Mini-Symposium / Thematic Session 4

Decision Criteria for Benefit-Cost Analysis

Benefit: Cost Analysis (BCA) is probably the most widely used economic tool in the world. Its results feed into several decision criteria that are commonly used to guide decisions about which projects or policies to implement: Net Present Value (NPV), Benefit: Cost Ratio (BCR) and Internal Rate of Return (IRR). Textbooks and government guidelines vary greatly in what they say about which decision criteria to use in which situations. They can't all be right. Which criteria should analysts be using in which circumstances? (90 minutes)

Introduction
Tom Kompas

Paper 1: Basic rules for BCA Criteria: What are they and who gets them right?
Hoa Nguyen
Different decision criteria are appropriate to use in different contexts. Tom focuses on two simple dichotomies: whether the projects being evaluated are independent or mutually exclusive, and whether the budget available for allocation to projects is constrained or unconstrained. The appropriate decision criteria are identified for each combination of circumstances. He shows that arguments that are sometimes used to claim that BCR should never be used are flawed and that, contrary to common statements, there is a clear-cut rule for how different costs should be allocated between the numerator and the denominator of the BCR. An audit of 53 textbooks and government guidelines on Benefit: Cost Analysis finds many gaps and errors in the advice that is given. All of the BCA guidelines in Australia and New Zealand need to be corrected.

Paper 2: Advanced rules for BCA Criteria
Hoang Long Chu
There are many circumstances where the simple rules outlined by Tom Kompas may not be applicable. This includes cases where the decision maker is facing a mix of independent and mutually exclusive projects, where there is more than one constraint limiting the selection of projects, where the performance of a project depends on whether a different project is implemented, where the projects are not divisible, where projects do not scale linearly, or where projects to be compared do

not have the same time frames. The various decision rules or analytical approaches needed in these more complex cases will be outlined and illustrated.

Paper 3: The choice of BCA decision criteria: How much does it matter?
David Pannell
Given the presentations of the first two speakers, many people doing Benefit: Cost Analysis are probably using the wrong decision criteria to evaluate projects. How much does this affect the economic outcomes from investment? David presents quantitative results from thousands of simulations for the loss of economic net benefits if the wrong criterion is used. The size of the loss varies in different contexts but can be substantial.

Organisers:
David Pannell, UWA
Tom Kompas, University of Melbourne / ANU

Discussants:
TBA, A consultant
TBA, From a department of treasury