

Economic Appraisal 3: Scoping the Problem and Defining the Intervention Options

A policy, programme or project should only be adopted or undertaken if it has a sufficiently compelling intervention logic. That logic needs to be based on two considerations, both of which must be satisfied:

1. There is a rationale for intervention that corresponds to a clearly identified need;
2. The proposed intervention is likely to be worth the cost.

The previous lesson considered three kinds of rationale for intervention. We shall consider later how one might assess whether the benefits of an intervention exceed its costs. Right now, we shall take it that there is a compelling logic for some action, and that this is known to those doing the economic appraisal. We now wish to consider issues relating to scoping the problem and developing intervention options.

These and related matters are covered in Chapters 4 and 5 of the Green Book (GB), albeit in a somewhat mechanical way. It will be useful, though, to follow an example used there about expanding vocational training used. Box 4 below - a screen shot taken directly from GB page 12 - exemplifies the reasoning and evidence that would be required to **justify** government intervention.

BOX 4: EXAMPLE 'EXPANDING VOCATIONAL TRAINING'

There is evidence that skilled workforces have positive impacts on high-level economic aims, such as productivity and GDP growth. At the same time, there is evidence of a major skills deficiency in the UK, which is reflected in the low numbers holding intermediate level vocational qualifications, compared to Germany and other European countries. There is further evidence that there are three forms of market failure that continue to cause this skills gap:

1. 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. Unless training pays off very quickly, firms are therefore reluctant to provide training to their workers.
2. Imperfect information leading to employees being unable to judge the quality of their training or appreciate the benefits. This reduces their willingness to accept lower wages during the training period or to receive any training at all.
3. Credit market imperfections. Training is costly, but individuals expect to obtain higher wages from training. Some individuals may wish to borrow to fund training in the expectation that they will be able to pay back the loan through higher future wages. However, low-paid employees in particular are likely to be credit constrained and unable to obtain loans to pay for training.

These market failures mean that the level of training provided by the market is likely to be inefficiently low from society's point of view. Well-designed government intervention may help to bridge the gap.

Notice in this case that the **need** for intervention is based on a labour market skills shortage; the **cause** of this shortage is seen as being grounded in three forms of market failure: one an externality and two related to asymmetric information (in the labour and credit markets respectively).

One might also remark that no "evidence" *per se* is given here, nor is any information presented to support a position that the worth of intervention in this area is likely to exceed its cost. One would hope that this would be something that the appraisal team has already given consideration to, though.

The next step of the appraisal process is about taking matters forward to flesh out what form the intervention should take. Ultimately what we are looking for is the best way of achieving the goal in question. To do so, involves a structured search and option generation process that should include the following elements:

1. Specify and clearly state **objectives** for the policy, programme or project.
2. Lay out a set of desired **outcomes** of the intervention. (These desired outcomes should, of course, be derived from and entirely consistent with the objectives of the intervention and with its rationale).
3. Where one or more desired outcome is not directly measurable, then to facilitate auditing of progress towards desired outcomes, and to help in thinking about alternative ways of achieving desired outcomes, the appraiser should specify one or more intended **outputs**. Outputs must relate in some way to the desired outcomes. In the absence of measurable outcomes, outputs will act as proxy variables that allow for subsequent (indirect) monitoring of effectiveness.
4. **Targets** should be set to help progress towards meeting objectives. The Green Book asserts that targets should be **SMART**: i.e. Specific, Measurable; Achievable, Relevant; and Time-bound. I will leave participants to read relevant pages of the GB to check understanding of what each of these means
5. Identify a full set of **options** that may potentially deliver those desired outcomes.

The Green Book terminology can be a little baffling or ambiguous when it comes to meanings of the words *objectives*, *outcomes*, *outputs*, *options* and *targets*. It will be worth spending a few minutes at this point in the lesson to reflect on whether you have a clear understanding of the meanings of these terms as they are being used in the Green Book. This might entail, of course, going back to the Green Book itself for clear definitions of the various terms.

