

Economic Appraisal

Course Organisation and Learning Objectives

Introducing the 2003 edition of the Green Book, the [UK Treasury website](#) states that:

"The Green Book methodology should be used to make an economic assessment of the social costs and benefits of all new policies projects and programmes including the economic assessment of regulations under regulatory impact analysis. As recommended by the Green Book all spending proposals should be accompanied by a proportionate and well structured business case."

This course is intended to give you the theoretical knowledge and technical skills, along with the appropriate practical guidance, that is required to carry out high quality economic assessment.

The course is principally addressed to DFID economists, although others may also find it of value. Given our audience, we look at economic assessment very much from the point of view of DFID staff (and its clients, partners and stakeholders), focussing on the kinds of programmes and policy matters which they typically confront.

You may already have observed that this course is entitled '**Economic Appraisal**' rather than Economic Assessment. The Green Book uses 'assessment' to refer to both *appraisals* before decisions are made (*ex ante*), and evaluations of decisions once made (*ex post*). This usage is followed here. Most of what we discuss is couched in terms of *ex ante* assessment, hence the word 'appraisal'; however, most of what you will cover here applies with straightforward adaptation to *ex post* evaluation.

The course is structured into nine "Topics" as follows (where each Topic has a week label, as it the course has been designed so that one topic corresponds to one week of study). Although each topic is organised to take place within one week, they do differ in terms of the amount of content contained. In the listing below, the classification SHORT, MEDIUM or LONG is appended to give you a rough idea about the relative lengths of each topic.

Week 1: Introduction: The Nature and Role of Economic Appraisal - an Overview (Short)

This introduces the notion of economic appraisal, discussing its meaning and scope. You should find that this is relatively short, and is an easy non-technical starting point.

- Economic appraisal: an overview
- The bridge problem
- Economic appraisal: meaning and scope
- Economic appraisal criteria
- Exercise 1
- Private and social perspectives
- Economic impact analysis (EIA)

- Discussion Forum Exercise 1: The Bridge
- Discussion Forum: Public Interests

Week 2: The Rationale for Intervention (Long)

This looks at the theoretical foundations of economic appraisal in terms of welfare economics, and argues that market failure, government failure, and equity or social justice can all be valid bases for intervention. This topic summarises some key aspects of welfare economics theory. It also contains some more extensive accounts of welfare economics theory; these are here as voluntary "extras", and are offered for those who feel that their welfare economics knowledge is either weak or in need of some refreshing. This topic is a relatively long one (particularly if you read one or both of the 'Technical Background' papers).

- Intervention and the ROAMEF Cycle
- Rationale for intervention: Responding to market failure
 - Conditions required for a first-best efficient allocation of resources
 - Efficiency given ideal conditions
 - Partial equilibrium analysis of market efficiency
- Market failure and public policy
 - The existence of markets and the existence of enforceable property rights
 - Situations where transactors do not have perfect information or are not maximisers
 - Externalities
 - Public Goods
 - Other forms of market failure
 - Appendices
- Rationale for intervention: Responding to government failure
 - Government Failure as an argument against intervention
 - Government Failure as a rationale for intervention
- Equity Considerations as a Basis For Intervention
 - The social welfare function and optimality
 - Some possible forms of Social Welfare Function
 - Compensation Tests
 - Equity and DFID Intervention
 - The Green Book and Equity Considerations
- Discussion Forum: Education Interventions
- Discussion Forum: DFID's SWF

Week 3: Scoping the Problem and Defining the Intervention Options (Short)

Here we go through the notion of options, considering some of the approaches available to help in the creation of options.

- Economic Appraisal: Scoping the Problem and Defining the Intervention Options
- Developing Options
- Generating Options
- Short-listing options
- Discussion Forum Exercise: Developing Options for HIV/AIDS interventions

Week 4: Identification and Evaluation of Changes in Costs and Benefits (Medium)

The central goal of this topic is to consider how we can identify and quantify changes in costs and benefits for any potential intervention. We shall also consider the process of evaluating costs and benefits, and introduce the idea of shadow pricing (a set of techniques that will be explored in more depth in Topic 7).

- Identification and Evaluation of Changes in Costs and Benefits: Green Book Recommended Procedure
- Changes in Costs and Benefits: Some Preliminaries
- Setting out the shortlist of options and establishing the counterfactual
- Identifying Costs and Benefits: some matters to consider
- Setting out the incremental costs of an intervention option
- Setting out the incremental benefits of an intervention option
- Affordability
- Valuation of the Costs and Benefits of Options, and the notion of Shadow Pricing
- Discussion Forum Exercise 4: Setting out the information for an EA and moving on to appraise the project in terms of its NPV

Week 5: Performance Measures (Long)

Week 5 takes us into the heartland of economic appraisal. Here we lay out and discuss various project performance indicators and decision criteria. We do so in the context of some Excel based calculations, showing how the various measures are constructed and interpreted, and suggesting how the sensitivity of results to modelling assumptions can be systematically explored.

