

CHAPTER TWO

EFFICIENCY CRITERIA

2.1

In public enterprise, the importance of having objective tests of managerial performance is even more important than in private enterprise, where profitability is often regarded as providing a rough-and-ready measure. Managers need to know how far the enterprise for which they are responsible is improving or deteriorating in performance and how far that improvement or deterioration can be ascribed to their own virtues or vices. The responsible authority, parliament and the public also have need of such information. In its absence rumours abound and politicians and other critics of a public enterprise can 'get away with' statements which have no foundation in fact. We require therefore methods of measuring and judging managerial performance, of identifying faults and discussing ways of correcting them and of assessing the contribution made by the enterprise to the development of the national economy.¹

Hence this chapter is devoted to examining some of the measures of performance and choice of any measure is of much

¹ Hanson, A.H.: Managerial Problems in public enterprise. Asia Publishing House, Bombay, 1962, p.94.

significance in this context. Before we proceed to the discussion of measures of efficiency, one by one, it is better to review the white paper developed at Kuala Lumpur Seminar at Asian Centre for Development Administration, by the experts, which serves as a basis for the discussion of individual performance measures. The discussion of individual performance measures enables us to understand the limitations of the use of efficiency measures.

2.2 ASIAN WHITE PAPER ON PUBLIC ENTERPRISES POLICY

In a seminar at Asian Centre for Development Administration Kuala Lumpur, Malaysia, in September 1976, a framework of the white paper has been discussed.

The framework on white paper concentrates on three important areas such as investment, pricing and performance.²

The performance criteria of public enterprises are summarised as follows :

2.2.1 (a) Profitability as a criterion should be used along with other measures such as contribution to general revenues of the state, surplus generation, self-financing, its linkage to performance evaluation, and managerial motivation and morale.

2.2.2 (b) The performance targets cover measures of achievements in terms of targets, such as output targets, return

2 Basu, P.K.: Approaches to the Public Enterprise Policy in Asia on Investment Prices, and Returns Criteria, pp.56-60

targets, export targets, and non-financial targets like industrial peace, etc. The achievement of targets established by the government, may also provide a measure of the performance.

2.2.3 (c) The other criteria for evaluation of performance of individual enterprises are, financial ratios, capacity utilisation, sales revenues, costs of production, inventory control, development of indigenous skills, growth of ancillaries, import substitution and foreign exchange savings, etc.

2.2.4 (d) The measure of social profitability varies with the class of enterprises.

2.2.5 (e) Review of relative rates of return of public and private sectors as a whole as well as individual enterprises in the same group is also one of the best, methods of evaluating the performance of public enterprises.

The discussion in the following pages is intended to concentrate on the issues involved in the use of different tools of measurement, of performance in the public sector enterprises.

2.3 INCOME FLOWS :

The factors of production co-operate in any process of production. All the factors receive incomes called, wages

rent, interest and profit. One should take the total benefits into account while assessing the performance of an enterprise. Profit is not only the income, which goes to the entrepreneur. Other income flows are equally important. The overemphasis on profit criterion ignores the importance of other income flows.

2.4 FLOW OF GOODS AND SERVICES

From a larger social angle the performance of an enterprise should be judged not by what the enterprise earns in the form of profits but by the total addition it makes to the flow of goods and services in the economy as measured by the gross national product, GNP. In these terms, it is the total value of sales of the enterprise and not its profits that should be taken as a measure of its contribution to the economic well being and progress of the society.³

2.5 IMPORT SUBSTITUTION

If the enterprise produces items of import substitution, its contribution to the national economy should be reckoned in terms of foreign exchange saved. While computing the quantum of foreign exchange thus saved, the shadow price of the foreign exchange should be taken into account and not the official rate. That will be the real contribution by the enterprise to the national economy. It is also difficult to

3 Bureau of Public Enterprises : A handbook of information on public enterprises, 1970. BPE, Govt. of India, 1970, p.xvii.

measure the exact real contribution, because one could visualise the enormous disadvantage that the country would have suffered in the absence of an industrial undertaking like Hindustan Steel Ltd. or BHEL, ILO, or HAL, etc.

