Introduction and Design of the Study
### CHAPTER I

**INTRODUCTION AND DESIGN OF THE STUDY**

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1.1 INTRODUCTION

Disinvestment in Public Enterprises constitutes important aspects of structural reforms initiated by the Government of India to bring back the ailing public sectors. The long-term objective behind this policy is to enhance the efficiency and improve the performance of public sector units and realign them with the developments in industrial and economic programme initiated under liberalization programme. Twenty years have passed since the first phase of privatization was launched. Therefore, it is the time to evaluate the performance of that Public Sector Units in which the disinvestment was implemented. Disinvestments in Public Sector Units aim at generating financial resources for the government to meet the difficult budgetary situation.

In recent years, privatization is being promoted by several countries as a panacea for most of the ills that liberate the efficient functioning of the Public Sector Enterprises. Privatization connotes a wide range of ideas. In a narrow sense, privatization implies the induction of private ownership in publicly owned enterprises. But in a broader sense, it connotes, besides private ownership, the induction of private management and control in Public Sector Enterprises.

For instance, privatization, in the broadest sense, may take the form of either 'management transfer' or 'marketisation'. Management transfer may or may not involve ownerships transfer. Several options are available to transfer management rights to the private sectors. Important among them are leasing, branching, and sub-contracting. On the other hand, privatization through 'marketisation' measures is less spectacular but often a very effective way of introducing reform. Such measures are intended to improve the efficiency of the organization even when full de-nationalization has not been undertaken. They, intact, inject the spirit of commercialization and market discipline in public enterprises. The measure includes introduction of incentive payments not only to the blue collar workers but also to the white collar employees avowing a public enterprises to acquire and input across the market, instead of producing it from within itself i.e., by contracting out by insisting that the public enterprises should go to the capital markets for capital funds, exception being made for non-commercial projects or by allowing private sector to enter into areas hitherto reserved for the public sector.
In a narrow sense, privatization implies any measure which leads to transfer of ownership from the public to the private sector. The ownership transfer could be either full or partial. The higher the proportion of transfer of ownership to the individuals or cooperatives or corporate sector, the greater is the degree of privatization (subject to one qualification, namely, that the government impact as a shareholder might, in practice, tend to be out of proportion to its ownership interest). Privatization through the measure of ownership can take three forms:

Total "denationalization" It implies a complete transfer of ownership of a public enterprise to private hands or to employees. "Joint venture"-It implies partial introduction of private ownership. "Liquidation"-It represents a sale of assets to someone who may move them away from their erstwhile activity.

1.2 STATEMENT OF THE PROBLEM

Under utilization of installed capacity was a major reason for the low level of profitability and poor performance in Public Sector Enterprises particularly in case of capital intensive units. A large number of these enterprises have operated at less than 50 per cent of their capacity for a number of years. It affected the operational efficiency of the enterprises.

Generally, prices are determined at a level that would cover total cost (including taxes) and provide a sufficient rate of return over and above this. As against this, the pricing policy in Public Sector Enterprises is determined by the political and social objectives rather than financial objectives. Lack of rational pricing policy has resulted in poor profitability and has left leaving little profits for financing the expansion programme.

Most public Sector Enterprises are over capitalized and hence productivity of capital is low due to poor planning, heavy expenditure during construction, wrong selection of project sites and allocation of funds on non-productive heads.

Excessive dependence on external sources of funds and consequent interest payment obligations affected the commercial viability of most Public Sector Enterprises. The poor generation of internal sources is attributed to the poor financial performance of
these enterprises. Added with this lack of autonomy, political considerations in filling top management positions and frequent interference into the affairs of day-to-day administration by respective ministers reduced the flexibility in taking up commercially viable decisions and thereby incurred large amount of opportunity losses with high opportunity cost involved for the government is forced to disinvestments of Public Sector Enterprises.