The following classification + definition + explanation of terms may help fix meanings:

Concept	Meaning	Further information
Objective	A statement of what a proposal for intervention is intended to achieve.	Objectives may be expressed in general terms so that the range of options to meet them can be considered.
Outcome	Outcomes are the eventual benefits to society that proposals are intended to achieve.	Outcomes can sometimes be directly measured, in which case monitoring of the success of an intervention can be implemented directly in terms of outcomes. But sometimes outcomes cannot be directly measured, in which case it will often be appropriate to specify outputs, as intermediate steps along the way, and monitoring of effectiveness will be based on those outputs.
Output	Outputs are the results of activities that can be clearly stated or measured and which relate in some way to the outcomes desired.	The use of outputs is particularly appropriate where outcomes cannot be directly measured.
Target	A specific and measurable performance indicator that can be used to help stage progress towards producing outputs, delivering outcomes, and/or meeting objectives.	The Green Book asserts that targets should be SMART: <ul style="list-style-type: none"> • Specific • Measurable • Achievable • Relevant • Time-bound.
Option	One way (usually among several and perhaps many) others through which an (ultimate goal) may be reached.	

BOX 7: EXAMPLE 'EXPANDING VOCATIONAL TRAINING'

OVERALL POLICY OBJECTIVE

'To address the major skills deficiency in the UK by increasing training to be reflected in the numbers of people holding vocational qualifications'.

See Box 4 for the rationale for government intervention.

Examples of outcomes, outputs and targets:

Outcomes	Outputs	Targets
A socially optimal level of training	Human capital as a share of GDP	The number of training places that will be provided by a certain date
Higher productivity for both trainees and co-workers	Proportion of workforce with vocational training	Reduction in the percentage drop-out rate by a certain date

To illustrate with the earlier skills shortage example, Box 7 (copied from GB page 15) details some possible objectives, outcomes, outputs and targets for the expansion of vocational education in the UK. Whether these are well-designed with respect to one another I will leave you to judge. The first **outcome** listed here - a socially optimal level of training - is not directly observable. The example contends that the share of human capital in GDP is an appropriate **output**, in which case it must be measurable (which it probably is - providing there is an agreed definition of human capital) and it must be related in some way to the objective (which it certainly is, although this rather begs the question about how one might judge what the *socially optimal* training level is).

We now move on to consider what is arguably the most important part of this process: creation of a set of options.

Developing Options

For any particular intervention - whether it be a policy, programme or project - an objective or objectives should be specified. For simplicity, we will deal with the case in which there is a single intervention objective.

The next steps will be:

1. Prepare a list of the range of actions, or options, which government could possibly take to achieve the identified objectives.
2. From the full list of options identified in step 1 above, select a shortlist of options for more complete examination.
3. Selection of the best option from among the set of options included in the shortlist.

This lesson deals with steps 1 and 2 above. Step 3, selection of the best option, is looked at in Topic 5. We now look at the first of these two steps in more detail, paying attention to Green Book guidance on how they should be undertaken as we go along.

1. Prepare a list of the range of actions, or options, which government could possibly take to achieve the identified objectives.

The point here is that there is almost always more than one way in which any particular objective might be obtained. Each of these "ways" of achieving an objective can be thought of as an **option**. In general we will **not** know at the outset of an economic appraisal all of the elements of the full or complete set of feasible options to achieve some objective.

A second important point is that available options do not simply exist in ready-made form, just waiting to be discovered and selected from. Options are things that are created. So uncertainty about available options is not resolvable simply by a search process. The following page discusses some ways in which options can be generated. Suffice to say just now that the quality of any economic appraisal will depend on the quality of work done at this option development stage.

Third, the list of options at this first step should be complete. This could be taken to mean that **ALL** feasible options should be identified. For if we fail to bring all ways of achieving an objective into the choice set, there must be some possibility that the best one will have been excluded from the outset. But this would in practice almost certainly be an unrealisable goal, given that the appraiser has limited resources. It is preferable to interpret the completeness criterion as meaning that the options being identified in step 1 should cover the complete **range** of possible actions. This is exactly what the Green Book advocates (page 17, point 5.3):

"This step involves preparing a list of the range of actions which government could possibly take to achieve the identified objectives."

At this point, however, the Green Book introduces what may be called a "commensurate effort" principle. On page 17 (point 5.4) it states that:

"The range of options depends on the nature of the objectives. For a major programme, a wide range should be considered **before** short-listing for detailed appraisal."

where my emphasis has been added on the word 'before'.

This seems to introduce some ambiguity in advice. By implication, for minor programmes a narrower range would be appropriate, which seems at odds with the earlier urging for full range. The author of these lesson materials takes the view that there is a potential confusion here between 'range of actions' and 'range of options'. In doing economic appraisal, one should always be seeking the **highest** possible value-for-money, and that should not be jeopardised by prior restrictions on the range of the choice set. It seems best to argue that before any shortlist is selected one should not exclude any of the different classes of action that could be taken. Of course, for any single class of action, there might be several options available for working towards an objective in that particular way. It is there - in the number of options developed - that the commensurate effort principle can be safely applied.