2.6 DEVELOPMENT OF SKILLS :

The narrow profit criterion misses the solid contribution made by the public enterprises in developing human skills, technical and managerial on truly massive and unprecedented scale. The public sector investment has gone not into textiles or sugar or such other relatively less sophisticated and familiar industries but into challenging and forbidding spheres like metallurgy, oil exploration and refining, heavy electrical and non-electrical equipment, machine tools, aeronautics, electronics, nuclear power and defence industries. The skills and capabilities that young Indian engineers and technicians have been able to develop during the short space of a single generation is something beyond our wildest dreams in 1947.⁴

2.7 CAPITALIST TEST OF EFFICIENCY BREAK-EVEN ;

The concept of break-even is used to measure the performance of an industrial undertaking. The enterprise is said to have reached the point of break-even where the total costs

4 Ibid, p.xviii.

match the aggregate revenues. Below this point, the enterprise naturally incurs losses. The public enterprises are expected to break even or above that so that they can avoid the risk of incurring losses and being subjected to public criticism. A precise measure of break-even is difficult to achieve, but it is possible to compare the aggregate revenues with total costs of production.

2.8 GENERATION OF EMPLOYMENT

Efficient utilisation of manpower is one of the indicators of efficiency. Any business activity industrial or commercial, generates employment opportunities. A right choice of technique is important. Capital intensive techniques are generally thought inappropriate in labour surplus economies. The public enterprises are expected to adopt labour intensive techniques. The public enterprises are under obligation to promote ancillaries and thereby increase employment opportunities.

2.9 INDUSTRIAL PEACE :

The public enterprises are expected to be model employers in maintaining industrial peace. Labour unrest results in loss of production, loss of incomes, and loss to the national economy in the form of lower GNP. The strikes and lockouts are bad symptoms of industrial relations.

2.10 LABOUR MORALE :

It is difficult to define labour morale but the symptoms of low morale are apparent in voluntary avoidance of work, absenteeism, deliberate non-cooperation with the management, and lack of initiative and interest in work. The principles of scientific management indicate the need to build up workers' morale. Low morale will result in reduction in output and incomes. If the workers are properly motivated, it has been estimated, that 10 to 15 per cent of increase in output could be achieved without extra costs.

2.11 TURNOVER/INVESTMENT RATIO :

The turnover/investment ratio or turnover/capital employed ratio is generally used by business men to estimate the business prospects. This is a rough yardstick used in any business type activity. The general norm is considered to be 3 times. The turnover/capital employed can also be used to measure general efficiency of government undertakings. Higher turnover/capital employed ratio indicates greater efficiency. This ratio is also called capital productivity, it implies how much is the gross sales turnover per unit of capital employed.

2.12 THE INCREMENTAL CAPITAL OUTPUT RATIO :

The ICOR indicates the net capital formation over a given period and compares this with addition to net output

over the same period. This is one of the statistical tools in the hands of planners to estimate the capital requirements for the desired increases in GNP.

2.13 BALANCED GROWTH CRITERIA :

The doctrine of balanced growth is useful in deciding the location for the proposed projects. The establishment of industrial undertakings in backward regions is thought of yielding social returns to the region. This is a useful indicator of where investment money should go. The notion of linkages is attached to this doctrine. The industries with greater linkage effects (backward linkage, forward linkages) will bring about balanced growth in the economy.

2.14 PAY OFF PERIOD CRITERION

The pay off period is the number of years until the undiscounted sum of gains equals the capital cost of the investment.

$$\text{Pay off period} = \frac{\text{Investment outlay}}{\text{Profit per year}}$$

If the returns minus costs both adjusted in future is positive then the project is worth taking up. This is also known as present value criterion. This depends on the estimate of future price of the product.

$$\begin{array}{l} \text{Present value} \\ \text{of returns} \end{array} = \frac{R_i}{(1+r)^{t_i}}$$

This also depends on rate of discount.

