INTRODUCTION
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The State Electricity Boards play an important role in the national economy. They manage a large complex of generating stations and transmission and distribution systems. The State Electricity Boards vary greatly in size. To sustain the economic activities of a country electricity is an essential energy input. Adequate availability of electricity is the primary requisite for industrial and agricultural development, recreation and above all, it is an easy and most convenient source of energy to add to all sorts of comforts in human life. Power is one of the most powerful instruments of social and economic change.

Electric supply industry, in the earlier days, was mostly under the private sector. As the supply to rural areas was less profitable, it was confined only to large towns. Development activities were carried out to suit the needs of the people residing in towns and the few industries located there. Electricity was looked upon as a luxury and used only by comparatively well placed people. Further, electricity was a provincial subject. The work of preparing estimates and
drawing up the list of priorities in respect of projects were developed by provincial Governments, whose stability in most cases was uncertain and whose competence for highly technical decisions was doubtful. Thus during this period, the power supply industry may be said to have developed in a haphazard manner.

The need for rationalisation and expansion of the electricity industry was keenly felt by the political leaders of India long before independence. In 1938, the Indian National Congress appointed a National Development Committee to look into various measures required to be taken up for the development of the economy. This Committee recommended the constitution of the industry on commercial lines under state ownership. The Committee also suggested the formation of an autonomous body with necessary powers for its working. The Government of India, even before the submission of the report, appointed a policy Committee for public works and electric power, as a part of the Reconstitution Committee of the councils. The primary object of the Committee was to deal with the problems arising out of administration, production and distribution of
electricity and to recommend measures to guide the government on future policies. The committee had recommended certain steps to eradicate the factors that may retard the healthy and economic growth of the industry. It also had suggested the formation of the industry on a regional basis.

Accepting the suggestions of the committee, the Indian Parliament passed the Electricity Supply Act in 1948. This can be said to be the first major attempt to develop electricity in the country under the public sector. This particular piece of legislation has built the industry on its present structure. It had envisaged the creation of the State Electricity Boards, one for each State to carry out the functions of the industry, and a Central Electricity Authority at the Centre, to issue broad guidelines and to co-ordinate the activities of the state organisations. In addition to these bodies, instituted by the Act, other agencies also control, regulate or interfere in the working of the industry. They are the Department of Power under the Ministry of Energy, the Planning Commission, the Finance Ministry and the Regional Electricity Boards under the central Electricity Authority.
The main responsibility in the field of electricity supply industry at present is entrusted with S.E.Bs. Section "5" of the Supply Act provides for the constitution of these Boards. As per the provisions of the Act the State Governments, after giving notification in the official gazette, have to form S.E.Bs to promote co-ordinated development of the generation, transmission and distribution of electricity within each State. These S.E.Bs, under the Act are semi-autonomous bodies designed to control and regulate power development in areas under their jurisdiction. They are expected to perform the activities subject to directions of their respective State Governments. Main duties of these Boards are:-

a) To arrange for supply, transmission and distribution of electricity within the State in the most efficient and economical manner with particular reference to those areas which are not for the time being supplied or adequately supplies with electricity.

b) To supply electricity to the required persons within its jurisdiction, as soon as practicable.

c) To exercise the required control over generation, distribution and utilisation of
electricity in the State.
d) To collect data on the demand for and the use of electricity.
e) To formulate perspective plans for generation, transmission and supply of electricity within the State.
f) To prepare and carry out schemes for transmission and distribution for promoting the use of the electricity in the state.
g) To operate the generating stations under its control in co-ordination with others.

The Maharashtra State Electricity Board was set up in 1960. The real progress in power development in Maharashtra is achieved only after formation of the Maharashtra State. The Maharashtra State Electricity Board has achieved remarkable progress in all fields of power development with great efforts during the last 25 years. Before 25 years, the installed capacity of the state was only 676 MW and generation was 3262 million units per year. Today, that is, in 1985 the derated installed capacity of the State is 4686 MW and generation 18152 million units per year.

