

Guideline to the fundamental principles of economic assessment, appraisals and evaluations.

'GUIDELINE TO THE FUNDAMENTAL PRINCIPLES OF ECONOMIC ASSESSMENTS, APPRAISALS AND EVALUATIONS'

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OVERVIEW:

The economic assessment, appraisal and evaluation of a project is core to understanding if, why and how intervention should be made in an activity. The shape and objective of each appraisal will differ according to what the proposed intervention is but the consistent theme should always be to establish the rationale for intervention whilst taking into account lessons learnt from previous activities.

These guidelines will outline the key steps that should be considered when designing, overseeing or undertaking an economic appraisal, evaluation or assessment. It will also provide further detailed guidance on aspects of an appraisal that remain central to its role; an example of which is additionality.

STEP BY STEP ECONOMIC APPRAISAL GUIDANCE:

Step 1 - Explain the Strategic Context:

Appraisals should begin by explaining the strategic relevance of the proposed policy, programme or project. All public sector intervention in projects should be justified on the basis that, from a public sector perspective, the project is needed, but the private sector cannot or are unwilling to do it, or cannot do it unaided.

It is important to establish clearly the rationale for the intervention. Key to this should always be the question *why has the market failed?*

Market failure occurs when the workings of the price mechanism are imperfect and result in an *inefficient or grossly unfair allocation of resources from the perspective of society*. This normally arises where barriers exist to the normal and efficient operation of the economy.

Markets will fail to produce the optimum levels (from both a private and society perspective) when:

- buyers and sellers do not have sufficient information or scope for action, or;
- there is an immobility of factors and time lags, or;
- those who generate costs do not pay for them all (negative externalities), or;
- those who generate benefits do not receive reward for them all or are not paid for them all (positive externalities), or;
- risks of buying and selling are not symmetrical.

A common example of market failure occurs in the provision of training. There are three forms of market failure that result in the market providing inefficiently low levels of training from society's perspective:

- Externalities leading to under-investment in training by employers. Firms are concerned that once trained an employee will leave the firm before the firm has recouped its investment.
- Imperfect information leading to low take up of training by employees due to imperfect link between training levels and increased wages. This reduces their willingness to accept lower wages during the training period or to receive training at all.
- Credit market imperfections result in low paid employees, in particular, being likely to be credit constrained and unable to obtain loans to pay for training.

Step 2 – Establish the Need For Expenditure:

Relevant projections of need or demand should be quantified and details of supporting calculations and assumptions should be provided. For example, projections of future demand for employment space would be core to justifying the creation of, for example, an office development.

The need for a project is related to its potential benefits but these should normally be treated separately. *A description of potential benefits does not usually amount to a justification of the need for a project.* An example of this is contained in the following text taken from an economic impact assessment:

“The needs for the project are identified as:

- Restoring the town front as a destination in its own right
- Complementing other measures to extend the holiday season
- Creating opportunities for attracting new business and new investment to the town front”

The above are examples of the potential benefits from the project rather than the need. An example of a clear statement of need would be:

“the visitor survey indicated that 25% of visitors considered the attraction over-crowded and 26% felt that the volume of visitors had an impact on their visit.... The trustees see the need to increase the utility of the attraction in order to both better satisfy existing demand and to develop a wider market appeal.”

Ideally the need for the project should relate back to the strategic context and outline the potential socioeconomic impact of the lack, or decline of, current provision by the market. If the market is currently under allocating resources (supplying too little) from society's perspective then there is justification for public sector intervention.

Step 3 – Define the Objectives and Constraints:

Objectives can often be specified in terms of a hierarchy of outcomes and outputs.

- Outcomes – These are the eventual benefits to society (economic, social and environmental) that the proposals are intended to achieve.
- Outputs – Sometimes Outcomes cannot be directly measured, in which case it will often be appropriate to specify outputs, as an intermediate step along the way. Outputs are the results of activities that can be clearly stated or measured and which relate in some way to the outcomes desired.

It is particularly important that objectives are measurable. It is also important that *objective setting precedes the appraisal of options; the latter should be determined by, other things being equal, maximising the former.*

A range of constraints may affect the options that are feasible or limit the level of achievable objectives.

- Physical
- Legal/statutory – consideration should be given to State Aid at this juncture
- Competitive/market-based – Full consideration should be given to asking *why the current market un-viability of an activity would be different after public sector intervention.* This has sustainability issues, proving the longer term viability of the project or programme is crucial.
- Political

Step 4 – Identify and Describe the Options:

The comparison of possible alternative courses of action should be at the heart of an appraisal. It is only by comparing the project alternatives that the real merits of any particular course of action are exposed.

