Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Williamson Tea Assam Ltd. was higher than the combined average of tea industry. The rest of the selected companies under the study such as Goodricke Group Ltd., Dhunseri Tea & Ind. Ltd., Greenline Tea & Exports Ltd., Jay Shree Tea & Ind. Ltd. and Warren Tea Ltd. had average ratio was lower than the average ratio of the tea industry.

4. The creditor’s turnover ratio of the tea industry depicts a decreasing trend during the study period except the last year of the study. The combined average ratio of industry was 8.21 times. On comparing the average creditor’s turnover ratio with the average ratio of the tea industry, we can say that the performance of Rossell Ind. Ltd., Parry Agro
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Ind. Ltd., Williamson Tea Assam Ltd. and Dhunseri Tea & Ind. Ltd.

5. Average collection period Greenline Tea & Exports Ltd., Jay Shree Tea & Ind. Ltd. was more than 50 days it means that these companies efficiency of collection of debt from debtors was not good. However, Collection period in AFT Ind., Parry Agro Ind. Ltd., Goodricke Group Ltd., Rossell Ind. Ltd. and Williamson Tea Assam Ltd. was less than 30 days indicates that these companies collected their debt from the debtors efficiently which also shows a good liquidity position of the companies, as the quality of debtor's was good.

6. We can said from the ratio of Average days of payment to creditors that Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Warren Tea Ltd. maintain a quick disposal of creditor's where as the remaining companies like AFT Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd., Williamson Tea Assam Ltd. adopted a relaxed payment policy to creditor's.

7. On the basis of above analysis it can be said that Dhunseri Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd., Warren Tea Ltd. and Williamson Tea Assam Ltd. had the lower average ratio of gross working capital cycle from
the average ratio of the tea industry. On the other hand AFT Ind. Ltd., Goodricke Group Ltd., Greenline Tea & Exports Ltd., Jayhree Tea & Ind. Ltd., and Tata Tea Ltd. had showed the average ratio of gross working capital cycle were above the average ratio of the tea industry.

8. On the basis of Net working capital cycle analysis it can be said that in AFT Ind. Ltd., Dhunseri Tea & Ind. Ltd., Parry Agro Ind. Ltd., Warren Tea Ltd. and Williamson Tea Assam Ltd. had the average ratio was lower from the average ratio of the tea industry. On the other hand companies like Goodricke Group Ltd., Greenline Tea & Exports Ltd., Jay Shree Tea & Ind. Ltd., Rossell Ind. Ltd. and Tata Tea Ltd. had the average ratio was higher than the average ratio of tea industry.

9. On the basis of the analysis it can be said that average ratio of Inventories to Gross Working Capital in AFT Ind. Ltd., Greenline Tea & Exports Ltd., Parry Agro Ind. Ltd., Warren Tea Ltd. and Williamson Tea Assam Ltd. had the lower than the average ratio of the tea industry where as the average ratio of the Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Tata Tea Ltd. had the higher than the tea industry.
10. The inventory to working capital ratio was not satisfactory as a whole. Due to high value of inventory, there was insufficient coverage of working capital in companies. However the ratio of Warren Tea Ltd. and Williamson Tea Assam Ltd. was less than 50 percent, which reflects that the liquidity poison of these companies was sound. It suggests that remaining companies should serious efforts to reduce the volume of inventory.

11. On the basis of stock turnover ratio analysis it can be said that the ratio of tea industry had a fluctuating trend during the study period with an average ratio of 16.72 times. The stock turnover ratio of Williamson Tea Assam Ltd., Warren Tea Ltd. and AFT Ind. Ltd. had the average ratio was higher and followed by Parry Agro Ind. Ltd., Jay Shree Tea & Ind. Ltd., Rossell Ind. Ltd., Tata Tea Ltd., Goodricke Group Ltd. and Greenline Tea & Exports Ltd.

Chapter- 7: Analysis of Activity

Turn-over ratios reflected how efficiency the company is managing its resources. These ratios express relationship between the level of sales and the investment in various assets. Turnover ratios affect the overall profitability of a
company to a large extent. A study of turnover of various assets revealed the following observations:

1. Total assets turnover ratio of tea companies showed the trend towards declining through the study period. The ratio varied from 0.99 times in 1997-1998 to 0.67 times in 2002-2003. The combined average ratio of the tea companies was less than the one time in most of the years because increase in the amount of assets due to huge expansion and development programme. Thus, in addition to investment in various assets could not result in proportionate in sales. The average of the combined average ratio of the selected tea companies was 0.80 times. The ratio was satisfactory and up to the mark.

