CHAPTER: VI
SOCIAL COST- BENEFIT ANALYSIS

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Meaning: SCBA called Economic Analysis is a methodology developed for evaluating investment projects from the point of view of the society or economy as a whole.

Objectives:

Cost benefit analysis is concerned with the examination of a project from the view point of maximization of net social benefit while cost benefit analysis originated to evaluate public investment; it is also used in project appraisal. Earlier, project appraisal covered only private costs and benefits at present social costs and benefits are also reckoned.

Cost benefit appraisal a project proposes to describe and quantify the social advantages and disadvantages of a policy in terms of a common monetary unit. The unit should reflect society's strength of performance for each outcome. The economist uses as a measure of this preference, the consumer's willingness to pay (WTP) for a good.

Rationale for SCBA: In SCBA the focus is on the social cost benefit of the project. These often tend to differ from the monetary costs and benefit of the project.

Social costs and benefits and private costs and benefits differ because of various reasons. The principle sources of descrepency are;

1. Market imperfections
2. Externalities
3. Taxes and subsidies
4. Concern for savings
5. Concern for redistribution
6. Merit wants

1. Market imperfections: Private costs and profits reflect social costs and benefits only under perfect competion. Market prices which from the basis for computing the monetary costs and benefits from the point of view of the project sponsor, reflect social values only under conditions of perfect competition, which are rarely, if ever, realized by developing countries, when imperfection exist, market price do not reflect social values.

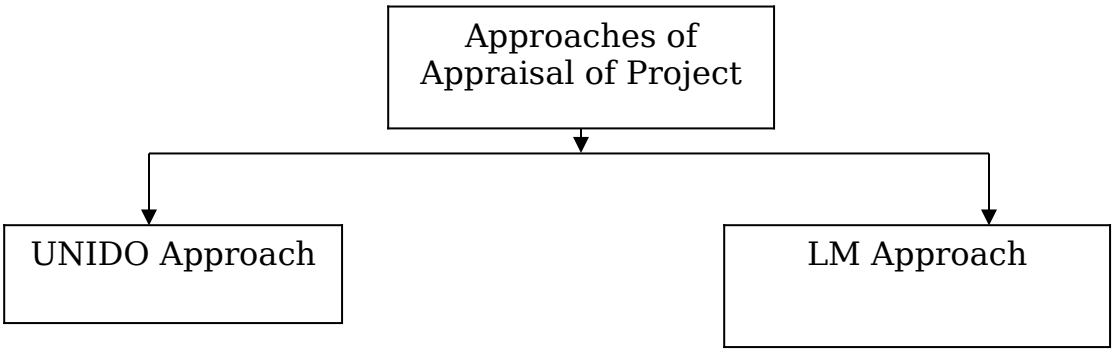
The common market imperfections found in developing countries are
a. Rationing: Rationing of a commodity means control over its price and distribution. The price paid by a consumer under rationing is often significantly less than the price that would prevail in a competitive market.
b. Foreign exchange regulation: the official rate of foreign exchange in most of the developing countries, which exercise close relation over foreign exchange, is typically less than the rate would prevail in the absence of foreign regulation.
c. Externalities: A project may have beneficial external effects. For example, it may create certain infrastructure facilities like roads, which benefit the neighboring areas. Such benefits are concerned in SCBA, though they are ignored in assessing the monetary benefits to the project sponsors because they do not receive any monetary compensation from those who enjoy their external benefit created by the project. Like wise, a project may have a harmful external effect like environmental pollution.
d) Taxes and subsidies: From the private point of view, taxes are definite monetary cost and subsidies are definite monetary gains. From the social point of view, however, taxes and subsidies are generally regarded as transfer payments and hence considered irrelevant.
iv) Concern for savings:
Unconcerned about how its benefits are divided between consumption and savings, a private firm does not put differential valuation on savings and consumption. From social point of view, however, the division of benefits between consumption ands savings (which leads to investment) is relevant, particularly in the capital-scarce developing countries. A Birr of benefit saved is deemed more valuable than a birr of benefits consumed. The concern of the society for savings and investment is duly reflected in SCBA wherein a higher valuation is placed on savings and a lower valuation is put on consumption.
v) Concern for redistribution:
A private firm does not bother how its benefits are distributed across various groups on the society. The society, however, is concerned about the distribution of benefits across different groups. A birr benefit going to an economically poor section is considered more valuable than a birr of benefit going to an affluent section.

Merit wants:
Goals and preferences not expressed in the market place, but believed by policy makers to be in the larger interest, may be referred to, as merit wants. For example, the government may prefer to promote an adult education program or a balanced nutrition program for school –going children even though consumers in the market place do not seek these.

While merit wants are not relevant from the private point of view, they are important from the social point of view.