The available power stations of the Board are
successfully generating more and more power. The average performance of all the thermal Power Stations of the Board is 4596 KWH/KW which is much higher than the thermal power stations of the country. Due to this there is no load shedding in Maharashtra today. The average performance of India is 4208 KWH/KW.

Parli and Nasik Power Stations have won first prize in generation on all India level. The Parli Power station had made a record by winning this prize for three times. In order to meet the growing demand for power, the Board has submitted various schemes of power generation and power station extensions to the Central Government.

The Board has started erection work of Super Thermal Power station of the Capacity of 2340 MW near coal fields in the Chandrapur district where coal is available in large quantity. Two sets of 210 MW have already been commissioned. Out of this, one set was dedicated to the Nation at the hands of late Prime Minister Smt. Indira Gandhi on October 8th, 1984. With a view to circulate more power generated through all power stations throughout the State,
the M.S.E.B. has planned and executed successfully an ambitious programme of erecting transmission lines up to 400 Kv. This includes high voltage lines from 13 KV lines. The length of different transmission lines has been extended number of times in last 25 years. The M.S.E.B. is about to complete erection of the additional 400 KV line from Nagpur to Bombay so as to carry power from Koradi and Chandrapur Power Stations, up to Bombay. To facilitate the exchange of power supply with neighbouring states, such as Madhya Pradesh, Gujarat, Karnataka. The erection of inter-state transmission and its distribution in every corner of the State require huge funds and a sizeable necessary equipment. Sometimes, the Board does not get sufficient funds and material at appropriate times for the implementation of different schemes planned to meet the growing demand. Inspite of all these difficulties, Maharashtra is the only State where there is no restriction on consumption of power for agricultural and industrial use and power is supplied as per increased demand every year.

Since 1948, various amendments were made to the Electricity(supply) Act, 1948 for streamlining the
functions of the S.E.Bs. The Electricity Supply Act, 1948 had laid down that the Electricity Boards, constituted in each State for generation, transmission and distribution of power available within the State, shall not as far as possible, carry on their operations at a loss and shall adjust their charges (tariffs) accordingly from time to time. Revenue receipts of the Electricity Boards represent revenue from sale of power, licence fees and subsidies from the State Government, if any. Revenue liabilities constitute operation and maintenance expenses, establishment and administration charges, cost of fuel, cost of energy purchased from outside, depreciation charges, transfer to general reserves and other funds and interest on borrowings. Other resources of the Board like borrowing from the Government and financial institutions, consumer contributions, providend fund accretions, security deposits etc., and liabilities towards repayment of loans are treated as capital receipts and disbursements.

A review made at the central level to improve the financial working of the S.E.Bs. and to enable the State Governments to get a preference in regard to interest receipts out of the gross operating
surpluses of the Board led to the Electricity(supply) Amendment Act of 1976. Section 59 lays down various provisions for improvement of the financial working of the State Electricity Boards. It stipulates that the Board shall, after taking credit for any subvention from the State Government carry on its operations and adjust its tariffs in such a way so as to ensure that the total revenues in any year of account shall after meeting all expenses properly chargeable to revenues, including interest payable on debentures, bonds and loan provisions for depreciation, leave surpluses as the State Government may from time to time specify.

The Electricity(Supply) Act, 1948 did not specify a positive rate of return to be achieved by the Boards on total capital investments. The Act laid down that, as far as possible, the Board should not run at a loss and the tariff should be so adjusted as to meet the revenue liabilities. Unsatisfactory financial working of the S.E.Bs. and negative returns on investment have been investigated by various committees both at State and Central levels.
The working group set-up by the Planning Commission in April 1963 has recommended that the rate of return on capital investment should be 12 percent (including Electricity Duty) after providing for working expenses and depreciation.

Important suggestions of different committees:

1) Venkatraman Committee

The Venkatraman Committee in its Report of October 1969 had suggested action in two phases—

I) All S.E.B.s. should aim at higher revenues sufficient to cover operational and maintenance charges, contribution to general and depreciation reserve funds and interest charges on loan capital. The Boards which have not already achieved that aim should do so in the next three to five years.