The options selected for in-depth appraisal should include a baseline or benchmark option. This should usually be the "status quo" option, representing the genuine minimum input necessary to maintain services at, or as close as possible to, their current level, or trend. The baseline should normally be appraised even where it is not considered to be a realistic option. Its function is to provide a benchmark (although later in this document we look at using a 'reference case') so that the 'Value for Money' of the alternative 'do something' options may be judged by reference against current service provision.

However, the identification and assessment of alternative intervention options is central to project appraisal. Without a proper assessment of the options it will be difficult to have confidence in any

assessment of the value for money of the project. *Comparing the project option with the reference case alone will tell you only about the additionality of that option, it will not tell us whether or not greater additionality and more value for money could be achieved by delivering the project in a different way.*

An example of an Economic Impact Assessment that laid out the options clearly was for Bristol Port:

“There appear to be several options which have to be considered:

- More intensive use of existing port land
- Expansion of Royal Portbury Dock
- Expansion of Avonmouth Dock
- Removal of non-port related tenancies at Portbury
- Reclamation of areas currently within the River Severn”

Each of the options were then investigated in depth to explore their relative merits.

Step 5 – Identify and Quantify the Direct Monetary Costs and Benefits of Options:

The aim of appraisal is to obtain value for money from a broad economic perspective. The relevant base case costs and benefits of all options should be valued, and the net benefits or costs calculated. *Wider external costs and benefits - such as environmental considerations - for which there is no market price, also need to be brought into any assessment.* There will be some impacts, such as social or health impacts, which have no market price, but are still important enough to value separately.

Where possible, current market prices should be used to measure costs, because they reflect what firms, households or other entities are willing to pay. Costs and benefits considered should normally be extended to cover the period of the useful lifetime of the assets encompassed by the options under consideration. Where possible, projects should be discounted to provide the Net Present Value (NPV) of a project. This is a tool that helps solve the problem of how to compare a low capital cost/high running cost option with that of a high capital cost/low running cost alternative.

Public spending should be cost-effective, that is, the ratio of outputs to costs should be satisfactory in relation to the experience of similar cases. Judgement of this is aided by comparing the ratios for the proposal in view with those for other similar cases e.g. cost per job, cost per m² of floor space, cost per trainee place etc. However, *this comparison is useful only as supplementary evidence – the strategic impact of the project remains the overriding consideration.*

Expenditures that have already been incurred on goods and services, or resources that are irrevocably committed, should be ignored in an appraisal. They are ‘sunk costs’. What matters are *costs about which decisions can still be made.*

However, the latter includes the opportunity costs of continuing to tie up resources that have already been purchased. For example, assets such as land, buildings, machinery or vehicles that are already owned have an opportunity cost, because, if the project were not to proceed, these assets could be sold or put to an alternative use. Current market values of such assets should therefore be included as opportunity costs when appraising any option that will make use of them.

Step 6 – Applying Appropriate Adjustments:

It is crucial to consider the net, rather than gross, impact of the proposed projects. It is important to assess for displacement, deadweight, substitution and leakage because appraisal is about identifying a proposal's net impact in the region. Where these factors can be quantified in money terms, the cost/benefit streams should be adjusted to reflect the proposal's net impact.

Multiplier effects - In most appraisals it is sufficient to cost direct or 'first round' expenditure and employment effects. Multiplier or 'second round' effects should normally be excluded on the grounds that the alternative uses to which the resources would otherwise be put would also generate multiplier effects; and differences in such effects are often difficult to distinguish with confidence or without disproportionate effort.

However, in some appraisals, for example, those concerned to regenerate specific sub-regions, there may be justification for calculation of multiplier effects in order to estimate the full impact of a particular proposal.

Assessment of additionality is outlined later in the document.

Step 7 – Assess Risks and Adjust for Optimism Bias:

Risk management is a structured approach to identifying, assessing and controlling risks that emerge during the course of the project. It involves a series of well-defined steps to support better decision making. Risk management includes:

- Identifying possible risks in advance and putting mechanisms in place to minimise the likelihood of their materialising with adverse effects
- Having processes in place to monitor risks and access to reliable up to date information about risks
- The right balance of control in place to mitigate the adverse consequences of the risks, if they should materialise; and
- Decision-making processes supported by a framework of risk analysis and evaluation

Appraisers tend to overstate benefits and understate timescales and costs, both capital and revenue. Although not advocating the application of an 'optimism bias factor' it is important for appraisers to be aware of optimism bias in project appraisals.