The present value technique can be used to choose among projects and also techniques of production.

2.15 COST BENEFIT ANALYSIS :

This is a technique by which the authorities make decisions. The benefits may be in the form of employment of local people. The net income of the people with the project minus net income of the people with out project can be computed. It should be known before hand what benefits should be taken into account.

2.16 RATE OF REJECTION :

The rate of rejection of products is one of the best indicators of efficiency. Higher rate of rejections directly tells the inefficient functioning of the production enterprise. The difficulty is compounded by non-availability of relevant data. The following statement shows the rate of rejection in Bhilai Steel Plant.⁵

Year	Percentage rejection of rails 105 lbs.
1962-63	12.1
1963-64	14.6
1964-65	16.3
1965-66	12.0

5 Sinha, J.B.P.: Some Problems of Public Sector Organizations, p.31.

The percentage rejection of rails of 105 lbs. ranges from 12 per cent to 16.3 per cent. Although there is no fixed norm against which the performance can be judged, but more than 10 per cent rejection rate may be attributed to management neglect and indifference.

2.17 PERFORMANCE BUDGETING :

Performance budgeting is another technique used to evaluate efficiency in any industrial undertaking. Measurement of efficiency is done by using the formula given below:

$$\text{Coefficient of Efficiency} = \frac{\text{Achievements}}{\text{Targets}}$$

The working results of one hypothetical company are given below :

(In lakh\$ tons)		
Year	Targets of Output	Actual production
1962-63	12.6	8.4
1963-64	14.3	9.0

$$\begin{aligned} \text{Coefficient of efficiency} &= \frac{8.4}{12.6} \\ &= 67 \text{ per cent for the year } 1962-63 \end{aligned}$$

The coefficient of efficiency provides a rough indicator of performance, which is relative term, and dependent on various extrinsic factors.

2.18 CONTRIBUTIONS ^{To} OF THE STATE'S EXCHEQUER :

The public enterprises are expected to contribute to the state's exchquer in the form of taxes, i.e. excise duty, income-tax and sales-tax. The tax provision by the public enterprise is meant to meet excise duty levied by the Central Government, and the income-tax. The sales tax is paid by the retailer. At unit level, the contribution is referred to the payment of excise duty and income tax.

This contribution is largely affected by government policies such as exemption from excise duty, a tax holiday and other fiscal concessions. Hence this provision may not give a correct measure of efficiency.

2.19 DIVIDENDS :

The government as a shareholder expects the public enterprises to declare dividends. The volume of dividends are relative to the surpluses earned. The rate of dividend is influenced by a number of factors such as retained profits, depreciation provision, and taxes. The rate of dividend as a measure of efficiency fails to reflect all aspects of performance.

2.20 COST OF SALES OR COST OF PRODUCTION :

The public enterprises must be judged solely by the standard of efficiency which implies in respect of every unit of production of goods and services, minimum cost and

requisite quality.⁶ The total unit cost of production or sale gives rough measure of performance. Cost as percentage of sales or value of output is considered a good measure. But the direction of unit cost indicates whether efficiency is improving or otherwise.

2.21 PRODUCTIVITY :

Productivity is generally understood to mean labour productivity measured as gross income per man year or gross value added per man year. The physical productivity is a ratio of gross physical output and man years. Labour physical productivity is a simple measure but difficult to obtain because of product variations. The capital productivity measured as gross income as percentage of capital employed or gross value added as percentage of capital employed, indicates the efficient use of capital.

Labour Productivity or capital productivity should not be taken as contribution by labour or capital. It indicates general relationship between output measured as gross income, or gross value added, and the factor in question.

Inspite of its limitations Productivity as a measure of performance is widely used in most countries.