II) As a second phase of objectives the Boards should aim at achieving a net return of 3 percent on the capital base after meeting all the charges indicated in the first phase. The Boards which achieved the first phase should also achieve the second phase in the next three to five years. A net 3 percent return on capital after meeting all the revenue liabilities implied a return of 11 percent after meeting the working expenses and
depreciation as follows

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Transfer to General Reserve fund</td>
<td>0.5%</td>
</tr>
<tr>
<td>b) Interest on capital</td>
<td>6.0%</td>
</tr>
<tr>
<td>c) Net return from electricity tariffs</td>
<td>3.0%</td>
</tr>
<tr>
<td>d) Revenue from electricity duty</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

\[\text{Total} = 11.00\%\]

Venkateshan Committee

The Venkateshan Committee in its report of March 1974, recommended various measures for improving the financial working of the S.E.Bs. It had suggested interest capitalisation related to work-in-progress and incorporating equity in the capital structure of S.E.Bs.

Bhargava Committee

The Bhargava Committee in its report of June 1976 suggested measures for improving financial working so as to increase revenue surpluses. It had recommended merger of electricity duty in the tariffs so that this would be a revenue to the S.E.Bs. rather than the State Governments, capitalisation of interest during the construction stage, and exemption from income tax in cases of
surpluses. The various finance commissions have also suggested measures to enable State Governments to get the loan interest from the Boards and repayment of the principal amount.

Financial Performance of State Electricity Boards

State Electricity Boards have been conspicuous by poor financial performance from an early stage when they were departmentally administered by the State Governments. The creation of State Electricity Boards as autonomous statutory bodies has not improved the financial results in any way. The implications of financial deficits are not immediately recognised because these deficiencies are explained away as the deficiencies in management and operation.

The necessary funds for expansion of Power Schemes are easily available from the exchequer in the form of loans from State Governments. Internal resources by way of depreciation and development reserve and consumer deposits are also available. The loans from public financial institutions like LIC and RURAL ELECTRIFICATION CORPORATION are readily forthcoming.
#### Table No. 1.1

**Operating Expenses as a Percentage of Total Operating Revenue**

(Rs. in Lakhs)

<table>
<thead>
<tr>
<th>Year</th>
<th>Operating Expenses</th>
<th>Operating Revenue</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975-76</td>
<td>10638.60</td>
<td>14267.44</td>
<td>74.56</td>
</tr>
<tr>
<td>1976-77</td>
<td>13278.13</td>
<td>18942.58</td>
<td>70.10</td>
</tr>
<tr>
<td>1977-78</td>
<td>16340.43</td>
<td>24031.70</td>
<td>68.00</td>
</tr>
<tr>
<td>1978-79</td>
<td>20602.46</td>
<td>28541.85</td>
<td>72.88</td>
</tr>
<tr>
<td>1979-80</td>
<td>25772.60</td>
<td>31755.09</td>
<td>81.16</td>
</tr>
<tr>
<td>1980-81</td>
<td>34760.39</td>
<td>46135.05</td>
<td>75.34</td>
</tr>
<tr>
<td>1981-82</td>
<td>41613.38</td>
<td>56926.32</td>
<td>73.10</td>
</tr>
<tr>
<td>1982-83</td>
<td>52573.47</td>
<td>70736.11</td>
<td>74.32</td>
</tr>
<tr>
<td>1983-84</td>
<td>66311.49</td>
<td>87749.19</td>
<td>75.57</td>
</tr>
<tr>
<td>1984-85</td>
<td>75057.73</td>
<td>98673.89</td>
<td>76.07</td>
</tr>
</tbody>
</table>

(Operating Revenue here means net sales + non-operating income)