Step 8 – Assess and Consider the Options:

Major costs and benefits should be described, and the values attached to each clearly shown rather than netted off or hidden within highly aggregated totals. *Appraisal reports should contain sufficient information to support the conduct of any subsequent evaluation.*

As mentioned above, central to good appraisal is the need to assess whether the project concerned will bring additional benefits over and above what would have happened anyway in its absence. To this end, it is important to consider qualitative as well as quantitative measures. For example, in a time of near full employment the benefit to society of creating 100 jobs to the local economy could be less than when unemployment is high. Therefore the 'quality' of the job becomes more pertinent and should be reflected in the both the project need and the options presented.

Step 9 – Consider Evaluation of Previous Interventions:

Evaluation plays an important role complementary to appraisal. Evaluation is a ex post activity which examines the outturn of a project, programme or activity, and is designed to ensure that the lessons learned are fed back into the decision making process.

It is important to consider how evaluation will be measured whilst designing the economic assessment or considering the appraisal. Every appraisal of any substance should indicate how the proposals concerned will be evaluated after completion and how the results of the evaluation will be disseminated.

An evaluation should normally consider:

- Establish exactly what is to be evaluated and how the outcomes can be measured
- Define the 'do nothing', or counterfactual, approach – what would have happened without intervention
- Compare the outcome with the target outcome and with the effects of the chosen counterfactual
- *Disseminate and use the results and recommendations.*

Step 10 – Project Decision

The ultimate outcome of any appraisal is a decision whether to or not to proceed with a proposal or a particular option. This should include determining whether the project should be modified for it to proceed. Consideration should be given to what the 'optimal size' of the intervention should be. The previous steps in the project appraisal should help determine what the project is worth to society – the social benefit.

The optimal size of the intervention would equate to the difference between the private benefit (the level at which the market would have provided anyway) and social benefit. Therefore the size of the optimal intervention will not necessarily equate to that required for the project and is the reason why some public intervention should be considered in combination with an element of private sector provision.

ADDITIONALITY:

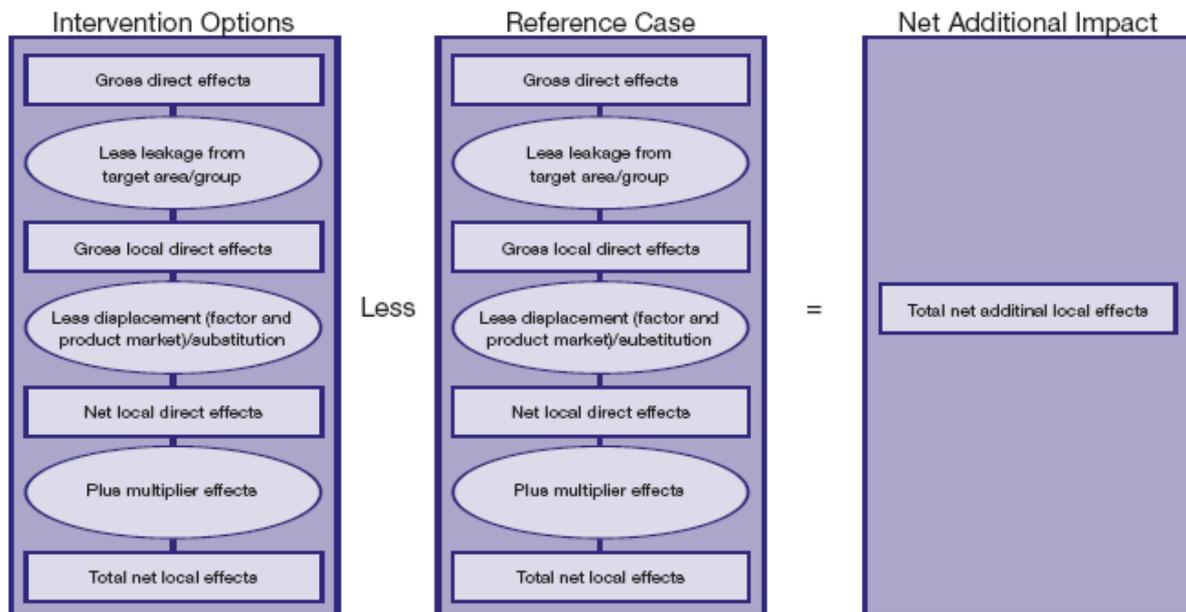
The net benefit of an intervention equals the gross benefits less the benefits that would have occurred in the absence of intervention (the 'deadweight') less the negative impacts elsewhere (including 'displacement' of activity), plus multiplier effects.