   It can be also concluded from the above analysis that the highest ratio was 1.31 times in Goodricke Group Ltd. followed by Williamson Tea Assam Ltd., Rossell Ind. Ltd., Warren Tea Assam Ltd., AFT Ind. Ltd., Jay Shree Tea & Exports Ltd., Parry Agro Ind. Ltd., Tata Tea Ltd., Dhunseri Tea & Ind. Ltd. and Greenline Tea & Ind. Ltd.

2. The average gross fixed assets turnover ratio in the selected tea companies under the study was decreasing throughout the study period. The ratio was deceased from 1.62 times in 2002-2003 to 1.01 times in 2002-2003. The average ratio of the tea industry was 1.32 time. It can be also concluded from the above analysis that the highest ratio
was in Tata Tea Ltd. followed by Parry Agro Ind. Ltd., Goodricke Group Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Warren Tea Ltd., AFT Ind. Ltd., Williamson Tea Assam Ltd., Rossell Ind. Ltd. and Greenline Tea & Exports Ltd.

3. The Net fixed assets turnover ratio ranged between 2.68 times to 4.83 times in AFT Ind. Ltd. The ratio was always more than one in Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Tata Tea Ltd. and Warren Tea Ltd. The average ratio of all these companies had the above than the combined average of the tea industry. Analysis shows that the highest Net fixed assets turnover ratio was found in the Goodricke Group Ltd. followed by AFT Ind. Ltd., Tata Tea Ltd., Jay Shree Tea & Ind. Ltd., Williamson Tea Assam Ltd., Warren Tea Ltd., Dhunseri Tea & Ind. Ltd. and Greenline Tea & Exports Ltd.

4. The current assets turnover ratio of tea industry registered a fluctuating trend during the study period. It was ranged between 1.48 times in 2002-2003 to 1.68 times in 1997-1998 with an average of 1.62 times. The ratio was more than one times in Goodricke Group Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea Ind. Ltd., Tata Tea Ltd., Warren Tea Ltd., and Williamson Tea Assam Ltd. It may be concluded that the
utilization of current assets was efficient and satisfactory in all the companies under the study. It can be also said that the performance of Rossell Ind. Ltd. was the best followed by Parry Agro Ind. Ltd., Goodricke Group Ltd., Tata Tea Ltd., Warren Tea Ltd., Williamon Tea Assam Ltd., Dhunseri Tea & Ind. Ltd., Greenline Tea & Exports Ltd., Jay Shree Tea & Ind. Ltd. and AFT Ind. Ltd.

5. Operating Expenses Ratio of tea industry showed increasing trend throughout the study period. The average ratio of the selected companies was increased from 79.53 percent in 1997-1998 to 110.87 percent in 2002-2003. The average of the average ratio was 95.58 percent. In the last two years, the average ratio of the selected tea companies showed minus operating expenses ratio (loss). Operating expense ratio in AFT Ind. Ltd. was showing a good position of operating expenses followed by Tata Tea Ltd., Warren Tea Ltd., Williamson Tea Assam Ltd., Dhunseri Tea & Ind. Ltd. and other selected companies under the study.

6. It can be generalized that the average raw material to sales ratio of the tea companies under the study showed increasing trend throughout the study period. The ratio was the highest 31.25 percent in Dhunseri Tea & Ind. Ltd. followed by Jay Shree Tea & Ind. Ltd., Tata Tea Ltd., Parry
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Agro Ind. Ltd., Goodricke Group Ltd., Rossell Ind. Ltd. and other selected companies.

7. Power and fuel to sales ratio of tea industry was showing increasing trend throughout the study period. The ratio was increased from 5.16 percent in 1997-1998 to 8.74 percent in 2002-2003. The average ratio of the tea industry was 6.68 percent. The ratio was lowest 4.26 percent in Tata Tea Ltd. followed by Warren Tea Ltd., Dhunseri Tea & Ind. Ltd., Jay Shree Tea & Ind. Ltd., Goodricke Group Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Williamson Tea Assam Ltd. In the companies like Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Williamson Tea Assam Ltd. had the ratio was very high, so company was advised to cut their power and fuel expenses to increase its profitability.