(The operating Expenses Excluding depreciation & interest charges)
<table>
<thead>
<tr>
<th>Year</th>
<th>Net operating surplus</th>
<th>Net Block Capital</th>
<th>Percentage to net Block</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975-76</td>
<td>3628.84</td>
<td>42861.26</td>
<td>8.5</td>
</tr>
<tr>
<td>1976-77</td>
<td>5664.45</td>
<td>49744.00</td>
<td>11.39</td>
</tr>
<tr>
<td>1977-78</td>
<td>7691.27</td>
<td>55544.77</td>
<td>13.85</td>
</tr>
<tr>
<td>1978-79</td>
<td>7739.39</td>
<td>59623.18</td>
<td>12.98</td>
</tr>
<tr>
<td>1979-80</td>
<td>5982.49</td>
<td>73461.38</td>
<td>8.14</td>
</tr>
<tr>
<td>1980-81</td>
<td>11374.66</td>
<td>112851.48</td>
<td>10.08</td>
</tr>
<tr>
<td>1981-82</td>
<td>15312.94</td>
<td>135777.63</td>
<td>11.28</td>
</tr>
<tr>
<td>1982-83</td>
<td>18162.64</td>
<td>170231.61</td>
<td>10.67</td>
</tr>
<tr>
<td>1983-84</td>
<td>21437.70</td>
<td>187426.23</td>
<td>11.44</td>
</tr>
<tr>
<td>1984-85</td>
<td>23616.16</td>
<td>221597.01</td>
<td>10.66</td>
</tr>
</tbody>
</table>
Important Financial Features of M.S.E.B.

The financial performance of M.S.E.B. continued to be progressively poor. The rate of return after interest earned is poor. The underlying cause of poor rate of return, to a large extent, is the phenomenon of rising costs of operation relatively to operating revenue. The percentage of operating expenses to operating revenue for M.S.E.B. during the period under reference is increasing.

The operating expenses excluding depreciation and interest charges are found to have absorbed as much as 68% to 80%, as revealed from Table No.1. if not more of operating revenue in recent years, (from 1975-76 to 1984-85).

Another feature underlying the low rate of financial return has been the increasing larger investment outlay in power industry. The percentage of net operating surplus to net block (fixed assets after provision for depreciation) is shown in Table No. 2, to reveal the position. The percentages are ranged between 8.14 to 13.85 with year to year fluctuations.

Observations of VI Finance Commission:

The Sixth Finance Commission (1973) which examined
the finances of S.E.Bs. during the Fourth Five Year Plan made a pointed reference to the confining deficits in the following words: -

"Despite the allround awareness of the need to achieve certain minimum rates of return on investments made in power projects, the working results of S.E.Bs. far from registering any improvement, have suffered a set back during the current plan period. The forecasts furnished by the State Governments pointed to no significant improvement in the standard of performance of S.E.Bs. in financial terms in the Fifth Plan Period."

Recommendations of Venkatraman Committee

To ensure financial viability of S.E.Bs. the Venkatraman Committee recommended capitalisation of interest charges on construction capital. This was also endorsed by the Power Ministers' conference held in 1976. The only merit of this suggestion is that it enables the S.E.Bs. to present a more remarkable image of their financial position to the Public. This is not likely to enhance the earning capacity of S.E.Bs. in any way. The same is true of the suggestion that State Government loans should
be converted into equity capital, which was approved by the State Power Ministers' conference. A proposal was considered to amend the Electricity Supply Act to enable the S.E.Bs. to rationalise their financial structure and permit a part of their total capital liabilities to be converted into equity or share capital. The justification for such a measure may be stated as follows: "Without any share capital and with almost the entire funds going as loans or other sources, the S.E.Bs. have in fact made a start with several built-in-handicaps which proved to have a commulative effect conversion of State Government loans into equity can be an operational solution to the problem of accumulating arrear interest charges because the majority of S.E.Bs. are not in a position to pay the interest on loans granted by State Governments. Even if 100% of the loans are converted into equity, the proportion of loan into equity would be between 1:1 and 5:1 in view of loans advanced by the World Bank and other Financial institutions and funds raised by public issue of bonds. The question of conversion of loans into equity was considered by Venkatraman Committee but was rejected by it. The reason for
the Committee's views on this question are as follows -