Approaches of Appraisal of Project:

Towards the end of the sixties and in the early seventies two principal approaches for SCBA emerged. The two approaches are as follows:



UNIDO Approach:

The UNIDO approach was first articulated in the 'Guidelines for Project Evaluation', which provides a comprehensive framework for SCBA in developing countries. The rigour and length of this work created a demand for a succinct and operational guide for project evaluation in practice. To fulfill this need, UNIDO came out with another publication, 'Guide to practical Project Appraisal' in 1978.

The UNIDO method of project Appraisal involves five stages.

1. Calculation of the financial profitability of the project measured at market prices.
2. Obtaining the net benefit of the project measured in terms of economic prices
3. Adjustment for the impact of the project on savings and investment.
4. Adjustment for the impact o the project on income distribution.
5. Adjustment for the impact of the project on merit goods and demerit goods whose social values differ from their economic values.

Each stage of appraisal measures the desirability of the project from a different angle.

1. Calculation of the financial profitability of the project measured at market price.

The measurement of financial profitability of the project in the first stage is similar to the financial evaluation.

2. Net Benefit in terms of Economic (efficiency) Prices.

Stage two of the UNIDO approach is concerned with the determination of the net benefit of the project in terms of economic (efficiency) prices Market

price represent shadow prices only under conditions of perfect markets which are almost invariably not fulfilled in developing countries. Hence there is a need for developing shadow prices and measuring net economic benefits in terms of these prices.

Shadow pricing: Basic issues:

The following basic issues are essential for dealing about the shadow prices.

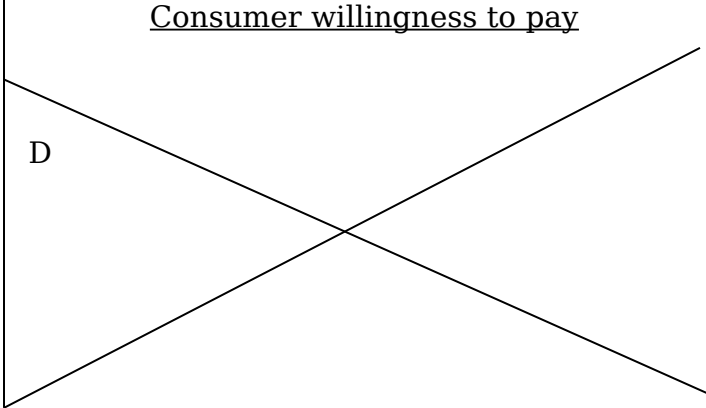
a. **Choice of Numeraire**: One of the important aspects of shadow pricing is the determination of the numeraire, the unit of a account on which the value of inputs or outputs is expressed. The specification of the UNIDO numeraire in terms of "net present consumption in the hands of people at the base level of consumption in the private sector in terms of constant price in domestic accounting birr".

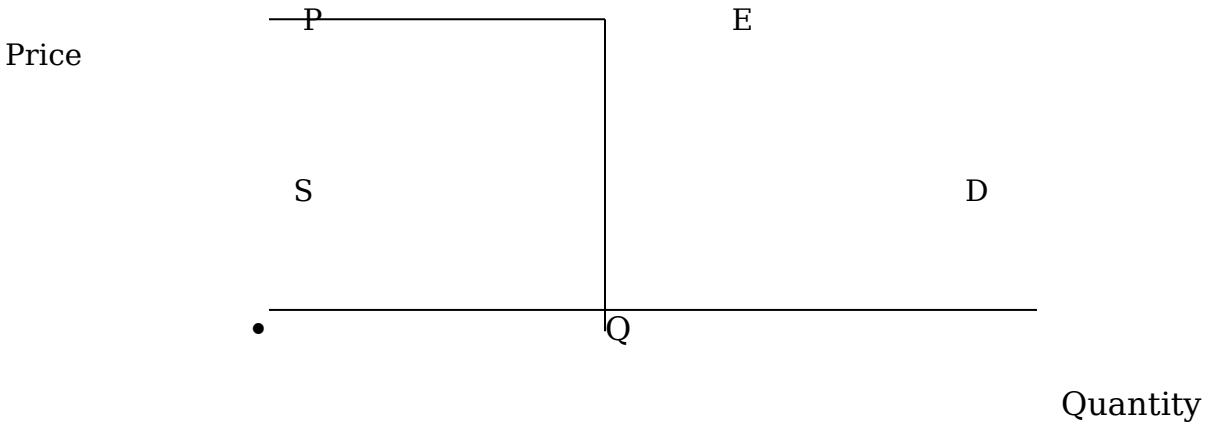
b. **Concept of Tradability**: a key issue in shadow price is whether good is tradable or not for a good that is tradable, the international price is a measure of its opportunity cost to the country. The international price also referred to as the border price, represents the real value of the good in terms pf economic efficiency.

