The two main "manuals" in benefit-cost analysis (BCA) applied to developing economies (LDCs) are I. M. D. Little and J. A. Mirrlees, Project Appraisal and Planning for Developing Countries (1974), an updated version of their OECD Manual of Industrial Project Analysis for Developing Countries (1968); and the UNIDO [United Nations Industrial Development Organization] Guidelines for Project Evaluation (1972), written by P. Dasgupta, S. Marglin and A. K. Sen. Many textbooks are available on BCA, with applications to both DCs and LDCs, such as


J. P. Gittinger, Economic Analysis of Agricultural Projects, 2nd ed. (World Bank and Johns Hopkins Press, 1982)


G. Irvin, Modern Cost-Benefit Methods (1978)

D. Lal, Methods of Project Analysis: A Review (World Bank, 1974)

S. Marglin, Public Investment Criteria (1967)

E. J. Mishan, Cost-Benefit Analysis (1975 and later editions)

T. Palm and A. Qayum, Private and Public Investment Analysis (South-Western, 1985)


L. Squire and H. G. van der Tak, Economic Analysis of Projects (World Bank and JHU Press, 1975)


These books, as well as the references given below, have been placed on reserve. In addition, the following recent paperback on BCA applied to LDCs is available from the Vanderbilt University Bookstore:


Students will benefit from a careful reading of Professor Clive Bell's lecture notes on project evaluation, used last year in this course.

**Course Outline and References**

1. **Rationale and methodology of social benefit-cost analysis**
   
   Palm and Qayum, *Private and Public Investment Analysis*, Ch. 1  
   UNIDO, *Guidelines for Project Evaluation*, Chs. 1, 3  
   Squire and van der Tak, *Economic Analysis of Projects*, Ch. 1  
   Prest and Turvey, "The Main Questions" (Reading 1 in Layard)  
   Little and Mirrlees, *Project Appraisal and Planning for Developing Countries*, Chs. 1-2  
   Musgrave, "Cost-Benefit Analysis and the Theory of Public Finance," (Reading 2 in Layard)  
   Marglin, *Public Investment Criteria*, Ch. 1  
   Irvin, *Modern Cost-Benefit Methods*, Ch. 4  
   Bell, Lecture 1

2. **Investment criteria**
   
   Palm and Qayum, Chs. 2, 3, 4, 5, 9  
   Bromwich, *The Economics of Capital Budgeting*, Chs. 1, 4, 5, 10, 11  
   Squire and van der Tak, Ch. 4  
   Bussey, *The Economic Analysis of Industrial Projects*, Chs. 7-8  
   UNIDO, Ch. 2  
   Pearce and Nash, Ch. 4  
   Hicks, *Capital and Time*, Ch. 2  
   Marglin, *Approaches to Dynamic Investment Planning*

3. **Identification of costs and benefits**
   
   Gittinger, *Economic Analysis of Agricultural Projects*, 2nd. ed., Ch. 2  
   Squire and van der Tak, Ch. 2

4. **Measurement of benefits and costs: shadow pricing**
   
   *Roadway and Bruce, Welfare Economics* (Blackwell, 1984), Ch. 8 ("Welfare Change Measurement in Single-Consumer Economies"), Ch. 10 ("Cost Benefit Analysis")
L. Taylor, Macro Models for Developing Countries, Ch. 13 ("Shadow Prices and Investment Project Evaluation"), and Appendix G
gramlich, Chs. 4-6
Palm and Qayum, Chs. 6-7
Ray, Cost Benefit Analysis: Issues and Methodologies (World Bank, 1984), Ch. 4
Bell, Lectures 2-4 and 9
UNIDO, Chs. 4-6
Squire and van der Tak, Ch. 3
Layard, Introduction, Part 2
Harberger, "The Opportunity Costs of Public Investment Financed by Borrowing" (Reading 12 in Layard)
McKean, "The Use of Shadow Prices" (Reading 3 in Layard)
Gittinger, Ch. 3

5. Estimation of the social discount rate
Bell, Lecture 7
Ray, Ch. 5
UNIDO, Ch. 13
Pearce and Nash, Ch. 9
Sassone and Schaffer, Cost-Benefit Analysis: A Handbook, Ch. 6
Layard, Introduction, Part 3
Squire and van der Tak, pp. 27-29, 109-117 and Appendix, pp. 139-142
Feldstein, "The Social Time Preference Rate" (Reading 9 in Layard)
Harberger, "The Opportunity Costs of Public Investment Financed by Borrowing" (op. cit.)