The next page considers some techniques by which options may be generated (or created).

Generating Options

How should we generate a set of options for attaining some particular objective, from which a shortlist may be selected?

From the outset, two points should be made, both of which are explicit Green Book guidelines.

1. Always include in the full list of options the "Do Minimum" option.

"The list should include an option where government takes the minimum amount of action necessary (the 'do minimum option'), so that the reasons for more interventionist actions can be judged." (Green Book, page 17.)

2. Options should include not only "new" but also existing activities:

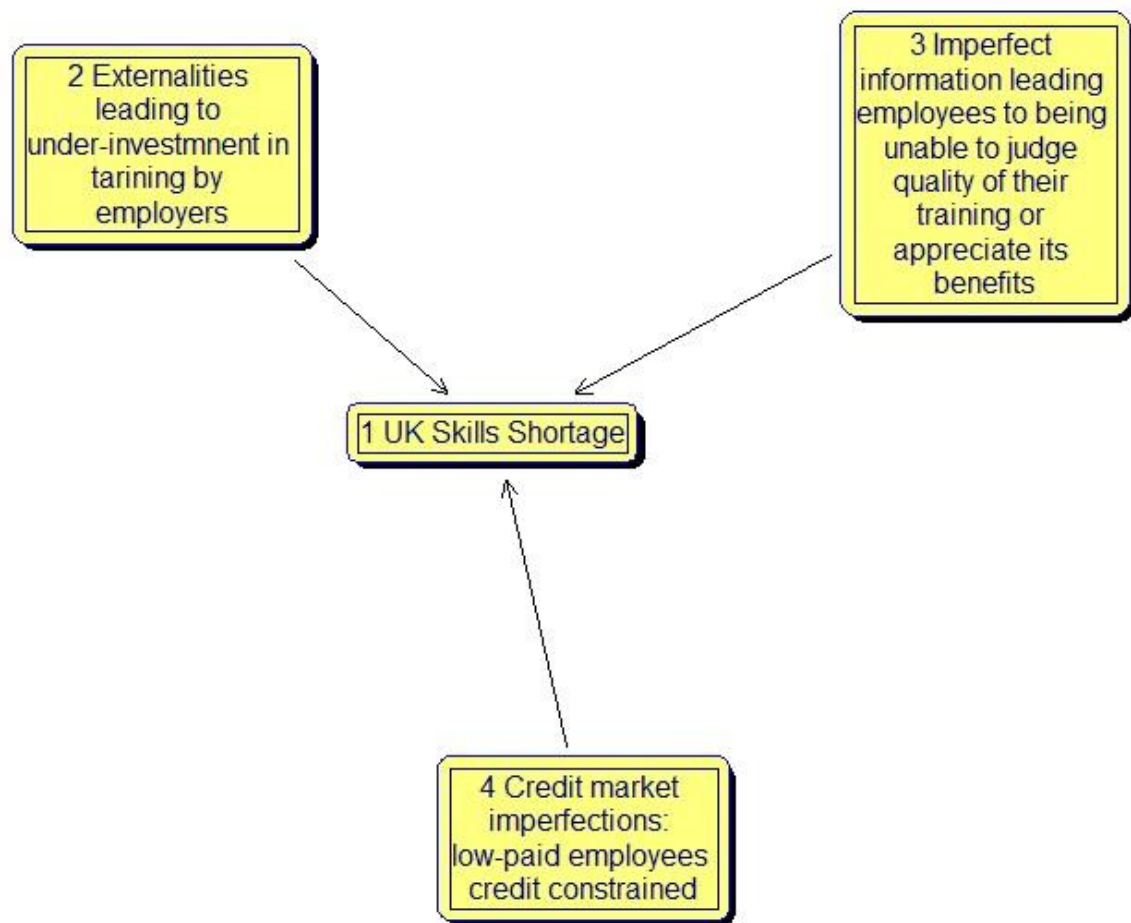
"Both new and current policies, programmes and projects should be included as options." (Green Book, page 17). "However, these two principles do not really get us very far. There are three basic approaches one might take to generating options:

- Method 1: Creating options is by the use of analytical, theory-based reasoning.
- Method 2: By the use of prompt lists in conjunction with collaborative brainstorming sessions.
- Method 3: By exploiting institutional knowledge.