8. Wages and salaries to sales ratio was the highest in Rossell Ind. Ltd. followed by Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd., Warren Tea Ltd. and Williamson Tea & Exports Ltd. respectively. The ratio was the lowest in Greenline Tea & Exports Ltd. It can be concluded that amount of wages and salaries was increasing year by year on account of regular increasing trend in the wages and salaries due to increased in dearness allowance which is linked with the cost of living.
index number. It is suggested that wages should be linked with labour productivity.

9. The ratio of combined selected tea companies shows increasing trend during the study period i.e. from 1997-1998 to 2002-2003. The average ratio of the tea industry was 3.42 percent. The average ratio of Greenline Tea & Exports Ltd., Rossell Ind. Ltd., Warren Tea Ltd., and Williamson Tea Assam Ltd. were higher than the average ratio of the tea industry and the ratio of AFT Ind. Ltd., Dhunseri Tea & Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., and Tata Tea Ltd. were lower than the average ratio of the tea industry.

10. The percentage of selling & marketing to sales were observed the highest in Tata Tea Ltd. during the most of the years of the study period compared to the other tea companies. The share of these expenses were less than 3.56 percent in Greenline Tea & Exports Ltd, Jay Shree Tea & Ind. Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. and Warren Tea Ltd.

11. The financial charges to sales ratio of combined tea companies indicated a fluctuating trend. It was varied from 4.98 percent in 1998-1999 to 9.25 percent in 2001-2002.
during the study period. The ratio of the companies like Dhunseri Tea & Ind. Ltd. Greenline Tea & Exports Ltd., Parry Agro Ind. Ltd., Rossell Ind. Ltd. were higher than the average ratio of the tea industry, while the companies like Aft Ind. Ltd., Goodricke Group Ltd., Jay Shree Tea & Ind. Ltd., Tata Tea Ltd., Warren Tea Ltd. and Williamson Tea Assam Ltd. Were lower ratio than the average ratio of the tea industry.

Suggestions:
1. The companies should increase the production so as to get economies of the large-scale production. It will assist in raising the rate of return on capital employed.
2. In order to increase the profitability of the companies, it is suggests to control the cost of goods sold and operating expenses. The management should try to adopt cost reduction techniques in their companies to get over this critical situation.
3. The quantum of sales generated should be improved impressively in order to promote better capital turnover ratio and to enjoy higher returns on investments.
4. Since the industry could not pay regular and fair dividend, the shareholders are disguised and disinterested about the performance of the companies. This particular trend is not conductive for future expansion of industry in India. Therefore, the
managements should put in sincere and committed efforts to improve the profitability of the companies in order to restore their financial health.

5. The Government can give a boost to the Tea Industry by reducing the taxes and percent of VAT.

6. By adopting modern cultivating tearing and crushing process should increase the labor productivity. The Tea Companies should implement that process and productivity based wage policy.

7. The tea companies should reduce selling and marketing expenses by selecting and using proper marketing channel and proper mixing of product in the market.

8. The taxes and VAT on Tea has been continuously rise up during the study period, should be lowered down so that the cost of production and selling price of tea reduce and thus, sales of tea can be further promoted.

9. The Tea Industry is labour intensive in nature and the policy of purchase of fixed assets should be carefully planned and reviewed so that the funds may be properly utilized.

10. The Tea Industry is matching the amount of working capital with the sales trends. Where there is deficit of working capital, they should try to build on adequate amount of working capital.
11. Quality of tea should improve through different types of research and development programmes.

12. Reduction of cost done through different cost reduction and cost effectiveness techniques in every segment of operation.

13. Infrastructural development and improvement is basic requirements at service levels for the boosting of the industry.

14. Tea industry being an export oriented industry plays a significant role for the earning of foreign exchange, therefore government should take appropriate steps to increase the export of tea.