1.3 NEED OF THE STUDY

20 years have passed since the first phase of privatization was launched. Therefore, it is the time to evaluate in the performance of those Public Sector Enterprises in which the disinvestments was implemented. Public Sectors are expected to achieve highly commendable performance and prospective in growth. The well established fact is that the Public Sector Enterprises has been able to generate employment opportunities, Profitability and operational efficiency which have driven the Indian economic growth right from the independence. Over the period significant preferences have been given in the allocation tax fund and other policy making by the Indian government for their better performance prospective, but contrary to expectation, Public Sector Enterprises tends to react adversely with characterizing as over invested capital with poor return, over employed with low yields and productivity, excessive capital equipment with under utilized capacity, bearable controls with lower efficiency and abandoned assets with low growth. This trend has attracted the attention of policy makers, politicians, bureaucrats, academicians, researchers and the public to find out the reasons for such a short fall in performance not only against the stated objectives but also their stand on adopting sound commercial principles of viability.

Thus, there is a considerable need to examine and analyze the operational aspects of select Public Sector Enterprises which dominate the entire industrial base of our country.

1.4 OBJECTIVES OF THE STUDY

The objectives of this study are:

a) To analyze the financial performance of select public sector enterprises.

b) To evaluate the management efficiency in terms of proper utilization of Public Sector Enterprises resources.
c) To study the disinvestment process practice in Public Sector Undertakings in India.

d) To study the performance of Public Sector Undertakings before and after the implementation policy of disinvestment, and

e) To offer findings and suggestions for effective functions of Public Sector Enterprises in India.

1.5 METHODOLOGY

In order to evaluate the performance of Public Sector Enterprises to privatization programme, the present study has been chosen confining with five Public Sector Units in which the partial disinvestment was made during the year 1993-94.

The year 1993-94 records the first attempt by Government of India to sell the shares of selected public sector enterprises in mixed bundles through open auction to financial institutions. The whole of companies whose shares are bundled in the first stage of Disinvestment constitutes the sample for the present study. Although the Disinvestment programme is continuing with a few more additional doses of disinvestments in few more Public Undertakings, the study has limited to the initially disinvested ones so that performance of those Public Sector Undertakings after the disinvestments, for a sizable period could be studied and a meaningful conclusion can be drawn. The sample of Public Sector Undertakings belongs to a total of five industry groups namely Petroleum, Fertilizers and Chemicals, Steel and Mineral, Medium and Light Engineering and Telecommunication Industry Group.

1.6 SOURCES OF DATA

The data used for the present study are secondary in nature and were obtained from various issues of Public Enterprise Surveys published by "The Bureau of Public Enterprises", Ministry of Finance, Government of India, New Delhi, and the audited Balance Sheets and Income and Expenditure Statements of the reported enterprises, as compiled by Bureau of Public Enterprises.
1.7 HYPOTHESES

1. There exists significant difference in the mean ratios between pre and post liberalization period in the industries of five sectors namely Petroleum, Fertilizers and Chemicals, Steel and Minerals, Medium and Light Engineering and Telecommunication groups.

2. There exists significant relationship between Key Financial Ratios namely dependent and independent variables of select industries under five sectors during pre and post disinvestment period.

3. There exists significant trend during the pre and post disinvestment period among the financial parameters in the five groups of companies.

1.8 STATISTICAL TOOLS EMPLOYED

The following statistical tools were used for analysis and interpretation of the data collected. They are summary statistics- Mean, standard Deviation, Factor analysis, Discriminate Function Analysis, Multiple Regression, Test of Significance, Trend Analysis of Variance, Inter Correlation Matrix Regression and Path Analysis

STATISTICAL TOOLS USED FOR ANALYSIS AND INTERPRETATION OF RESEARCH DATA

The following statistical tools are used for the analysis and interpretation of data:

1. **Summary statistics** such as minimum value, maximum value, mean, coefficient of variation, and compound growth rate have been used to summarize the performance financial parameters during the pre and post disinvestment periods.

2. **Factor analysis**, a multivariate statistical technique was used to condense and simplify the set of large number of variables (financial ratios) into smaller number of variables called factors, and to clustering of variables into groups called factors.

3. **Discriminant function** analysis was performed to identify the variables which discriminate between years.
4. Step wise linear **multiple regression** model was employed fitted to study the factors influencing the ROCE and the adequacy as well as significance of the model was also tested using the **analysis of variance** technique and **coefficient of determination** $R^2$.