6. The treatment of risk and uncertainty
Bell, Lecture 10
Bromwich, Chs. 12-15
Palm and Qayum, Ch. 8
Reutlinger, Techniques for Project Appraisal Under Uncertainty
Pouliquen, Risk Analysis in Project Appraisal
Levy and Sarnat, Capital Investment and Financial Decisions, Ch. 13
Layard, Introduction, Part 4
Dorfman, "Decision Rules Under Uncertainty" (Reading 15 in Layard)
Arrow and Lind, "Uncertainty and the Evaluation of Public Investment Decisions" (Reading 14 in Layard)
UNIDO, Ch. 10
Squire and van der Tak, Ch. 5
Little and Mirrlees, Ch. 15

7. The shadow price of investment
UNIDO, Ch. 14
Ray, Ch. 5, pp. 83-86
8. The shadow wage rate

Bell, Lectures 5 and 6
UNIDO, Chs. 8 and 15
Ray, Appendix (pp. 137-145)
Squire and van der Tak, Chs. 8 and 11
Sen, "Feasibility Constraints: Foreign Exchange Shadow Wages" (Reading 4 in Layard)

9. The shadow exchange rate and the pricing of nontraded commodities: the calculation of accounting price ratios

UNIDO, Ch. 16
Squire and van der Tak, Chs. 9, 12
Little and Mirrlees, "The Use of World Prices" (Reading 5 in Layard)
Srinivasan and Bhagwati, "Shadow Prices for Project Selection in the Presence of Distortions: Effective Rates of Protection and Domestic Resource Costs" in Bhagwati (ed.), International Trade: Selected Readings, Ch. 15

10. Integration of efficiency and equity objectives

Ray, Chs. 2, 3, 6, 7
Granlich, Ch. 7
Squire and van der Tak, Chs. 6, 7, 10
UNIDO, Ch. 7
Layard, Introduction, Part 5
Lal, Methods of Project Analysis: A Review, Ch. 3
Weisbrod, "Deriving an Implicit Set of Governmental Weights for Income Classes" (Reading 16 in Layard)
Irvin, Ch. 8

11. Alternative approaches to project evaluation in LDCs

Pearce and Nash, Ch. 10
UNIDO, Chs. 9, 11, 12, 18
Little and Mirrlees, Ch. 18
Powers (ed.), Estimating Accounting Prices for Project Appraisal, Chs. 1-3
Stewart and Streeten, "Little-Mirrlees Methods and Project Appraisal," ibid.
Lal, Methods of Project Analysis: A Review

12. Case studies

UNIDO, Chs. 19-22
Roemer and Stern, Cases in Economic Development (1981), Part III, Case 1 (copper mine), Case 2 (rice project), Case 3 (cement plant), Case 4 (road project), Case 5 (control of schistosomiasis)
vander Tak and Ray, Economic Benefits of Road Transport Projects
Thias and Carney, Cost-Benefit Analysis in Education: A Case Study of Kenya
Powers, Ch. 4 (Paraguay), Ch. 5 (El Salvador), Ch. 6 (Ecuador), Ch. 7 (Barbados)
Little and Scott, Using Shadow Prices
Scott, MacArthur and Newbery, Project Appraisal in Practice
Helmers, Project Planning and Income Distribution, Ch. 10
Pearce and Nash, Ch. 11 (Transport Projects), Ch. 12 (Materials Recycling), Ch. 13 (Nuclear Power) [These applications are primarily relevant to more developed countries.]
Gramlich, Ch. 8 (environmental impact of projects), Ch. 9 (human-investment programs)
Hufschmidt et al., Environment, Natural Systems, and Development: An Economic Valuation Guide (Johns Hopkins Press, 1983)
Dixon and Hufschmidt (eds.), Economic Valuation Techniques for the Environment: A Case Study Workbook, Ch. 2 (The Lake Burley Fishery Project), Ch. 5 (Geothermal Power Plant Project, Philippines), Ch. 8 (Water Resources Project in Thailand), Ch. 9 (Fuelwood Production and Use in the Philippines) [Johns Hopkins University Press, 1986]