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E: ISSN NO.: 2455-0817 Remarking An Analisation

Social Cost-Benefit Analysis of Public Sector Undertaking in India (A Study of Selected Public Sector Undertakings in India)

H.N. Gupta
Lecturer,
Deptt.of Accountancy & Business Statistics,
Govt. P.G. College,
Dausa, Rajasthan

Abstract

Social cost-benefit analysis can be defined as a systematic and quantitative appraisal to determine whether estimated social benefits of a project justify the estimated social costs. The main objectives of the study are to evaluate social costs and social benefits of the public sector understandings in India. The study also related to evaluate role of return on investment and benefit-cost ratio with social cost benefit. The study is also related to evaluate role of non-monetary factors in social cost benefit analysis.

Keywords: Quantitative appraisal, Consumer Surplus, Shadow Prices, Variation Measures, Nonmarket Valuation, Income Distribution, Micro-Economic Analysis, Investment Decisions, Financial and Economic Appraisal, Cost Effectiveness .

Introduction

Social cost-benefit analysis is an analytical tool in decision making which enables systematic comparison to be made between the estimated social cost of undertaking a project and the estimated social value and benefits which may rise from the operation of such a project. Social cost-benefit analysis can be defined as a systematic and quantitative appraisal to determine whether estimated social benefits of a project justify the estimated social costs. Main objectives of the social cost-benefit analysis are:-

1. To determine and measure the expected future economic and social benefits that may be derived from an intended project.
2. To determine and measure the flow of future economic and social costs that may be incurred to accomplish the benefits.
3. To ascertain the net benefits as a result of the above appraisal.
4. To quantify the net benefits that may be realized from each of the alternative project being considered.
5. To decide as to which of the project will yield the maximum benefits in relation to set economic standard and social goals for the national economy.

The social cost-benefit analysis has certain limitation which includes. :-

Difficulties in Measuring Benefits

The benefits of social programmes are usually difficult to quantify. Failure to recognise the ancillary benefits of some social programme is another problem.

Difficulties of Scale Problem

Determining the scale of operation is another important problem that is encountered in making social cost-benefit analysis. Quantifying the data for solving the scale problems present considerable difficulties.

Difficulties in Estimating Social Costs

Often considerable difficulties are experienced in predicting social cost. Cost estimating uncertainty is caused by inability to predict cost of certain items. Five parts for the purpose of social cost-benefit analysis are as follows:-

1. Net Income Contribution
2. Human Resources Contribution
3. Product Contribution
4. Public Contribution
5. Environment Contribution

Performance of a concern should be evaluation is regard to contribution in different parts of social cost-benefit analysis

Review of Literature

The book titled **Cost-Benefit Analysis-Theory and** Application written by Tevfik F.Nas provides general framework for social cost benefit analyses which includes identification and measurement of social costs and benefits. The book related with consumer surplus, shadow prices, variation measures, nonmarket valuation, income distribution etc.

The book Principles of Social Cost-Benefit Analysis written by H.C. Bos, Maritn Sanders and Carlo Secchi related with cost and benefit of social activity. The book is related with micro-economic analysis of social-economic activities. The book indicates that project appraisal in view of social-economic problem should play an important role in preparing investment decisions.

The book Social Cost-Benefit Analysis-An Introduction to Financial and Economic Appraisal to Project written by Krishna Chawla deals with financial and economic appraisal of the project in view of social cost benefit analysis. The book discusses project appraisal techniques considering social cost-benefit analysis.

The book Social Cost-Benefit Analysis written by Dattatri Aruna deals with cost effectiveness of any investment project while considering social benefit of the projects. The book provides comprehensive framework for calculating social cost benefit of any projects.

The book Guide to Social Cost Benefit Analysis published by the Treasury, New Zealand deals with identification of social costs and benefits, value and assessment of social cost and benefit of any project. The book discuss standard values, risks and uncertainty, sensitivity analysis point estimate and other related factors.