5. **Tests of significance** based on **t-statistics** have been availed performed to compare the mean performance of the financial parameters between pre and post disinvestment periods.

6. **Trend analysis** was performed to study the pattern of growth of financial parameters in the industries as well as in sectors.

7. **Inter-correlation matrix** was obtained to study the relationship between the financial parameters.

8. **Path analysis** is performed to study the direct contribution of explanatory variables on the dependent variables and their indirect contribution via other explanatory variables.

1.9 **RATIOS ANALYSIS**

The data has been analysed with the help of various ratios. Ratios are the powerful tool for performance measurement, where the relationship of one item in terms of other item or group of items are studied to give meaningful inferences. Various ratios like profitability ratio, liquidity ratio, quick ratio, current ratio, capital gearing ratio, debit equity ratio, assets utilization ratio and turnover ratio have been calculated to evaluate the overall performance during the period of study for comparative performance analysis ‘t’ test and ‘f’ test were employed.

1.9.1 **DEBT – EQUITY RATIO**

This ratio relates all the creditors’ claims on assets to the owner’s claims. It is computed by dividing the total debt both current and long-term of the business by its tangible new worth consists of common stock and reserve and surplus.

$$
\text{Debt Equity Ratio} = \frac{\text{Total Debt}}{\text{Net Worth}}
$$
1.9.2 DEBT TO TOTAL CAPITAL RATIO

The relationship between creditors' funds and owner's capital can also be expressed in terms of another leverage ratio. This is expressed by the debt to total capital ratio. Here, the outside liabilities are related to the total capitalisation of the firm and not merely to the shareholder's equity. Essentially, this type of capital structure ratio is a variant of the DIE ratio described above. It can be calculated in different ways.

One approach is to relate the long-term debt to the permanent capital of the firm. Included in the permanent capital are shareholders' equity as well as long-term debt. Thus,

\[
\text{Debt to total capital ratio} = \frac{\text{Long-term debt}}{\text{Permanent capital}}
\]

Another approach of calculating the debt to capital ratio is to relate the total debt to the total assets of the firm. The total debt of the firm comprises long-term debt plus current liabilities. The total assets consists of permanent capital plus current liabilities. Thus

\[
\text{Debt to total assets/capital ratio} = \frac{\text{Total debt}}{\text{Total assets}}
\]

\[
= \frac{\text{Total debt}}{\text{Permanent capital} + \text{Current liabilities}}
\]

Yet another variant of the Debt Equity Ratio is to relate the owner's or proprietor's funds with total assets. This is called the proprietary ratio. The ratio indicates the proportion of total assets financed by owners. Symbolically it is equal to:

1.9.3 CURRENT RATIO

It is computed by dividing current assets by current liabilities. A higher current ratio explains that the company will be able to pay its debts maturing within a year. The benchmark of current ratio is 2:1

\[
\text{Current Ratio} = \frac{\text{Current assets}}{\text{Current liability}}
\]
1.9.4 RETURN ON INVESTMENTS

Return on Investments, as already observed, and the profitability ratios can also be computed by relating the profits of a firm to its investments. Such ratios are popularly termed as return on investments (ROI). There are three different concepts of investments in vogue in financial literature: assets, capital employed and shareholders' equity. Based on each of them, there are three broad categories of Return on Investments. Namely they are (i) return on assets, (ii) return on capital employed, and (iii) return on shareholders' equity.

1.9.5 RETURN ON ASSETS

Return on Assets the profitability ratio is measured in terms of the relationship between net profits and assets. The Return on Assets may also be called profit-to-asset ratio. There are various possible approaches to define net profits and assets, according to the purpose and intent of the calculation of the ratio. Depending upon how these two terms are defined, many variations of Return on Assets are possible.

The concept of net profit may be (i) net profits after taxes, (ii) net profits after taxes plus interest, and (iii) net profits after taxes plus interest minus tax savings. The Assets may be defined as (i) total assets, (ii) fixed assets, and (iii) tangible assets. Accordingly, the different variants of the Return on Assets are:

1. Return on assets (ROA) = \frac{\text{Net profit after taxes}}{\text{Average assets}} \times 100

The ROA based on this ratio would be an underestimate as the interest paid to the creditors is excluded from the net profits. As a matter of fact, the real return on the total assets is the net earnings available to owners (EAT) and interests as assets are financed by owners as well as creditors. A more reliable indicator of the true return on assets, therefore, would be the net profits inclusive of interest.

