

Project Appraisal

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Course Aims

Should South Africa have developed the Saint Lucia Natural Reserve for mineral extraction? Should USAID be supporting vaccination programmes against tick borne diseases among Kenyan smallholder livestock communities? Should the UK invest more in road safety? These are common questions that project appraisal can address.

Development projects impose a series of costs and benefits on recipient communities or countries. Those costs and benefits can be social, environmental, or economic in nature, but may often involve all three. For example, irrigation projects may facilitate the growing of cash crops in one locality, but cause water shortages, and hence economic, social and environmental pressures in another.

This course will take a holistic approach to Project Appraisal, beginning with examining what projects/policies, costs, benefits and project planning actually are, and culminating with an examination of non-market effects, such as water pollution, and identifying ways in which such impacts can be valued and incorporated into the Project Appraisal. Note that PA can and is applied to policy analysis as well as project-level appraisal in this course.

This course is designed for non-economists. Any economics that is essential will be illustrated with the use of real life situations and case studies. Upon completion of the course, the student should be able to (a) identify what constitutes a good Project Appraisal and (b) be able to manage a real life Project Appraisal process. It is thus more *vocational* in nature than other courses: it is the 'bread-and-butter' work of applied economists working in consultancies and government institutions the world over.

The course will be taught by a combination of academic applied economists and external speakers, including those involved with policy formulation and analysis. The core academic staffs are as follows: Abdulai Fofana (AF) – course organiser; Dominic Moran (DM) and Klaus Glenk (KG). The course will run on Tuesday mornings in Semester 1 (blocks 1 and 2) in the Peter Wilson (SAC) building in Kings Buildings, from 9.30-1.00, Lecture Room H.

Course Outline

Week 1: 21/09/10

Introduction and Perspective Setting

AF/DM

The course begins with an introduction to Project Appraisal. What are projects, what are costs and benefits and how do we plan policies, programmes and projects? These are all-important questions that need to be addressed before moving on to Project Appraisal techniques. The project cycle is introduced followed by Logical Frameworks (LFs). The project cycle considers the logical sequence of events from project identification, planning through to *ex post* monitoring and evaluation. LFs will be examined as one potential tool for assisting project planners. Critical Path Analysis (CPA), Programme Review and Evaluation Techniques (PERT) will be introduced as additional aid to project planners.

Weeks 2 & 3: 28/09/10 & 05/10/10 Economic Rationale Underlying PA Analysis

AF

The second week of the course will introduce some basic conceptual foundation cost-benefit thinking. We will discuss the main concepts in microeconomic theory as they relate to the measurement of cost and benefits: economic efficiency, consumer and producer surplus, what do prices represent and do they represent value? Opportunity cost and potential compensation will be introduced to clarify the logic of using cost-benefit methodology in resource allocation.

Week 4: 12/10/10 Investment Appraisal Techniques

AF

This week examines the basic spreadsheet framework for conducting Cost Benefit Analysis (CBA) and the concept of discounting. We will discuss the rationale for discounting (valuing costs and benefits over long time horizons) and the theoretical basis for its use. This will be illustrated using practical applications and case studies. Once students have been introduced to the arguments surrounding discounting, they will undertake a practical exercise to familiarise themselves with such methods as Discounted Cash Flow (DCF) Net Present Value (NPV), and Internal Rate of Return (IRR). The group exercise is to be handed out and discussed.

Week 5: 19/10/10 Monetising human health and life Ian Spencer/Anna Richardson

Government organisations and hazardous industries invest in projects which are anticipated to deliver health benefits and/or reduce risks to human life and health. We will explore some of the underpinning concepts and ethical issues around the practice of valuing safety and risks to health along. Exercises will be used to demonstrate how valuation or risk can be performed and some of the technical issues it throws up. The main methods available to researchers will then be discussed alongside their strengths and weaknesses. We will then: outline some of the applications of valuation by Government/industrial organisations and consider why practices can vary across different contexts; look at some some practical challenges to appraising the benefits of projects which aim to reduce the risks of health related impacts and finally; finally we will look at examples of cost benefit analysis in government, including the Health and Safety Executive's work on costing loss of life, injury and ill-health caused by work.

Week 6: 26/10/10 Data gathering, valuing traded and non-traded commodities KG

This session will examine how project managers might collect the complex data necessary to undertake a Project Appraisal. Here traditional survey methods, such as questionnaires will be compared to more innovative data collection methods such as Participatory Rural Appraisal (PRA) and Rapid Rural Appraisal (RRA).

One of the most complex problems facing the Project Analysts is that all prices of good and services must reflect their economic value in project appraisal. This lecture introduces the market and non-market valuation techniques in determining the value of goods and services in project appraisal.