Objectives of the Study

The main objectives of the study are to evaluate social costs and social benefits of the public sector understandings in India. The study also related to evaluate role of return on investment and benefit-cost ratio with social cost benefit. The study also shows that profitability and social welfare are related factors. A good profit making concern shows optimal utilisation of resources, productivity, quality control and overall operation efficient.

Hypothesis

The study is based on the hypothesis that :

Ho_1 - There is no significant difference among the companies regarding ratio of net social benefits to total social resources.

Ho_2 - There is no significant difference among years regarding ratio of net social benefits to total social resources.

Research Design

The study of based of secondary data collected form selected, public sector undertaking in India. The secondary data are collected from Bharat Heavy Electicals (BHEL), Steel Authority of India (SAIL) and Cement Corporation of India (CCI). The data are collected from annual report of 2011-12 to 2015-16 of the selected companies. Other secondary data are collected from books, journals and news papers. Statistical technique such as analysis of variance (ANOVA) and Karl Pearson's Coefficient of Correlation is applied to analyse the data.

Findings and Discussion

With a view to test the significance of variation in ratio of net social benefits to total social resources among the companies under study and among years under study, F test is applied. Table-1 shows analysis of variance among the companies and among years.

Table 1
Analysis of Variance

Source of Variation	Sum of squares	Degree of Freedom	Mean square variance	F ratio	5 percent value of F	Conclusion
Between companies (columns)	20554.33	3-1=2	10277.165	4.642 (F_1)	4.10	Ho_1 Rejected
Between Year (Rows)	2514.66	6-1=5	502.932	0.227 (F_2)	3.33	Ho_2 Accepted
Residual (error)	22140	10	2214			
Total	**45208.99**	**20**				

As indicated in table-1, calculated value of F_1 between companies comes to 4.642. The table value of F at 5 per cent level of significance for v_1=2 and v_2=10 is 4.10. The calculated value is higher as compared to table value of F which shows that our null hypothesis (Ho_1) has been rejected and alternative hypothesis has been accepted. It means that there are significant differences between companies regarding ratio of net social benefits to total social assets. In some cases, the ratio is very low and in other cases, very high.

The calculated value of F_2 among the years is 0.227 while the table value at 5 per cent level of significance for v_1=5 and v_2=10 is 3.33. The calculated value of F is lower in comparison to table value which shows that our null hypothesis is accepted. It means that the difference in the ratio within the company from year to year is not significant.

More profitable and financially social companies may be more conscious about their responsibility toward society. Here, Karl Person's Correlation Coefficient is calculated between average return on capital employed of the companies and average benefits-cost ratio to get relationship between profitability and social welfare.

Correlation coefficient of the companies under study indicates that profitability and social welfare are moderately correlated. Those companies having high profitability and sound finance strength are more conscious about its responsibility towards society. Every business enterprise should financially sound to become itself socially responsive. Loss making business organisations can not give contribution to society because these organisations have problems of existence.Coefficient of determination (r^2) indicate that 47.61 per cent changes in dependent variable are due to independent variable.

Many factors other than profitability are related with social responsibility which includes (i) Management perceptions (ii) Government policy (iii) Requirement of law (iv) Investors perceptions (v) Past history of the concern etc. All these factors should be considered before evaluation of social responsibility of a public undertaking.

Conclusion

From the above analysis, it can be concluded that profitability of public sector undertakings in India is not satisfactory. Some public sector undertakings such as SAIL, BHEL, OIL etc. give product contribution to society through R & D, quality improvement and productivity improvement activities. Environment contribution is not satisfactory and fulfil only Government requirement. SAIL and BHEL give enough contribution to public. Analysis of variance of ROI shows the significant differences in profitability of the concerns. Analysis of variance of the ratio of net social benefits to total social resources shows the significant differences in social welfare. Correlation between profitability and social welfare shows that profitability is the key factor of social welfare. Therefore, Every undertaking should be financially sound to give significant contribution to all parts of society. All the public sector undertakings should increase their profitability through optimal utilisation of resources, productivity and quality control, reduction of non-operating expenses and development of human resources.

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