2. ROA = \frac{\text{Net profit after taxes} + \text{Interest}}{\text{Average total assets}} \times 100
3. ROA = \[ \frac{\text{Net profit after taxes + Interest}}{\text{Average fixed assets}} \] x 100

4. ROA = \[ \frac{\text{Net profit after taxes + Interest}}{\text{Average fixed assets}} \] x 100

These measures, however, may not provide correct results for inter-firm comparisons particularly when these firms have markedly varying capital structures. To measure operating performance therefore the equation should be substituted by the following.

\[ \text{ROA} = \frac{\text{EAT + Interest - Tax advantage on interest}}{\text{Average total assets/Tangible assets/Fixed assets}} \]

This equation correctly reports the operating efficiency of firms as if they are all equity-financed.

The Return of Assets measures the profitability of the total funds/investments of a firm. This, however, throws no light on the profitability of the different sources of funds which finance the total assets. These aspects are covered by other Return on Investments.

**1.9.6 INVENTORY TURNOVER RATIO**

It is computed by dividing the cost of goods sold by the average inventory. Thus

\[ \text{Inventory turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Average Inventory}} \]

The cost of goods sold means sales minus gross profit. The average inventory refers to the simple of the opening and closing inventory. The ratio indicates how fast inventory is sold. A high ratio is from the viewpoint of liquidity and vice versa. A low ratio would signify that inventory does not sell days on the shelf or in the warehouse for a long time.
1.9.7 DEBTORS TURN OVER RATIO

Debtors turnover ratio is determined by dividing the net credit sales by average debtors outstanding the year. Thus

\[
\text{Debtors turnover ratio} = \frac{\text{Net credit sales}}{\text{Average debtors}}
\]

Net credit consists of gross credit sales minus returns if any customers. Average debtors is the simple average at the beginning and at the end of the year. The analysis of the debtors turnover ratio supplements the information regarding the liquidity of one item of current assets of the firm. The ratio measures how rapidly debts are collected. A high ratio is indicative of a shorter time lag between credit sales and cash collection. A low ratio shows that debts are not being collected rapidly.

1.9.8 COVERAGE RATIO

The second category of leverage ratios are coverage ratios. These ratios are computed from the information available in the profit and loss account. For a normal firm, in the ordinary course of business, the claims of creditors are not met out of the sale proceeds of the permanent assets of the firm. The obligations of a firm are normally met out of the earnings or operating profits. These claims consist of (i) interest on loans, (ii) preference dividend, and (iii) amortisation of principal or repayment of the installment of loans or redemption of preference capital on maturity. The soundness of a firm, from the viewpoint of long-term creditors, lies in its ability to service their claims. This ability is indicated by the coverage ratios. The coverage ratios measure the relationship between what is normally available from operations of the firms and the claims of the outsiders. The important and coverage ratios are: (i) interest coverage, (ii) dividend coverage, (iii) total coverage, (iv) total cash flow coverage, and (v) debt service coverage ratio.

1.9.9 INTEREST COVERAGE RATIO

It is also known as 'time-interest-earned ratio. This ratio measures the debt servicing capacity of a firm insofar as fixed interest on long-term loan is concerned. It is determined by dividing the operating profits or earnings before interest and taxes (EBIT) by the fixed interest charges on loans. Thus,
Interest coverage = \[ \frac{EBIT}{Interest} \]

It should be noted that this ratio uses the concept of net profits before taxes because interest is tax-deductible so that tax is calculated after paying interest on long-term loan. This ratio, as the name suggests, shows how many times the interest charges are covered by the Earning Before Interest and Taxes out of which they will be paid. In other words, it indicates the extent to which a fall in Earning Before Interest and Taxes is tolerable in the sense that the ability of the firm to service its interest payments would not be adversely affected. For instance, an interest coverage of 10 times would imply that even if the firm's Earning Before Interest and Taxes were to decline to one-tenth of the present level, the net profits available for servicing the interest on loan would still be equivalent to the claims of the creditors. On the other hand, a coverage of five times would indicate that a fall in operating earnings only to upto one-fifth level can be tolerated. From the point of view of the creditors, the larger the coverage, the greater is the ability of the firm to handle fixed-charge liabilities and the more assured is the payment of interest to the creditors. However, too high a ratio may imply unused debt capacity. In contrast, a low ratio is a danger signal that the firm is using excessive debt and does not have the ability to offer assured payment of interest to the creditors.