"The merit of the suggestion to convert a part of the loan capital of the bonds into equity capital is that it will reduce the interest burden on the Boards. But it will affect the revenues of the State Governments adversely. If interest charges are excluded, the profits of the Board will attract income tax which will correspondingly reduce the net amount of dividend payable to the State Governments. Further to yield the quantum of dividend equivalent to the interest charges foregone by the State government due to the conversion of a portion of the loan into the equity capital, Board would have to earn almost twice the quantum of interest charges in view of its liability to pay income tax before declaration of dividends. When the S.E.Bs. in general are finding it hard even to earn sufficient revenues to meet interest obligation in full, it will not be realistic to accept them to earn additional revenues to pay dividends to the State Governments on equity capital equivalent to the interest foregone and that also after paying income tax."

The Planning Commission has emphasized the necessity of the S.E.Bs. taking urgent steps
inclusive of enhancement of tariffs to reduce their losses if not earning a reasonable rate of return on investment.

Objectives of the Study

The study is mainly aimed at a diagnostic analysis of the State of financial affairs in Maharashtra State Electricity Board. Therefore, the objectives of the present study are as follows:-

1) To identify the factors which are responsible for the low rate of return and poor financial performance of Maharashtra State Electricity Board.

2) To find out the impact of input prices and non prices factor on rising costs.

3) To know whether and to what extent management efficiency with respect to plant operation, maintenance works, inventory control and debt collection were satisfactory or otherwise.

4) To identify the magnitude of cost of generation transmission and distribution in the total operating expenses.

Hypotheses of the Study

To know the variety of causal factors responsible for the low rate of return and to find out the
deficiencies if any in the organisation and administration of M.S.E.B. which have been primarily responsible for inefficient operation and the consequent low returns on investment in power undertakings.

The Sixth Finance Commission (1973), which examined the finances at State Electricity Boards during the Fifth Five Year Plan, made a pointed reference to the continuing deficits in the following words:—

Despite the allround awareness of the need to achieve certain minimum rates of return on investment made in power projects, the working results for the State Electricity Boards far from registering any improvement, have suffered a setback during the current plan period, the forecasts furnished by the State Government pointed to no significant improvement in the standing of performance of State Electricity Board in financial terms.

**Methodology**

The study is based on secondary data. The information and statistics is collected from the Annual Statements of Accounts prepared by M.S.E.B. for the period of 1975-76 to 1984-85.
The cost of generation, transmission and distribution of power for the period covered under study is analysed with the help of multi-regression models to measure the impact of specific variables. The analysis of accounting data for the period of study has been examined with the help of financial ratios analysis technique, and common-size statement. The trends in financial performance of M.S.E.B. is also judged.

For general background of the working of State Electricity Board, Handbooks, reports and parallel studies are considered. Personal visits, interviews and informal talks were held form time to time with the concern officials of M.S.E.B.

**Scope of the study:**

The study is mainly confined to the State Electricity Boards and particularly to the Maharashtra State Electricity Board for the period of Ten years, i.e. from 1975-76 to 1984-85. The scope of the study is limited to consider the financial performance of M.S.E.B. with special emphasis on the cost analysis of power generation, transmission and distribution.
Chapter Scheme

The study is presented in five chapters.
1) The First chapter deals with the general information on financial performance of State Electricity Board and with special reference to Maharashtra State Electricity Board.
2) The trend of changes in the actual and deflated cost of generation, transmission and distribution have been analysed in the second chapter. The study of statistical cost functions on the basis of results derived from fitting data to multi-regression equations for the cost of generation, transmission and distribution have also been dealt in this chapter.
3) The third chapter is devoted to comparative statement analysis in financial performance of M.S.E.B.
4) Selected financial ratios are analysed in the Fourth chapter to identify the long term and short term financial strength of M.S.E.B.
5) The last chapter summerises findings and presents conclusions of the study and suggestions based on the findings.
References


2) Ibid.

3) A.P. Dhande : Lokrajya, Maharashtra Silver Jubilee Year Number May 1, 1985, P. 123.

4) Ibid.

5) Ibid.

6) Ibid.


8) Ibid.

9) Ibid. : P. 49