- Introduction to Topic 5
- Section 1: Basic Concepts of Investment Project Appraisal
 - Project appraisal from a wealth-maximising point of view
 - The NPV Curve
 - Comparing two or more projects or options
 - Projects for which NPV curves cross
 - NPV curves with "Perverse" Shapes
 - Conclusions
- Section 2: Economic Appraisal from a social point of view
 - Intertemporal modelling
 - Social project appraisal
 - The Benefit to Cost ratio, BCR
 - Selection from among multiple projects (or project options)
 - Carrying out useful sensitivity analysis
- Section 3: Choice of Discount Rate: in Theory and Practice
 - Discounting in Theory: Choice of Social Discount Rate
 - The market rate of interest, the consumption discount rate, and the marginal rate of return on capital
 - Projects with long lifetimes
 - Box 11.2: Official Recommendations about Choice of Discount Rates
- A cost-benefit analysis of a power station
- Forum Exercise 5a: A simple worked example - should a power station be built?
- Forum Exercise 5b: Two Valuation Issues

Week 6: Potential Pitfalls in the Economic Appraisal Process (Medium)

- The Economic Appraisal Process - and Potential Pitfalls
- Dangers of Incorrect Project Specification
- Dealing with Inflation
- Pure Double Counting

- Dealing with secondary, indirect or induced effects
- CGE Analysis: Some Brief Notes
- Extension of Multi-Sectoral Modelling: Computable General Equilibrium Analysis and Modelling
- Additionality
- Public Sector Bias?
- Discussion Forum: NPV Calculations for the HEP Project under counterfactuals CF1, CF2 and CF3
- Discussion Forum: Should the income received by employees working on a project be treated as a benefit of the project?

Week 7: Shadow Pricing; and Applications to Development (Long)

- Economic Appraisal, Shadow Prices, and Applications to Development
- Part A: Shadow Pricing Theory - First Best and Second Best Settings and Allocations
 - Shadow Pricing Theory - First Best Settings
 - Shadow Pricing Theory - Second Best Settings
- Part B: Economic Appraisal in Relatively Undistorted Economies
 - F6.5
 - Valuing labour inputs: The Shadow price of labour
- Part C: Applications and Extensions of CBA for Development
 - Adapting economic appraisal for developing countries
 - Why economic appraisal was deemed to need adaptation
 - Efficiency accounting and social accounting: two levels of economic appraisal
 - Numéraire
 - Accounting-price ratios
 - Distribution-weighting
 - Accounting wage-rate
 - Totalling the accounting costs of inputs and values of outputs
 - Processes involved in an LMST appraisal -- a hypothetical example
 - Use of project appraisal in policy
- Additional reading
- Forum Exercise 7: Shadow Pricing

Week 8: Risk & Uncertainty (Medium)

- Risk and Uncertainty: Introduction
- Defining Risk and Uncertainty
- Expected Values and Expected Net Present Value
- Using Decision Trees to Compute Expected Net Benefits in the Presence of Risks that are Time Independent
- Sensitivity Analysis
- Monte Carlo Analysis
- The St Petersburg paradox
- Basic concepts for risk analysis
- Option price and option value
- Risk and irreversibility
- Decision theory: choices under uncertainty
- Green Book Annex 4: Risk and Uncertainty
- Discussion Forum 8: Sensitivity Analysis

Week 9: Limits and Alternatives (Short)

- Limits and Alternatives: Introduction

- Limitations of CBA
- Criticisms of utilitarianism
- Objections to Cost-Benefit Analysis
- Alternatives to CBA
- Discussion Forum 9: Multi-criteria analysis

Week 10: DFID and General/Sector Budget support programmes (Long)

- DFID and Poverty Reduction Budget Support (PRBS) Programmes
- Recent historical context: reasons for interest in general budget support
- Methodological Principles of PRBS
- Objectives: What is it that donor agencies seek to achieve through the use of PRBS?
- The OECD Development Assistance Committee (DAC) evaluation criteria
- Moving towards feasible evaluation of PRBS using hypothesised causal mechanisms
- Uncertainties and Challenges
- Recent Examples of PRBS Appraisals by DFID
- Case Study Documents
- Discussion Forum 10: PRBD in Malawi and Rwanda