1.9.10 TOTAL COVERAGE RATIO

While the interest coverage and preference dividend coverage ratios consider the fixed obligations of a firm to the respective suppliers of funds, that is, creditors and preference shareholders, the total coverage ratio has a wider scope and takes into account all the fixed obligations of a firm, that is, (i) interest on loan, (ii) preference dividend, (iii) lease payments, and (iv) repayment of principal. Symbolically,

\[ \frac{EBIT + \text{Lease payment}}{\text{Interest} + \text{Lease payments} + (\text{Preference dividend} + \text{Instalment of principal})/(1 - t)} \]
The coverage ratios mentioned above, suffer from one major limitation, that is they relate the firm's ability to meet its various financial obligations to its earnings. In fact, these payments are met out of cash available with the firm. Accordingly, it would be more appropriate to relate cash resources of a firm to its various fixed financial obligations. The ratio, so determined, is referred to as total cash flow coverage ratio. Symbolically,

\[
\text{Total cash flow coverage} = \frac{\text{EBIT} + \text{Lease Payments} + \text{Depreciation} + \text{Non-cash expenses}}{\text{Lease payment} + \text{Interest} + \frac{\text{Principal repayment}}{(1 - t)} + \frac{\text{Preference dividend}}{(1 - t)}}
\]

The overall ability of a firm to service outside liabilities is truly reflected in the total cash flow coverage ratio the higher the coverage, the better is the ability.

1.9.11 DEBT-SERVICE COVERAGE RATIO

Debt-service coverage ratio is considered as a more comprehensive and apt measure to compute debt service capacity of a business firm. It provides the value in terms of the number of times the total debt service obligations consisting of interest and repayment of principal in instalments are covered by the total operating funds, available after the payment of taxes: Earnings after taxes, EAT + Interest + Depreciation + Other non-cash expenditures like amortisation (OA). Symbolically,

\[
\text{DSCR} = \frac{\sum_{t=1}^{n} (\text{EAT}_t + \text{Interest}_t + \text{Depreciation}_t + \text{OA}_t)}{\sum_{i=1}^{n} \text{Instalment}_i}
\]

The higher the ratio, the better it is. In general, lending financial institutions consider 2:1 as satisfactory ratio.

1.9.12 RETURN ON CAPITAL EMPLOYED

Return on Capital Employed The Return on Capital Employed is the second type of Return on Investments. This is similar to the Return on Investments except in one respect. Here the profits are related to the total capital employed. The term capital
employed refers to long-term funds supplied by the creditors and owners of the firm. It can be computed in two ways. First, it is equal to non-current liabilities (long-term liabilities) plus owners' equity. Alternatively, it is equivalent to net working capital plus fixed assets. Thus, the capital employed basis provides a test of profitability related to the sources of long-term funds. A comparison of this ratio with similar firms, with the industry average and over time would provide sufficient insight into how efficiently the long-term funds of owners and creditors are being used. The higher the ratio, the more efficient is the use of capital employed.

The Return on Capital Employed can be computed in different ways, using different concepts of profits and capital employed.