For marketed goods and services, sales prices indicate monetary value but there may be distortions in the market: the concepts of shadow pricing, transfer payments and border parity pricing are thus introduced. The natural environment is not normally priced in the market but its quality affects our welfare and thus changes should be inputted in project appraisal. For instance, what is the impact of pollution on fish, or human health, and how can we place a monetary value on these impacts in order to incorporate them into the Project Appraisal? This session will examine non-market valuation methodologies used to value such goods, services and secondary impacts of projects that are not commonly bought and sold in markets. The methodologies will draw on case studies and on-going research projects.

Week 7: 02/10/10 Risk /Uncertainty and Case studies AF

In most cases it is useful to carry out a risk and uncertainty assessment as part of a project appraisal. Risk is ‘randomness which is measurable’ and can be described by a probability distribution, while uncertainty is ‘randomness without a well defined distribution’. Many government projects (e.g. environmental policy, regulation and programmes) are subject to risk and uncertainty. This session deals with the twin issues of risk and uncertainty and presents some of the methods of dealing with them in project appraisal. By incorporating risk and uncertainty into the analysis, the reliability of the results is improved. This session will also consider sensitivity analysis, i.e. how sensitive are our projections of welfare changes to mis-estimations in different variables?

Two case studies are to be presented, both of which show how spreadsheet analysis is required in project appraisal, how it was carried out and provide practical application of techniques in project appraisal. AF will discuss and present research commissioned by the Scottish Government using *ex ante* cost-benefit appraisal to inform policy on recent projects.

Week 8: 09/11/10 Distributional Analysis DM

This session will examine social impact assessment in the sphere of social cost benefit analysis. It is not sufficient to identify the economic gain associated with a given project, without considering the effects of the project on the recipient community/population, and the effects on those that are not the recipients of the project. This session will examine the theory and practical application of social impact assessment and social cost benefit analysis. Ethical and distributive issues will be covered and alternative multi-criteria methods assessed.

Week 9: 16/11/10 Monitoring and Evaluation Juana Espasa

Monitoring and Evaluation (M&E) is an often neglected area of study in Project Appraisal, and yet without an effective M&E function within a project, it is questionable as to what extent that project can ever be successful. M&E is about learning from past experience and taking project management forward, rather than about punishing poor management. Part of this session examines the theory and practice of M&E, almost taking us full circle back to Logical Frameworks in week 1. The class is to be given by Juana Espasa, a graduate of the MSc programme who now works for International Organisation Development.

Week 10: 23/11/10 Group Presentations AF

Answers to the CBA tasks distributed earlier in the course are to be presented in the pre-assigned groups.

Week 11: 30/11/10 Revision Session

Assessment

Students are assessed on the basis of course work (50%) and a final written examination (50%). Due date for course work is Monday 29th November 2010, 9:30 am. The final examination takes the form of a two-hour paper with students required to answer two questions from a choice of four.

Recommended reading text

1. Boardman, A.E., Greenberg, D.H., Vining, A.R., and Weimer, D.L. (2006) *Cost-Benefit Analysis*, 2nd edition, ISBN 0-13-087178-8 Pearson Education, Prentice Hall.
2. Richard O. Zerbe., Bellas, and A.S. (2007). *A Primer for Benefit-cost Analysis*. Edward Elgar Publishing.
3. Brent, R. J. *Cost-Benefit Analysis for Developing Countries*. Edward Elgar Publishing.
4. Campbell, H. and Brown, R. (2003) *Benefit-Cost Analysis: Financial and Economic Appraisal Using Spreadsheets*, 2003, Cambridge University Press, ISBN0521528984.
5. Curry, S and Weiss, J. (2002) *Project Analysis in Developing Countries*. The Macmillan Press Ltd.
6. Finzi, U (1994) *The World Bank and Project Analysis: An Introduction*, EDI Publication, Washington, D.C.: World Bank.
7. Hanley, N and Spash, C (1993). *Cost Benefit Analysis and the Environment*. Edward Elgar. Cambridge University Press.
8. Overseas Development Administration. *Appraisal of Projects in Developing Countries. A Guide for Economists*. HMSO Publications.
9. Potts, D. (2002) *Project Planning and Analysis for Development*. Lynne Rienner Publishers, ISBN1555876560.

Glossary of Terms

Cash flow- The flow of money to and from a company, enterprise or project.

Consumer Surplus- The additional benefit received over and above the amount actually paid by consumers.

Critical Path Analysis - The analysis and sequencing of each task in a process to calculate the optimum sequence for completion.

Discount rate - The annual percentage rate at which the present value of a unit of value is assumed to reduce with time

Discounted cash flow (DCF) - A method of appraising investments based on the idea that the value of a specific sum of money depends precisely on when it is received, the value reducing with time.

Economic efficiency - The present value of a project's social benefits less the present value of its social costs

Evaluation - An assessment of the efficiency, effectiveness, impact, sustainability and relevance of a project in the context of stated objectives

Ex ante appraisal - Appraisal carried out before a project is started, based on prediction and extrapolation.

