National Environmental Research Program

LANDSCAPES & POLICY hub

Experimental Economics:
a tool helping policy makers with decisions

1. What is experimental economics?

Experimental economics is an important and growing field in which the underlying principles of economics are explored under laboratory conditions.

It helps us understand how and why environmental policies function as they do, and how people may respond to different policies.

Experimental economics provides a formal and replicable system for analysing alternative environmental policy options before they are implemented.

One of the problems with substantial institutional change, is that modification and irreversibility makes the process slow, cautious and costly to society.

2. Who uses experimental economics?

Researchers and policy makers throughout the world use experimental economics to evaluate theories and behavioural assumptions, as well as testing policies and their implementation.

Lab experiments offer policy makers a quick, cost effective way to identify market and policy flaws before ideas and theories become major public policy initiatives.

The NERP funded Landscapes and Policy Research Hub is using experimental economics to evaluate the theory and application of economics to environmental and resource management issues.

3. How does an economic experiment work?

In laboratory experiments, under a controlled environment (typically computer laboratories), participants consider scenarios based on research objectives and receive payments for the decisions they make.

They participate in different types of markets, but with real monetary rewards. Economic experiments usually use cash to motivate subjects, in order to mimic the real-world incentives.

4. How do we use the data/information collected in an economic experiment?

Experimental data helps us understand what motivates people when they engage with various policy options, and at what point people are motivated to change.

Just as a wind tunnel allows engineers to test the design of an airframe before incurring the risk and expense of flight tests, the economics laboratory allows economists and policy-makers to test and fine-tune the rules of a market, before incurring the risk and expense of a real-world application.

The Landscapes and Policy Research Hub recently ran an information and demonstration workshop for policy people in the Department of Sustainability, Environment, Water, Population and Communities (15 November 2012).

The NERP Landscapes and Policy Hub Economic Futures Project

The Economic Futures Project is evaluating the theory and application of economics to environmental and resource management issues. Contributing to the Landscapes and Policy Research Hub, they are exploring nationally important environmental issues including:

- Intergenerational equity issues associated with land conservation agreements.
- The restoration of environmental flows in allocated river systems.
- The design of market based instruments to establish wildlife corridors.

5. How is DESWPaC involved?

In an example of what the NERP Landscapes and Policy Hub is doing with experimental economics, a departmental workshop demonstrated an economic experiment where policy people were involved in the creation of wildlife corridors through a reverse auction process.

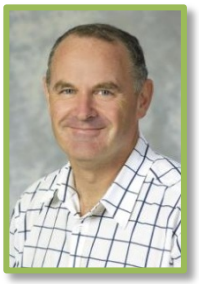
Participants chose to either use their land for productive purposes and earn a pre-determined income, or nominate the amount at which they would be willing to supply their land as part of a wildlife corridor.

Each auction opened for a limited amount of time and the maximum amount payable per corridor was made available to all participants. Only one corridor bid could be successful.

At the end of the experiment, participants were paid either an amount based on the pre-determined income earned for productive purposes, or, for those who were part of the successful corridor bid, an amount based on their nominated fee to be part of the corridor.

6. Who are the NERP Researchers involved?

Professor John Tisdell is from the University of Tasmania and is Project Leader of the Landscapes and Policy Research Hub Economic Futures Project. Dr Sayed Iftekhar is his research fellow specialising in environmental economics.



Professor John Tisdell has been involved in a number of economic experiments dealing with issues such as water management (including alternative allocation, trading, environmental flow scenarios in the Murray-Darling Basin), agistment markets, environmental regulation and enforcement, and riparian land use management through to emission trading schemes and contract theory.

Dr Sayed Iftekhar has been working on experiments and agent-based models exploring land and water management, as well as intergenerational issues.

He has a PhD in Agricultural and Resource Economics from the University of Western Australia and has worked in the fields of natural resource policy and coastal zone management.

Where can I find out more?

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Further Reading/References:

Smith VL (1994) 'Economics in the Laboratory', *Journal of Economic Perspectives*, 8(1), 113-131

Frequently asked questions about experimental economics:
http://leem.lameta.univ-montp1.fr/docs/faqExperimentalEconomics.pdf

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