Thus,

1. \[ \text{ROCE} = \frac{\text{Net profit after taxes}/\text{EBIT}}{\text{Average total capital employed}} \times 100 \]

2. \[ \text{ROCE} = \frac{\text{Net profit after taxes} + \text{Interest} - \text{Tax advantage on interest}}{\text{Average total capital employed}} \times 100 \]

3. \[ \text{ROCE} = \frac{\text{Net profit after taxes} + \text{Interest}}{\text{Average total capital employed} - \text{Average intangible assets}} \times 100 \]

1.9.13 RETURN ON ORDINARY SHAREHOLDERS' EQUITY (NET WORTH)

While there is no doubt that the preference shareholders are also owners of a firm, the real owners are the ordinary shareholders who bear all the risk, participate in management and are entitled to all the profits remaining after all outside claims including preference dividends are fully met in. The profitability of a firm from the owners' point of view should, therefore, in the fitness of things, be assessed in terms of the return to the ordinary shareholders. The ratio under reference serves this purpose.

It is calculated by dividing the profits after taxes' and preference dividend by the average equity of the ordinary shareholders.
Thus,

\[
\text{Return on equity funds} = \frac{\text{Net profit after taxes} - \text{Preference dividend}}{\text{Average ordinary shareholders' equity or net worth}} \times 100
\]

This is probably the single most important ratio to judge whether the firm has earned a satisfactory return for its equity-holders or not. Its adequacy can be judged by (i) comparing it with the past record of the same firm, (ii) inter-firm comparison, and (iii) comparisons with the overall industry average. The rate of return on ordinary shareholders' equity is of crucial significance in ratio analysis vis-a-vis from the point of the owners of the firm.

1.9.14 LEVERAGE RATIOS

Leverage ratios are generally designed to measure the contribution of the company's owners vice-versa the funds provided by its creditors.

(a) Capital Gearing Ratio

Capital gearing refers to the proportion between fixed interest and dividend bearing funds and non-fixed interest or dividend-bearing funds in the total capital employed in the business. The gearing ratio is useful in indicating the extra residual benefits ascending to the equity shareholders.

\[
\text{Capital Gearing Ratio} = \frac{\text{Funds Bearing Fixed Interest}}{\text{Total capital employed}}
\]

1.9.15 COMPOSITION OF LIABILITY /NET WORTH

This ratio is calculated by dividing the total liabilities of the company with the tangible net worth of the company. This ratio reflects the financial soundness and the solvency of the corporate.

1.9.16 ACTIVITY RATIO

Activity ratio reflects how efficiently the companies manages its resources. These ratios express the relationship between the level of sales and the investment in various assets.
1.9.17 TOTAL ASSETS TURNOVER RATIO: NS/TA

This ratio is supposed to measure the efficiency with which total assets have been utilized. A high ratio indicates a high degree of efficiency in assets utilization and a low ratio reflects inefficient use of assets.

\[
\text{Total Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Total Assets}}
\]

1.9.17 't'-TEST

The analysis of the change in performance or otherwise after disinvestment has been carried out by the help of paired 't' test and 'f' test. t-test based on t-distribution and is considered an appropriate test for judging the significance of a sample mean or for judging the significance of difference between the means of two related samples. It can also be used for judging the significance of the coefficients of simple and partial correlations. The relevant test statistic, 't' test is calculated from the sample data and then compared with its probable value based on t-distribution at a specified level of significance for relevant degrees of freedom for accepting or rejecting the null hypothesis. We analyse the significance of the 5% level.

Using the formula paired t-test:

Assuming the said differences are normally distributed and independent, the paired 't'-test is applied 't' test for judging the significance of mean of differences and work out the test statistic 't' test as given below.

\[
D = \frac{\sum D_1}{n}
\]

and the variance of the differences or

\[
(\sigma_{diff})^2 = \frac{\sum D_1^2 - (D)^2 \cdot n}{n-1}
\]
\[ t = \frac{D - 0}{\sigma_{\text{diff}} \sqrt{n}} \]  
with (n-1) degrees of freedom

Where

- \( \bar{D} \) = Mean of differences
- \( \sigma_{\text{diff}} \) = Standard deviation of differences
- \( n \) = Number of matched pairs

This calculated value of it is compared with its table value at a level of significance as use for testing purposes.