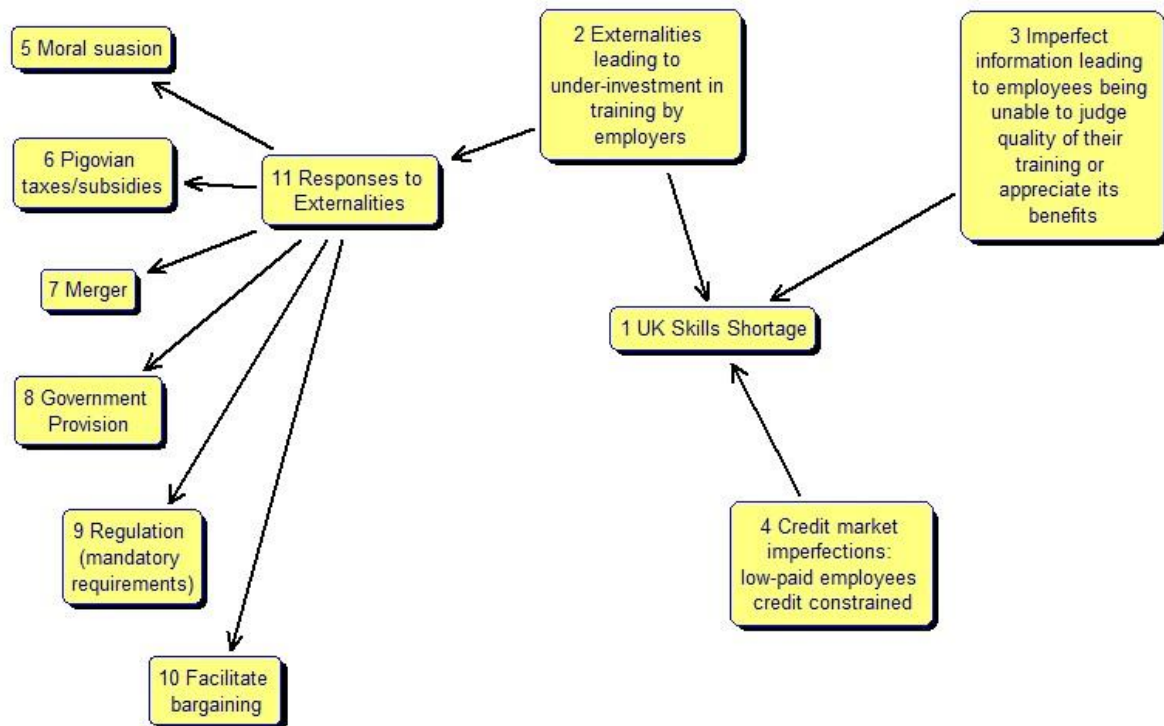
Method 1: Creating Options Using Analytical, Theory-Based Reasoning

What I have in mind here is trying to derive options from economics-grounded first principles. If we have a clear statement about why intervention is warranted, it is likely that associated with that will be a statement of the underlying causes of the conditions that give rise to the need for intervention. Once we are clear what those causes are, it is often the case that some options will be suggested as ways of ameliorating those causes.

To see what this might entail, let's return to the skills shortage example looked at earlier. You will recall that the rationale for intervention was based on skills shortages that were thought to have their source in three kinds of market failure. The following diagram illustrates:



Let us focus on box 2 in the diagram above, which refers to externalities which lead to under-investment in training by employers. [\(What is this externality, by the way?\)](#) Without even enquiring precisely what kind of externality is occurring here, we know from welfare economics theory of several generic responses to an externality. Six of these are shown in the following graphic, each of which in some way or other operates by internalising the externality.



At this stage, what we have is nothing more than a typology of the range of possible actions to deal with an externality. Our task now is to take each of these generic responses and to see whether it suggests one or more particular responses to the training externality that could form the basis of an option. It is hard to see, for example, how the merger route could open up promising options in this case. Government provision, on the other hand, certainly looks more promising, and is widely used in labour force training. And many options could be developed from this launching pad. Less commonly thought about, but potentially quite promising, is the use of Pigovian taxes and subsidies.