Ex post evaluation - An evaluation of a completed project.

Externalities - spill-over effects and intangible effects – the impacts of a project on third parties or society not directly involved in the transaction.

Internal rate of return (IRR)- The discount rate that produces a NPV of zero.

Kaldor-Hicks Compensation - A project or policy should be adopted only if those who gain could fully compensate those who lose and still be better off.

Logical Framework Analysis - A methodology for planning, managing and evaluating programmes and projects, involving stakeholder analysis, problem analysis, analysis of objectives and strategies, preparation of the log-frame matrix and activity and resource schedules.

Net Present Value (NPV) - The difference between the discounted present value of future benefits and the discounted present value of future costs.

Opportunity cost -The value of the most valuable of alternative uses.

Program Evaluation and Review Technique (PERT) -Project management technique that shows the time taken by each component of a project, and the total time required for its completion.

Present value -The discounted value of a financial sum arising at some future period

Project - A series of activities with set objectives to produce a specific outcome within a limited time frame

Project Cycle - The project cycle follows the life of the project from the initial idea through to its completion

Risk- A future event or outcome to which some measure of probability can be attached

Sensitivity analysis -The identification of important areas of uncertainty to test key assumptions in a systematic way in order to determine the factors that are most likely to affect project success and to identify possible measures that could be taken to improve the chances of success

Shadow price -The opportunity cost of an activity or project to a society, computed where the actual price is not known or, if known, does not reflect the real sacrifice made.

SWOT Analysis - A technique for identifying the Strengths, Weaknesses, Opportunities and Threats of a situation.

Uncertainty – A future random event or outcome without a well defined distribution

Course Timetable

The course will run in Lecture Room F, Peter Wilson (SAC) building, Kings Buildings, from 9.30-13.00. Times are approximate and content may vary or change slightly.

WEEK	DATE	TIME	CONTENT	
Week 1	Tue 21 st Sep	9:30 -10.00	Course house keeping issues	A. Fofana
		10:05-11:00	Policy context	A. Fofana
		11: 00- 11:15	Tea break	
		11:15 – 13:00	Introduction to Project Appraisal	A. Fofana
Week 2	Tue 28 th Sep	9:30 – 11:00	Economic Rationale Underlying PA Analysis	A. Fofana
		11: 00- 11:15	Tea break	
		11:15 – 13:00	Economic Rationale Underlying PA Analysis	K. Glenk
Week 3	Tue 5 th Oct	9:30 – 11:00	Instructions on assessed assignment Economic Rationale Underlying PA Analysis	A. Fofana
		11: 00- 11:15	Tea break	
		11:15 – 13:00	Economic Rationale Underlying PA Analysis	A. Fofana
Week 4	Tue 12 th Oct	9:30 – 11:00	Investment Appraisal Techniques	A. Fofana
		11: 00- 11:15	Tea break	
		11:15 – 13:00	Investment Appraisal Techniques Instructions on non assessed group assignment	A. Fofana
Week 5	Tue 19 th Oct	9:30 – 11:00	Monetising human health and life	Ian Spencer
		11: 00- 11:15	Tea break	
		11:15 – 13:00	Monetising human health and life	Anna Richardson
Week 6	Tue 26 th Oct	9:30 – 11:00	Data gathering, valuing traded and Non-traded commodities	K. Glenk
		11: 00- 11:15	Tea break	
		11:15 – 13:00	Data gathering, valuing traded and Non-traded commodities	K. Glenk
Week 7	Tue 2 nd Nov	9:30 – 11:00	Risk/Uncertainty and case studies	A. Fofana
		11: 00- 11:15	Tea break	
		11:15 – 13:00	Risk/Uncertainty and case studies	A. Fofana
Week 8	Tue 9 th Nov	9:30 – 11:00	Distributional Analysis	D. Moran
		11: 00- 11:15	Tea break	
		11:15 – 13:00	Distributional Analysis	D. Moran
Week 9	Tue 16 th Nov	9:30 – 11:00	Monitoring and Evaluation	J. Espasa
		11: 00- 11:15	Tea break	
		11:15 – 13:00	Monitoring and Evaluation	J. Espasa
Week 10	Tue 23 rd Nov	9:30 – 11:00	Group Presentations on non- assessed assignment	A. Fofana

		11: 00- 11:15	Tea break	
		11:15 – 13:00	Group Presentations on non- assessed assignment	A. Fofana
Week 11*	Tues 30 th Nov	9:30 – 11:00	Revision Week	A. Fofana
		11: 00- 11:15	Tea break	
		11:15 – 13:00	Revision Week	A. Fofana

***Submit course work-29th November 2010, 9:30 am**

Course Organiser

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