6 Gorwala, A.D. : Report on the efficient conduct of State Enterprises - Planning Commission, Govt. of India, 1951, p.7.

2.22 OWNERSHIP AND EFFICIENCY :

The commercial efficiency is said to depend on the pattern of ownership. In private sector ownership tends to be concentrated and incidence of liability is clear and unambiguous, the commercial efficiency tends to get inflated. In public sector, ownership is diffused to all citizens of the country, the commercial efficiency has been victim of public criticism, and tends to be eroded.

2.23 RETURN ON CAPITAL EMPLOYED :

The return on capital employed is considered a correct measure of performance. It is the product of inverse of output capital ratio and profit margin. The profit margin is a ratio of gross profit before tax and interest and gross sales. The output capital ratio is also called inverse of capital productivity measured as gross sales as percentage of capital employed.

The return on capital employed is a function of two variables namely gross profits and capital employed. The measures of these variables varies from industry to industry or undertaking to undertaking. The experience teaches us that the accounting practices differ from country to country and even within the country between concerns. So ROCE used as a basis for appraisal of the performance does not reflect the real condition. For example while measuring capital

employed, the problem of idle assets requires^a a thorough probe. Whether gross fixed assets should be of book or current values ? Whether current values should be adjusted to price index ? Whether disinvestment should be taken into account ? etc. Such problems need serious attention. The measurement of gross profit is also not precise, it is affected by various factors such as depreciation provision, and other non-economic extrinsic factors. Whether the expenses on head office should be taken into account ? Whether the expenditure on research and development should be debited in the current accounting year while its fruits are spread over a period of time ? Such other problems distort the real picture.

The ROCE should be used as an evaluating device rather than a measuring rod. The ROCE can be used for internal comparisons and to determine the trends over a period of time. The ROCE cannot be used for meaningful comparisons between different enterprises because the problems differ. The changes in ROCE, Over a period of time for any enterprise may reflect efficiency levels when the management and other things remain unchanged, and as an evaluating device, it will not be over come by Discounted cash flow, return on investment, and internal rate of return etc.⁷

7 Jerkis, Bill and Skidmore, Devek : "Problems in using", Accountancy, Oct., 1978, p. 115.

2.23 RELEVANCE OF OBJECTIVES :

The Administrative Reforms Commission in their report on the public sector undertakings have recommended as follows:

"Government should make a comprehensive and clear statement on the objectives and obligations of public undertakings. This statement should lay down the broad principles for determining the precise financial and economic obligations of the enterprises in matters such as creation of various reserves, the extent to which the enterprises should undertake the responsibility of self-financing, the anticipated returns on the capital employed and the basis for working out rational wage structures and pricing policies"⁸.

The measure of performance has relevance to the objectives of the undertaking. It is difficult to define the efficiency criteria for any business undertaking private or public sector without a set of clear objectives.

There are large number of factors affecting the efficiency of an industrial enterprises. These factors are inter-dependent.

The efficiency Criteria, discussed earlier are only rough instruments to be used to evaluate the efficiency of an undertaking.

8 Bureau of Public Enterprise: A handbook of information on public enterprise, BPE, Govt. of India, 1970, p.xiv.

Even if all of them (efficiency criteria) were capable of exact measurement which is not the case, the problem would remain of giving one its due weight. For instance one has to consider the cost of product of service per unit of resources, the satisfaction of the consumer in respect of quantities, qualities and prices, the state of labour relations and the degree to which a spirit of willing co-operation has been created among members of staff and the ability of the whole organisation to adjust itself to changing circumstances, its readiness to make experiments and to take quick advantage of the latest technical improvements.⁹

The various criteria are only the instruments^{of} hope and the attempts to use only one criterion for judging the performance or making decisions are likely to be frustrated.

9 Sharma, Tirth Raj : The Working of State enterprises in India, Vora & Co. Publishers Pvt.Ltd., Bombay, 1961,p.167.