I shall not take this any further; but it clearly indicates how simple theory-based reasoning can get us a long way. Presumably, we could do the same thing for the other two causes identified in the first of the two diagrams above; namely, credit market imperfections and imperfect information. Economic theory can also suggest a variety of generic ways of 'dealing with' each of these; and from these specific options can be thought through.

What we hope to discover in this process are clusters of options that are consistent with, and reinforce, one another. If a set of options could be developed that would between them deal with all three fundamental causes and which include some options that respond appropriately to all three fundamental causes, we are already a long way down the line of developing a full range of options (although much further development work and feasibility study will of course be required.)

Method 2: By the use of prompt lists in conjunction with collaborative brainstorming sessions.

Method 3: By exploiting institutional knowledge.

Let us deal with Methods 2 and 3 together. One does not wish to continually re-invent the wheel, so it is sensible to take on board pre-existing ideas. [But note also that over-reliance on established ways of doing things can be extremely costly if this is at the expense of fresh analytical thinking.] At this stage it will be helpful to look at the Green Book Advice on Creating Options (see GB pages 17 and 18).

The GB states that "At the early stages, it is usually important to consult widely, either formally or informally, as this is often the best way of creating an appropriate set of options." Such consultation can take many forms, including reading existing reports, consulting external practitioners and experts, and researching practice elsewhere in other agencies or in other country contexts. Among other things, one is seeking here to find whether there are generally recognised best practice solutions.

The Green Book also provides (in Box 9 on page 18) the following list of examples of options. Although this list is somewhat ad hoc, the elements of the list serve to remind us of a variety of dimensions of options that will need to be addressed: these dimensions include time, space, alternative policy instruments, scales of intervention; regulatory compared with deregulatory or self-regulation solutions, and spending as compared with tax options.

BOX 9: EXAMPLES OF OPTIONS

Examples of strategic and operational options include:

- Varying time and scale
- Options to rent, build or purchase
- Changing the combination of capital and recurrent expenditure
- Refurbishing existing facilities or leasing and buying new ones
- Co-operating with other parts of government
- Changing locations or sites
- Provision of the service, such as maintenance, or facility by the private sector
- Co-locating, or sharing facilities with other agencies
- Using IT to improve delivery, as part of wider organisational changes
- Transferring service provision to another body, or improving partnership arrangements
- Varying the balance between outsourcing and providing services (or retaining expertise in-house)
- Engaging the voluntary sector
- Regulation, including private sector self regulation, and voluntary action
- Different standards or compliance procedures for different groups (e.g. large and small businesses)
- Varying quality targets
- Different degrees of compulsion, accreditation, monitoring, and inspection regimes, including voluntary codes, approved codes of practice or government regulation
- Action at a regional, national, or international level (e.g. European wide)
- Better implementation of existing measures or initiatives
- Information campaigns
- Deregulation and non-intervention
- Changes that will be permanent in the foreseeable future, or initiatives with specified time horizons.

- Develop and consider radical options. These options may not become part of the formal appraisal but can be helpful to test the parameters of feasible solutions. Well-run brainstorming sessions can help to generate such a range of ideas.

• **Short-Listing Options**

- At this stage, we shall do no more than quote Green Book advice on this matter (see GB, page 19).
- "A shortlist of options may be created, partly to keep the appraisal process manageable, usually at the preliminary stages of a policy appraisal, or during the strategic outline business case stage for a capital investment appraisal. However, there is a risk that the process of short-listing will eliminate the optimal solution before it is given full consideration. Therefore, shortlists should still try to cover a wide range of potential action.
- The shortlist must always include the 'do minimum' option. Reasons behind the rejection of each excluded option should be recorded."

Discussion Forum Exercise: Developing Options for HIV/AIDS interventions

Using the methods indicated in this lesson, think through and try to develop a list of a range of options that might be used to control and hopefully reduce the prevalence of HIV and/or AIDS in a country or region.

Please post a brief outline of your thoughts on this matter [to this Discussion Forum](#), commenting also on the contributions of others as appropriate.

If however you have, individually or in a team with others, worked on this specific issue already or have a detailed knowledge of the work of your colleagues in this area, then please do not post such a list to this Forum. Instead, look over the posts of others and make comments on those. In particular, remark on whether you find any similarities between the contributions of others and lists of options that you have come across in your work.

What I do NOT want here is for participants to read through any DFID documents that deal with HIV/AIDS interventions. I do want you to try and think this through as far as possible from first principles. At a later stage, we will compare what has emerged in this Forum with some actual DFID work in this area.