CHAPTER – 4

CONCLUSION

To conclude, the performance of chemical and the allied industrial sectors can be explained in terms of a Production Function which takes into account Q, TCE, PR and RE in the form of a generalised equation / model,

\[ Q = A (TCE)^\alpha (PR)^\beta (RE)^\gamma \]

The gist of the analysis of the various sectors are presented below.

4.1 CHEMICAL INDUSTRIES SECTOR

The performance analysis of the chemical industry sector for the period 1993 to 1998 indicates the following.

1) Productivity model of the chemical industry sector is

\[ Q = 2.69 (TCE)^{0.203} (PR)^{0.615} (RE)^{0.263} \]

Where Q is the value of production in a year, TCE is the total capital employed, PR is the labour pay roll and RE is the resources employed (all in terms of cash flow) for the corresponding year. The average error in the production function is 12%.

2) The average partial productivity of the three input factors viz. total capital employed, pay roll and resources employed are 1.08, 18.60 and 1.34 respectively.

3) The forecasting equation developed to predict the performance is

\[ \Delta Q = 0.21 \Delta(TCE) + 11.44 \Delta(PR) + 0.35 \Delta(RE) \]
4.3 CEMENT INDUSTRY SECTOR

The performance analysis of the cement industry sector for the period 1993 to 1998 indicates the following.

1) Productivity model of the cement industry sector is

\[ Q = 1.355 \times (TCE)^{0.168} \times (PR)^{0.245} \times (RE)^{0.666} \]

The above correlation results in a regression coefficient of 0.99 and a standard error of 11%.

2) The average partial productivity of the input factors viz; total capital employed, payroll to labour and resources employed are 1.21, 17.04 and 1.94 respectively.

3) The forecasting equation developed to predict the performance is

\[ \Delta Q = 0.20 \times \Delta(TCE) + 4.1 \times \Delta(PR) + 1.34 \times \Delta(RE) \]

Where,

- \( \Delta Q \) is the change / increase in value of production
- \( \Delta TCE \) is the change / increase in value of capital employed
- \( \Delta PR \) is the change in value of payroll to labour
- \( \Delta RE \) is the change in value of resources employed.
4.4 PAPER INDUSTRY SECTOR

The performance analysis of the paper industry sector for the period 1993 to 1998 indicates the following:

1) Productivity model for the paper industry sector is

\[ Q = 1.051 \ (\text{TCE})^{0.143} \ (\text{PR})^{0.241} \ (\text{RE})^{0.671} \]

The above correlation results in a regression coefficient of 0.97 and a standard error of 14%.

2) The average partial productivity of the three input factors, viz., Total capital employed, Labour payroll and Resources employed are 1.48, 10.70 and 1.47 respectively.

3) The forecasting equation developed to predict the performance is

\[ \Delta Q = 0.21 \Delta (\text{TCE}) + 2.6 \Delta (\text{PR}) + 0.98 \Delta (\text{RE}) \]

Where, \( \Delta Q \) is the change in the value of production \( \Delta (\text{TCE}) \) is the change in capital employed. \( \Delta (\text{PR}) \) is the change in labour pay roll, and \( \Delta (\text{RE}) \) is the change in value of resources employed.