c. **Sources of shadow prices**: The UNIDO approach suggests three sources of shadow pricing, depending on the impact of the project of national economy. A project, as it uses and produces resources, may for any given input to output (i) increase or decrease the total consumption in the economy. (ii) Decrease or increase production in the economy. (iii) Decrease imports or increase imports or (iv) increase exports or decrease exports.

d. **Taxes:** When shadow price are being calculated taxes usually pose difficulties. The general guidelines in the UNIDO approach with respect to taxes are as follows: (i) when a project results in diversion of non-traded inputs which are in fixed supply from other producers or addition to non-traded consumer goods, taxes should be included (ii) when a project augments domestic production by other producers, taxes should be excluded (iii) for fully traded goods, taxes should be ignored

e. **Consumer willingness to Pay**: If the impact of the project is on consumption in the economy, the basis of shadow pricing is consumer wiliness to pay. The measurement of consumer wiliness to pay may be explained with the help of chart. In the graph shown in the exhibit, DD represents the demand schedules, SS the supply schedule, E the equilibrium point, OQ the quantity bought and OP the price per unit. Looking at the demand schedule we find that the consumer who buys the first unit is willing to pay OD for that unit and the consumer who buys the last unit is willing to pay OP for the unit. The consumer willingness to pay by consumers who buy the product is measured by the area ODEG. The Price paid by them, however, is only OPEQ. The difference between ODEQ and OPEQ, namely DEP, is referred to as the consumer surplus.





3. Adjustment for the impact of the project on savings and investment.

Most of the developing countries face scarcity of capital. Hence, the governments of these countries are concerned about the impact of project on savings and its value thereof. Stage three of the UNIDO approach, concerned with this, seeks to answer the following questions:
Given the income distribution impact of the project what would be its effects on savings?
What is the value of such savings to the society?

Impact on savings:
The savings impact of a project is equal to:

$$Y_i \, MPS_i$$

Where, Yi = change in income group i as a result of the project.
MPSi = Marginal propensity to save of group i

Example: As a result of a project the income gained/lost by four groups is Group 1 = Br. 100,000 Group 2 = Br.600, 000, Group 3 = Br.(200,000)and Group 4 = Br. (400,000). The marginal propensity to save these four groups is as follows:
MPS I = 0.05, MPS2 = 0.10, MPS3 = 0.20 and MPS4 = 0.40

The impact on savings of the project is:
100,000X0.05 + 500,000 X 0.10 – 200,000 X0.20 – 400,000 X 0.40 = Br. 145,000

4. Measurement of the impact of Distribution:

Stage four of the UNIDO method are concerned with measuring the value of a project in terms of its contribution to savings and income redistribution. To facilitate such assessments, we must first measure the income gained or lost by individual groups within the society.

Groups: For income distribution analysis, the society may be divided into various groups. The UNIDO approach seeks to identify income gains and losses by the following.

- Project
- Other private business
- Government
- Workers
- Consumers
- External sector

There can, however be other equally valid grouping.

Measure gains of loss:

The gain or loss to an individual group within the society as result of the project is equal to the difference between the shadow price and the market price of each input or output in the case of physical resources or the difference between the price paid and the value received in the case of financial transactions.

5.Adjustment for Merit and Demerit Goods:

In some cases, the analysis has to be extended beyond stage four to reflect the difference between the economic value and social value of resources. This difference exists in the case of merit goods and demerit goods.

Merit goods:

A merit good is one for which the social value exceeds the economic value. For example, country may place a higher social value then economic value on production of oil because it reduces dependence of foreign supplies. The concept of merit goods can be extended to include a socially desirable outcome like creation of employment. In the absence of the project, the government perhaps would be willing to pay unemployment compensation to provide mere make-work jobs.

Demerit good:

The social value of the good is less than it economic value. Foe example, a country may regard alcoholic products as having a social value less than the economic value.

Little – Mirrlees Approach:

I.M.D Little and J.A. Mirrlees have developed an approach (hereafter-referred to as the L. M approach) to social cost benefit analysis expounded by them in the following works.
Manual of Industrial Project analysis in Developing countries, Vol. II nd project appraisal and Planning for Developing Countries"

There is considerable similarity the UNIDO approach and the L.M approach both the approaches call for

1. Calculating accounting shadow prices particularly for foreign exchange savings and unskilled labor.
2. Considering the factor of equity.

Despite considerable similarities there are certain differences between the two approaches.

1. The UNIDO approach measures costs and benefits in terms of domestic birr whereas; the L.M approach measures costs and benefits in terms of international prices, also referred to as boarder prices.
2. The UNIDO approach measure costs and benefits in terms of consumption whereas the L.M approach measures costs and benefits in terms of uncommitted social income.
3. The stage-by-stage analysis recommended by the UNIDO approach focuses on efficiency, savings, and redistribution considerations in different stages. The L.M approach, however, tends to view these considerations tighter.