It is possible to assess the additional impacts of a project using two alternative approaches, as follows:

- Top-down: by assessing expected changes in overall indicators, such as the level of employment, total population, productivity levels etc. (this is also sometimes referred to as the outcome approach)
- Bottom-up: appraising the expected impact of individual actions or projects, through consideration of their likely outputs.

At the project design and development stages in SWRDA, the principal emphasis is on the output approach although all projects should incorporate the outcome approach because that will consider the strategic context and reflect the project need.

Approach to assessing project level additionality – key components



(Source: *Additionality Guide, English Partnerships, September 2004*)

- Leakage effects: the number or proportion of outputs that benefit those outside of the project's target area or group should be deducted from the gross direct effects.

- Displacement: the number or proportion of project outputs accounted for by reduced outputs elsewhere in the target area should also be deducted. Displacement takes place where the project takes market share (called product market displacement) or labour, land or capital (referred to as factor market displacement) from other existing local firms or organisations.
- Substitution effects: this effect arises where a firm substitutes one activity for a similar one to take advantage of public sector assistance. Again these effects need to be deducted.
- Economic multiplier effects: further economic activity (jobs, expenditure or income) associated with additional local income, local supplier purchases and longer term development effects then need to be added.

Two types of multiplier can be identified:

- a supply linkage multiplier (sometimes referred to as an indirect multiplier) due to purchases made as a result of the project and further purchases associated with linked firms along the supply chain
- an income multiplier (also referred to as a consumption or induced multiplier) associated with local expenditure as a result of those who derive incomes from the direct and supply linkage impacts of the project

The scale of multiplier effects will be influenced in particular by:

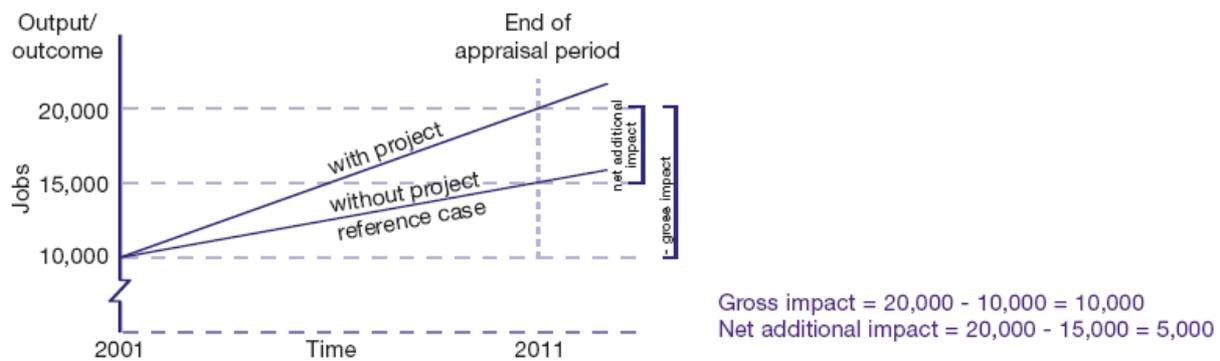
- Supply linkage multiplier: the extent of the supply chain linkages in area of analysis. These linkages vary substantially by sector and area.
- Income multiplier: the proportion of additional income spent within the area of analysis.

The additionality of a project should be considered from the earliest stages of a project's development so that, where possible, leakage and displacement effects are minimised and potential multiplier effects are maximised. The process of assessing additionality is more than just an input into the value for money judgement. It can also be used in a *positive way as a tool that the project developer should use to test the project as it is being developed.*

As indicated above, the emphasis in many assessments of additionality is often on quantitative indicators. In many cases, however, these quantitative measures will not take sufficient account of the qualitative differences between intervention and baseline. An obvious example is where consideration is being given to an intervention which produces a rather low number of net additional jobs, but these jobs are qualitatively different from those that would arise in the baseline.

Deadweight is a dynamic concept and involves judgement about, amongst other things, the economic trend or events that are planned or are thought likely to happen over the project period (but assuming the project did not go ahead). The forecast reference case can be better or worse than the existing position (known as the baseline position) depending on the view taken of what economic will take place over the project period.

In the case below the forecast market trend is upwards and this has the net effect of reducing the additionality that the project will provide from 10,000 jobs to 5,000.



(Source: *Additionality Guide, English Partnerships, September 2004*)

Therefore economic appraisals should, where possible, take into account both prevailing and forecast market conditions and, preferably, use the reference case over the baseline position. Note in the above example

REASONS FOR INTERVENTION:

As the above step by step guide highlights, economic appraisals are conducted on a remit wider than the financial viability of the project or programme per se. Economic appraisals broadly assess the potential impact on wider society rather than the individual project which can be assessed via a more conventional financial appraisal.

