RESEARCH SCHOOL OF SOCIAL SCIENCES

THE AUSTRALIAN NATIONAL UNIVERSITY

SEMESTER ONE 2008 POLITICAL SCIENCE PROGRAM SEMINAR SERIES

RECOGNISING THE ROLES OF UNCERTAINTY & RISK IN RESEARCH & INNOVATION POLICY

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Although innovation in public policy is important, how this innovation actually takes place in practice can be rather opaque. In order to shed some light on this, the seminar focuses on some policy advocacy work carried out collaboratively by a non-government organisation - the Federation of Australian Scientific and Technological Societies - and Mark Matthews who was at that time a public policy consultant. Our efforts focused on promulgating a more explicit recognition of the role of public research in helping governments, business and the general community to manage uncertainty and risk. Rather than approaching innovation as an activity requiring that uncertainty and risk be managed, we sought to promote the management of uncertainty and risk as an outcome from innovation and also as a more direct outcome from public research that need not involve innovation per se. The 2006 Productivity Commission study of the returns to public support for science and innovation provided a suitable opportunity to try to achieve such an impact on public policy.

The seminar will cover the substance of these arguments, the way in which the research and innovation policy community reacted and the general lessons learned from this experience for attempting to shape public policy via policy advocacy activities.

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Federation of Australian Scientific and Technological Societies (FASTS)

Summary

This is a story about efforts to stimulate a broadening of Australia's research and innovation policy framework

Rather than approaching innovation simply as the search for commercial outcomes, we sought to expand the understanding of innovation by giving a proper place to how it helps us to manage uncertainty and risk from a broader public policy perspective

Heritage

- Advanced cost modelling for defence aircraft (UK)
- Oil and gas companies' appraisals of the value of natural resources
- Attempts to influence UK Govt. thinking on managing risk and uncertainty (@ SQW Ltd in the UK)
- "Safeguarding Australia" expert sub-committee of NCRIS
- Several evaluations in which risk-aware approaches were both appropriate and well-received
- Some troubling encounters with "risk-averse" implementations of output-outcome budgeting
- Growing awareness of the ramifications of focusing on economic outcomes over political outcomes
- Attractiveness of applying Austrian economics (von Hayek & Co)

Von Hayek & Co

- Epistemological antidote to neo-classical economics
  - Subjective rather than objective knowledge
- The “dark forces of time and ignorance” dominate the human condition
- Makes sense to apply subjectivism to public policy (hence impact of the “new institutional economics”)
- Markets viewed as exploratory *processes* (not reified as “things”)
- Innovation framed as attempts to move from uncertainty (ignorance) to risk
  - We have a preference against ignorance
- Scientific and technological progress turn ignorance/uncertainty into risk
- A perspective articulated via a detailed case study of the start-up company “Radiata”

Output-Outcome Budgeting

- Derived from post-WW2 corporate methods
  - from Ford Motor Co into the Kennedy Administration then on to the World Bank etc
- Easily aligns with “accounting” perspectives
  - uncomfortable with ambiguity “there is one verifiable answer”
- Convenient for Razor Gangs of various political shades!
- Has tended to distort how departments and agencies agree to how their performance will be measured
- Deflected attention toward economic outcomes from innovation and away from (geo)political outcomes?

The UK Treasury's Green Book "Appraisal and Evaluation in Central Government"

- The more recent versions have strengthened treatments of the risk and uncertainty dimension
  - R&D as a valuable source of uncertainty and risk reduction
  - More explicit treatment of risk and uncertainty
- Yet, whole-of-government approaches to managing risk and uncertainty in the UK down-play the "risk-averse" ways in which output-outcome budgeting has been implemented *in practice*
- A concern because we need governments to handle the risks and uncertainties that markets cannot cope with – but that key parts of "modern" governments are run in a way that makes this overly difficult!

Political Context to the 2006 Review

- Collapse of the old social contract between science and society (1945 to ≈ 1980)
- Backing Australia's Ability (BAA)
  - Presuppositions ("we need more Cochlears")
  - Government's evaluation of BAA (set up to fail!)
- Emerging dissatisfaction with the linear model (science to commercialisation)
  - E.g. CCST & Howard Partners' Knowledge Report
- Productivity Commission – claims made by the HE sector no longer had traction

The FASTS Submission

- “Preparedness” – new class of outcome associated with innovation
- Defence of formal R&D (including a broader view of business R&D – not just about widgets)
- Preparedness as a more realistic basis for National Accounts and corporate financial accounts (new International Financial Reporting Standards)
- New basis for defending broader spectra of R&D spending e.g. environment, social sciences, area studies & the humanities in general
- New angle on capacity building
- Geopolitical outcomes not just economic
- Technical suggestions for research funding and evaluation
  - Portfolio methods
  - Real options

In a nutshell…

By identifying, simulating and disseminating information on unwanted aspects of what the future may have in store for us we can change our behaviours now and therefore try to reduce the likelihood and severity of unwanted futures

This can be very valuable…

Similar to “net present value” calculations in economics and finance: rolling up the future into valuations today as distinct to the “more jam tomorrow” emphasis in conventional innovation policy

The Productivity Commission Response

- Accepted the argument
  - Changed their definition of innovation to explicitly take account of preparedness: defined as “an enhanced capacity for dealing with future uncertainties’ ”
- Recommended that evaluation of innovation programs included preparedness
- Argued that the pursuit of commercialisation for financial gain by universities should not be to the detriment of maximising the broader returns from university research

Subsequent Developments

- Intent to mainstream preparedness in PMSEIC Working Groups
- New CCST guidelines on R&D program evaluation
- Management of uncertainty and risk noted as key issue in Cutler Review (ongoing)
- Re-inforced by CSIRO's experiments with option valuation methods
- Change of government: new policy narratives for innovation?
  - Preparedness not a feature in Rudd govt. innovation policy narratives
- **But, no significant progress on implementation: preparedness is an "orphan"**

Lessons learned 1.

- Strong vested interests in pushing the “innovation” policy agenda
  - Other outcome classes viewed as complicating the politics?
- General notion of preparedness (easily) accepted at a rhetorical level
- Tendency to implement only as a specific (security threat-oriented) notion
  - Back to our starting point in using the term!
- Are we too wedded to the upside (“more bling”) rather that managing the downside of modernity (avoiding the Grim Reaper!)?

Lessons learned 2

- **No policy idea can succeed without being owned in the political process**
    - Not a vote winner in an election year
    - No political champion in the bureaucracy – technocratic support insufficient
    - We failed to articulate to politicians why this was an issue *for them*
- We weren't prepared for the next step after the Productivity Commission stage: we didn't expect such ready traction at the concept level hence had under-prepared for the political sales job

*We didn't do enough to show that the current policy narrative was a problem for **them** requiring **their** attention – we only approached it as a problem for the Sector*

Next Steps

- Distinguish between “prescience” and “preparedness”
- Do more to articulate the links between innovation and prescience + preparedness
  - Case studies/examples
- Connect preparedness with human capital (i.e. codified outputs not the primary reason to support R&D)
- ANU asked to initiate a policy dialogue on “Supporting risk-aware research” – feed into the Cutler Review
- **We still need to show that Australia’s R&D effort is being distorted by a lack of evaluative frameworks able to cope with multiple R&D outcomes in which the management of uncertainty and risk feature strongly**

The End