

5. THE TREATMENT OF CAPITAL COSTS

The purchase of capital goods raises particular problems. Unesco (1977, p. 31) has suggested a standard list of headings for the capital [and other] costs of mass media projects, the capital items being (1) buildings of a general nature, (2) special buildings including (a) studios and (b) other special buildings, and (3) equipment and materials (including vehicles).

Where the capital cost is related to the purchase of inexpensive items it is common to treat it as a revenue cost. This still leaves one with the problem of how to deal with the capital costs of larger items. One way of proceeding is to argue that since the money has been spent, one can assume that these are *sunk* costs – that is, a cost that has been incurred and hence is not worth taking into further consideration.

Whether or not this is acceptable is likely to depend upon the purpose for which the analysis is being undertaken. Where it is a question of deciding on a future course of action on the basis of likely future costs (eg. continuation or abandonment of a project), then the right approach may be to ignore past (sunk) costs. On the other hand economists and accountants are likely to take the view that capital costs must be taken into consideration, particularly where the object of the exercise is to establish the 'real' costs of a project or to draw comparisons between the cost of one educational project and another.

Generally, however, the costs of capital items are *annualised* or *amortised* over their expected life. For example, if one buys a word processor and assumes that it will have a useful life of 4 years (it may have a longer life, but this may be uncertain or there may be good reasons for not assuming a longer life), one can *annualise* or *amortise* the costs of the equipment over the life of the project.

eg Cost of word processor, £2000; expected life, 4 years;
annualised cost, £500.

Dividing the cost (or estimated value) of facilities and equipment by durable years yields the depreciation resulting from their use over a year (in the above case £500 per year), and the result of subtracting the total depreciation from the cost or estimated value gives the written down value in a particular year:

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eg In the above case, the depreciation after three years is £1500, so that the written down value of the equipment in year 4 is £500.

Many economists argue that the treatment of capital costs outlined above is insufficient and that account must be taken of the *opportunity cost* of the capital investment - that is, the income foregone if we invest in capital goods such as buildings or equipment rather than trying to earn interest on our capital. It is argued that unless we do this we will seriously underestimate the costs of a project. While managers can normally ignore such considerations in their day-to-day business, in certain circumstances and particularly when addressing governmental and other funding bodies, one may have to take account of interest rates and add this to the annual amortisation. The formula most often used (see Jamison, Klees and Wells, 1978, pp. 32-3; Levin, 1984, pp. 67-73) for calculating the annualisation factor (which takes into account both the cost of depreciation and the opportunity cost of interest foregone) is:

$$a(r,n) = \frac{r(1+r)^n}{(1+r)^n - 1}$$

where $a(r,n)$ is the annualisation factor, n is the lifetime of the capital in years, and r is the prevailing interest rate.

eg the annualised cost of a word processor worth £2,000 where the interest rate is 11% is

$$\begin{aligned} & 2000 \times 0.11(1.11)^4 / (1.11)^4 - 1 \\ & = £715.56 \end{aligned}$$

As Perraton (1982, p. 59) observes, 'the argument about discount rates is not purely academic. If we want to compare types of education which are capital-intensive with those that are labour-intensive, it is important to agree about the proper treatment of capital. The larger the proportion of capital costs in a total budget, the more important is the decision about discount [interest] rate adopted'.