Public intervention is often required if the benefit to society exceeds private gain, or if the private gain is too low for the private sector to be induced into provision. Therefore it is possible for a project to have a positive economic appraisal even if its financial appraisal is negative. The different scenarios are:

- A project that has both a positive financial and economic appraisal. This project is both beneficial to society and attractive to private investors. There should be no need for public intervention although if the wider benefit is of such a magnitude public support could be considered.
- A project that has a positive financial but a negative economic appraisal. This project is attractive to the private sector although it could present wider negative externalities. If this was the case, regulation (e.g. taxation) should prevent this situation arising.

- A project that has a negative financial appraisal but a positive economic appraisal. This project is beneficial to society but not attractive to private investors. This is where public intervention is required – either as full service provision or as gap funders.
- A project that has both negative financial and economic appraisals. This project is completely unviable, being neither beneficial to society nor attractive to the private sector.

As the Treasury's Green Book states, public sector intervention intended to assist the market needs to be carefully designed. It can *incur costs and create economic distortions* and these must be taken into account.

However, public intervention can positively influence the barriers that have caused market failure so that the private sector can ultimately engage in delivering the project or programme.

- Pioneer risk; the project involves investing in an untried market or an untried location. No private sector investor will enter the market and there is no mechanism to facilitate co-operation. Often the private sector does not have sufficient 'market information' to inform its decision. The public sector might be willing to bear the risk.
- External costs; the forecast costs to the private sector investor are too high or the forecast receipts are too low because some of those who are imposing costs on the project or depressing its value cannot be made to contribute. The public sector can then intervene to provide assistance to enable the investor to bear those externally imposed costs or to compensate for the lost income or end value.
- Free riders/public goods; the forecast receipts to the private sector investor are too low or zero because some of those who would benefit from the project could not be made to contribute to its costs. In terms of zero receipts, an example would be public realm works. The public sector can intervene to make up for an inability to charge the beneficiaries.
- Asymmetric risk; the project needs to acquire assets (typically land) which, on any residual valuation, (end value of the project minus all other costs) have low or even negative value. But the private sector investor cannot get the assets at that low valuation because, for the present owner, selling at that value is more risky than holding. The public sector could in principle intervene by buying the asset at its open market price and selling it to the project at its residual value.

GLOSSARY:

Additionality – *Additionality is the extent to which something happens as a result of an intervention that would not have occurred in the absence of the intervention.*

Baseline – *A description of conditions existing at a point in time against which subsequent changes can be detected through monitoring.*

Cost-Benefit Analysis – *Analysis which quantifies in monetary terms as many of the costs and benefits of a proposal as feasible, including items for which the market does not provide a satisfactory measure of economic value.*

Deadweight – *Output that would have occurred without the project.*

Displacement – *The proportion of a project outputs accounted for by reduced outputs elsewhere in the target area.*

Externalities – *Externalities result when a particular activity produces benefits or costs for other activities that are not directly priced into the market.*

Leakage – *The proportion of outputs that benefit those outside of the project's target area or group.*

Market Failure – *Market failure occurs when the workings of the price mechanism are imperfect and result in an inefficient or grossly unfair allocation of resources from the perspective of society. A situation where barriers exist to the normal and efficient operation of a local economy.*

Marginal Social Benefit – *Benefit incurred by both the firm and society in producing an extra unit of a good.*

Marginal Social Cost – *Cost incurred by both the firm and society in producing an extra unit of a good.*

Multiplier - *The multiplier is concerned with how income changes as a result of a change in an injection, for example investment. The size of the multiplier would depend on the level of leakages.*

Optimum Allocation – *Occurs when it is not possible to redistribute goods to increase the welfare of any one consumer without reducing the welfare of some other consumer.*

Outcomes – *The intended results of the project in terms of its key or ultimate objectives, such as a sustainable increase in economic activity.*

Outputs – *Immediately produced by a project, such as land reclaimed or number of trainees.*

Over Production – *When production is above the socially optimum level.*

Public Good – *Items which can be jointly consumed by many consumers simultaneously without any loss of provision. Therefore they would not be provided for in the pure free-market system.*

Reference case – *The position in terms of target outputs over a set period of time if the project/intervention did not take place.*

Resource Allocation - *A particular use of land, labour, capital and entrepreneurs.*

Substitution – *When one good is bought in place of another.*