

Building Capacity for a New Approach

FACT SHEET



Designing policy using experimental economics and participatory research

Current social and economic policy advice is often based on assumptions about the way people behave and the choices they make. However, there are many factors which affect how people respond in any given situation or environment – making human behaviour and choices hard to predict.

These assumptions mean that our policy approaches are often simplistic - even when confronted with difficult choices about how best to allocate scarce funds. Yet, the cost of solving these problems using the traditional suite of policy instruments can be so high that in many instances the costs can outweigh the benefits to society.

Recent international experience has demonstrated that if, prior to policy implementation, work is done to understand how peoples' strategic behaviour interacts with their institutional and natural environments, it can greatly reduce the cost of achieving policy goals and enable savings to flow back to society. Experimental economics and other participatory techniques such as agent-based modelling have emerged as the preferred methodology for developing an understanding of these interactions.

Yet despite the potential of these techniques to increase policy pay-offs they have only been applied in limited circumstances within Australia to date. This has created a unique opportunity for CSIRO to develop its expertise in these areas to complement and enhance its research input into policy development.

'...understanding how peoples' strategic behaviour interacts with their institutional and natural environments can greatly reduce the cost of achieving policy goals...'

About this Project

'Increasing CSIRO's Impact' is a three-year project aimed at developing experimental economics and participatory research capacity within CSIRO. It is being undertaken as part of CSIRO's Social and Economic Integration Emerging Science initiative. The project will initially build on natural resource management (NRM) science and social science capacities to develop an integrated approach to the design of smart natural resource management institutions. Broader communication and activities will then be undertaken to facilitate application of these techniques to other important policy issues outside the NRM field.

A three-stage approach will be used:

- development of experimental economics and related capacities to increase understanding of strategic behaviour;
- demonstration of integrated experimental economics findings in modelling for strategic policy advice; and,
- generation of a largely self-funding ongoing experimental economics and participatory research program.

What is Experimental Economics?

Experimental economics is a specialised branch of economics with strong links to human behavioural research and agent based modelling. Agent based modelling uses computers to model and simulate human behaviour. →

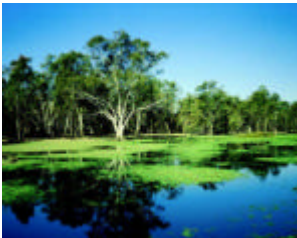




Experimental economics takes into account the various factors and motivations that may influence human behaviour. This means that individual's choices can be studied within a variety of contexts and incentive frameworks. It also allows the experimental testing of alternative policy options. Scientific methods and the characteristics and behaviours of the people participating in the study are combined to create an effective tool to analyse human behaviour and choices.

Choice behaviour may be driven by physical, social and economic factors. The goal is the integration of biophysical science into the study of choice behaviour to identify replicable experimental outcomes as a consequence of individual choice behaviour.

These approaches are leading to the development of a new suite of policy approaches that provide some examples of how NRM and other policy improvements can be achieved at significantly less cost. These include the Victorian BushTender program and the Hunter River Salinity Trading Scheme. What these schemes have in common is an incentive structure built to take advantage of a sophisticated understanding of how human strategic behaviour interacts with complex spatially heterogeneous environmental processes.



Project Outputs

Outputs from the project will include:

- self supporting internal capacity to apply experimental economics and participatory research techniques;
- demonstration of this capacity via application to existing NRM research – e.g. the evaluation and design of tradeable property rights systems for water and biodiversity; and
- a direct contribution to the science of experimental economics and participatory research via the further development of underlying theory and innovative research applications.

Further Information

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Some useful further reading

Vernon L. Smith (2001) What is Experimental Economics, George Washington University – Available from: www.ices-gmu.org/people_index.php

Alvin E. Roth (2002) The Economist as Engineer: Game Theory, Experimentation, and Computation as Tools for Design Economics, *Econometrica*, 70(4), p. 1341-1378 – Available from: www.economics.harvard.edu/~aroth/ ←