### 1.10 SAMPLING DESIGN

**The units select**

For greater clarity and possible comparison of all the 28 selected Public Sector Units which are involved in the first phase of disinvestments have been categorized into five industry groups. They include:

a) Petroleum Group
b) Fertilizer and chemical Group
c) Steel and Minerals Group
d) Medium and Light Engineering Group
e) Telecommunication and Service Group

The sample units belonging to the above groups are as follows: Group and sector-wise list

**Petroleum**

1. Bharat Petroleum Corporation Ltd.,
2. Bongaigaon Refineries Petro-Chemical Ltd.,
3. Cochin Refineries Ltd.,
4. Hindustan Petroleum Corporation
5. Indian Oil Corporation

**Fertilizer and Chemicals**

1. Indian Petrochemicals Corporation Ltd.,
2. Fertilizer and Chemicals Ltd.,
3. Hindustan Organic Chemicals Ltd.,
4. National Fertilizers Ltd.,
5. Rashtriya Chemicals and Fertilizers Ltd.,
Steel and Minerals
1. Steel Authority of India
2. Hindustan Zinc Ltd.,
3. Neyveli Lignite Corporation
4. Dredging Corp. Ltd.,
5. Mineral and Metals Trading Corporation
6. National Aluminum Corporation

Medium and Light Engineering
1. Andrew Yule Company
2. Bharat Electronic Ltd.,
3. Bharat Earth movers Ltd.,
4. Bharat Heavy Electrical Ltd.,
5. Bharat Machine Tools Ltd.,
6. Indian Telephone Industries Ltd.,

Telecommunication Service
1. Mahanagar Telephone Nigam Ltd.,
2. Videsh Sanchar Nigam Ltd.,
3. Hindustan Photo Film Manufacturing Corporation Ltd.,
4. Indian Railway Catering and Tourism
5. State Trading Corporation
6. Shipping Corporation of India
7. Computer Maintenance Corporation Ltd.,


Fertilizer and Chemicals Group: Indian Petrol Chemicals Corporation Ltd., Fertilizer and Chemicals Ltd., Hindustan Organic Chemicals Ltd., Rashtriya Chemicals and Fertilizers Ltd.,

Steel and Minerals: Steel Authority of India Ltd., Hindustan Zinc Ltd., Dredging Corporation Ltd., National Aluminum Corporation, Neyveli Lignite Corporation.

Medium and Steel Engineering: Andrew Yule Company., Bharat Electronics Ltd.,
Indian Telephone Industries Ltd.,
Telecommunication Services: State Trading Corporation, Shipping Corporation of India, Computer Maintenance Corporation Ltd.,

TABLE 1.1

POPULATION AND SAMPLE SIZE

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Population</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>S₁</td>
<td>04</td>
<td>03</td>
</tr>
<tr>
<td>S₂</td>
<td>05</td>
<td>04</td>
</tr>
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<td>07</td>
<td>03</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>18</td>
</tr>
</tbody>
</table>

S₁- Petroleum Group
S₂- Fertilizer and Chemicals Group
S₃- Steel and Minerals Group
S₄- Medium and Steel Engineering
S₅- Tele Communication Service Group

1.11 PERIOD OF THE STUDY


1.12 SCOPE OF THE STUDY

The study relating to the financial performance of selected Central Public Sector Enterprises in India from 1992-93 to 2006-07 has assumed importance in research. The scope of this study is extended to the financial performance of five sectors. For this research study, 18 Central Public Sector Enterprises under the Categories of Petroleum Group, Fertilizer and chemical Group, Steel and minerals Group, Medium and Steel Engineering Group, Tele Communication Service Group have been considered.
1.13 LIMITATION

The study is fully based on secondary data. Hence the limitation of secondary data was inherent the time and cost also were the limiting factors which did not allow the researcher to understand the still more nuances of this problem.

1.14 CHAPTER PLAN

The first chapter is an introductory chapter, which covers statement of the problem, Need for the study, Objectives of the study, Methodology, Statistical tools employed, Sample designs, Scope of the study, limitation and chapter plan.

The second chapter deals with the review of literature and related theories of the study.

The third chapter heading deals with the profile of central public sector enterprises and their structures in India.

The fourth chapter titled is devoted for analysis of financial performance of select public sector enterprises of India.

The fifth chapter called is speared to deal with the comparative analysis of public sector enterprises of profitable position, during the pre and post liberalization.

The sixth chapter being the concluding one, explains the findings of the study besides giving suggestions.