15. Tea industry provides a great employment opportunity mainly for the backward classes and tribal, therefore government should develop the industry for generating employment opportunity particularly in rural area and for the backward classes and tribal and improve economic condition.
BIBLIOGRAPHY

BOOKS:


v Bhayani S. J.: Practical Financial Statements Analysis, Raj Book Enterprises, Jaipur, 2004


v Chakraborty, S. K.: New Perspective in Management Accounting, the Macmillian Company of India Ltd.


v Choyal B. R. : Financial Management of State Enterprise, Print well Publisher, Jaipur, 1986

Dave N. V.: “Industrial Sickness and Some key areas of Management” A thesis of PH. D. in faculty of Commerce, Saurashtra University, Rajkot, 1984


Franko Modigliani and Miller M: "The cost of Capital, Corporation Finance and the Theory of Investment"


Gower Press, Essex, 1961

v Gupta L. N.: Profitability of Government Companies,
Oxford Pub. Co.-, New Delhi, 1977

v Gupta R. K.: Profitability, Financial Structure and
Liquidity, Print well Publishers, Jaipur, 1990

v Gupta R. L.: Financial Statement Analysis, Sultan
Chand & Sons, New Delhi, 1998.

v Gupta S. P.: Management Accounting, Sahitya

v Guthaman H. G.: “Corporation Finance Principles and
Problems” Chaitanya Publishing House, Allahabad.

v Guthmann Harry G.: Analysis of Financial Statements,
Prentice Hall of India, (P) Ltd., New Delhi, 1964

v Hampton J. J. “Financial Decision Making: concepts,
problems and cases” prentice Hall of India, New Delhi.

v Hermanson Rozer H.: Accounting principles, plano:
taxes, business publications inc. 1983

v Hingorani and Ramanathan: Management Accounting,
Sultan Chand & Sons, New Delhi, 1973

v Howard and uptown: Introduction to Business Finance, Mc
graw Hill, New York

v Howard L. R.: Management Accountancy” Macdonald
and Evans Ltd., London.

v Hunt, Pearson and Williams, Charleen and Donaldeon,
v Irwin Richard D.: Block and Hirt “Foundations of Financial Management”.


v Jain Sashi: “A Working capital management of pharmaceutical Industry in India”, A thesis submitted for the degree of Ph. D., Dept. of commerce and business administration” Saurashtra university, Rajkot.


Kulshrestha N. K.: Analysis of Financial Statements or Paper Industry in Indian, Navman Prakashan, Aligrah,


Libermen, E. Debb., Maurice and others: Theory of Profit in a Socialist Economy, Peoples Publishing House, Bombay


Maheshwari S. N.: Management Accounting and Financial Control, Sultan Chand & Sons, New Delhi

Man-Mohan & Goyal: Principles of Management Accounting, Sahitya Bhavan, Agra, 1987


Matlessich, Richards, Accounting and Analytical Methods, Richard D. Erwin Inc. 1964.


Om Prakash: Ratio Analysis for Management In New Perspective, Himalaya Publishing House, Mumbai,


BIBLIOGRAPHY


Vijaya saradhi S. Y. & S. Y. Mc Muller “working capital investment”


Winston Korn J. and Thomas Boyd.: Accounting for Management Planning and Decision Making.

ARTICLES:


Kar, A. P.: “Need for Cost and Management Control in Indian Tea Industry”.


“Indian Tea Scenario”, an article published in The Journal of Indian Tea Association, Kolkata.


BULLETINS, JOURNALS AND NEWS PAPERS:

Annual Reports of Selected Tea Companies from 1997-1998 to 2002-2003

Bombay Stock Exchange Official Directory

Business India

Business Standard

Business Today

Charted Financial Analyst

Commerce

Facts For You

Fortune India

Management Accountant

Management Today

RBI Bulletin

Tea Digest of India

The Charted Accountant
BIBLIOGRAPHY

v The Journal of Indian Tea Association
v The Economic Times
v The Indian Express
v The Times of India
v The Financial Express

DATA BASE

v CMIE Prowess
v Capital Line 2000

WEB SITES

v www.india.infoline.com
v www.capital.market.com
v www.bisnet.com
v www.indiatea.org
v www.teaution.com
v www.teaindia.com/faqs.htm
v www.teaindia.org
v www.valuenotes.biz/research/teatoc.asp