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Policy Forum: Enhancing the National Innovation System

Beyond Central Planning: Innovation in Government in the 21st Century

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> Resources and needs exist for practical purposes only through somebody knowing about them and there will always be infinitely more known to all the people together than can be known to the most competent authority. A successful solution can therefore not be based on the authority dealing directly with the objective facts, but must be based on a method of utilising the knowledge dispersed among all members of society, knowledge of which in any particular instance the central authority will usually know neither who possesses it nor whether it exists at all. It can therefore not be utilised by consciously integrating it into a coherent whole, but only through some mechanism which will delegate the particular decisions to those who possess it, and for that purpose supply them with such information about the general situation as will enable them to make the best use of the particular circumstances of which only they know.
> [Hayek 1955, p. 99]

1. Introduction

> I have never yet seen any plan which has not been mended by the observations of those who were much inferior in understanding to the person who took the lead in the business.
> [Edmund Burke]

The Australian public sector has a tradition of being innovative, more so than most other countries. One could argue that this goes all the way back to European settlement in Australia—the First Fleet itself being a bold experiment in contracting out that elicited responsive and innovative service provision (Sturgess 2005)! More recently, since the 1980s there have been myriad innovations in Australian policy and governance, including widespread liberalisation and deregulation (Hollander 2006; Lloyd 2008).

Australia has built the world's most targeted social security system (Whiteford 2006; Organisation for Economic Co-operation and Development 2007), matching European levels of coverage and security (albeit at lower levels of replacement income for many claimants) with American-style costs (James 2005). We also have led the world with specific policy innovations, such as income-contingent student loans, first promoted by Milton Friedman and now widely imitated around the world (Chapman and Harding 1993; Chapman 1997; Chapman and Ryan 2005). We have designed markets to replace centrally planned service delivery, as in the case of the Job Network, and introduced leading innovations for providing integrated government service delivery, as in the case of Centrelink (Webster and Harding 2001; Ramia and Carney 2003).[1]

With some minor caveats that are further elaborated below, the above examples typify 'top-down' innovation. Those at the top—whether politicians or very senior officials—decided on the policies, with their underlings fleshing out the details and implementing the policy (in ongoing consultation with their superiors as they proceed).[2]

As scholars, such as Hayek, have pointed out since the early 1920s and 1930s, the ubiquity of 'top-down' ways of management within government is a major constraint on the usefulness

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of governments and an argument for limiting their scope. However, innovations in the private sector offer some hope of bringing some of the responsiveness of markets within large organisations.

Thus, from the 1960s and 1970s, Japanese production methods, with various titles such as Total Quality Management (TQM), Just in Time, lean production and 'kan ban' or the Toyota production system, have forged the means by which large organisations can foster and respond to the ideas of a range of players who have been marginalised previously from optimising firm operations. The TQM systems engage the employees, suppliers and customers in the endless process of assiduously optimising the efficiency of production.

The Review of the National Innovation System sought ways of engaging the Australian Government in a similar spirit of continuous improvement (Review of the National Innovation System Panel 2008). Crucially, this is not just about innovation within the government to enable it to deliver better services more cheaply, but also about the ways in which government institutions—regulation, routines and culture—can develop the responsiveness necessary to facilitate innovation in the wider world. As will become evident in the examples cited towards the end of this article, the target is not just the kind of innovation often associated with the 'innovation agenda'—that is, the commercialisation of cutting-edge science—but with much more commonplace, much more ubiquitous, one is tempted to say—much more important—change.

2. Experimental Policy Innovation and the States

Whether or not it is the best possible configuration for national governance, Australian federation is with us for the foreseeable future and we should seize the opportunity it provides to promote policy experimentation, evaluation and learning. In the United States, in addition to the manifest advantages of comparing between fifty approaches to similar problems, some have proposed using the US federation quite consciously as a policy laboratory.[3]

Our own Steering Committee for the Review of Government Service Provision publishes an annual report on government services. This provides a useful information source through which 'benchmark competition' can be fostered. But, it has its limits. The statistics are gathered on a cooperative basis with much negotiation around institutional sensitivities. Little attention is given to auditing the quality of the information independently of the state that provides it. There is little, if any, independent effort in the report to diagnose causes and effects and there is no clear federal commitment to supporting experimentation or to ensuring that that experimentation is rigorously and independently evaluated.

Our review proposed that experimentation and innovation in policy alongside independent evaluation should be a major theme of the current refashioning of federal relations. The states should be able to bid for Council of Australian Governments National Partnership reward payments to explore policy innovation with a quid pro quo being the independent evaluation of specific policy innovations.

Often the problem with innovation and reform in state governments, particularly smaller ones, is a lack of resources (COAG Reform Council 2008). For this reason, interstate trade in public policy expert services should be encouraged, with the states being rewarded for becoming centres of policy excellence. Following independent evaluation, where a state is identified as having developed leading expertise in some area of public policy, the Commonwealth should encourage the purchase of expert policy advisory services from that state by other states with a view to disseminating best practice.

3. Bottom-Up Innovation

3.1 Some Top-Down Mechanisms Can Foster Bottom-Up Innovation

'Bottom-up' innovation has been a major preoccupation of private sector management since at least the 1980s, when the dominance of firms, like Toyota, demonstrated the power of their systems for optimising production efficiencies from the bottom up by assiduously cultivating

the creative energies of all employees, suppliers and customers.

No governments seem to have distinguished themselves in encouraging bottom-up innovation, though the British Government has shown a particular interest in the issue and is introducing various interesting initiatives. Australia has not, so far, led in this area.

Some bottom-up reform has arisen from two reform strategies, which themselves have been imposed from the top down. First, where governments have established markets in the place of bureaucratic controls; for example, in the case of the Job Network (Webster and Harding 2001) and the establishment of trading schemes, such as fish quotas (Campbell, Brown and Battaglene 2000), water trading rights (Bjornlund 2003) or the forthcoming Carbon Pollution Reduction Scheme. This has facilitated bottom-up innovation.

Second, targets, such as the administrative burden 'red tape' reduction targets imposed by the Victorian and South Australian governments, have facilitated greater receptivity to suggestions from all levels in the public service for improving administrative procedures.[4] Even so, not only are there strict limits on the extent to which such mechanisms can foster innovation further down an organisational hierarchy, but too strong an emphasis on this kind of approach can actually obstruct successful innovation and better performance on the front line.

Thus, for instance, a number of problems have emerged from the target-driven approach to health management in Great Britain. Some hospitals met the targets to reduce waiting lists by taking the wheels off trolleys to reclassify them as beds.[5] As Mulgan and Albury (2003) have observed, achieving an innovative culture on the front line might involve increasing local autonomy, rather than constraining it with targets.[6]

3.2 Improving Organisational Responsiveness to Bottom-Up Innovation

Public sector innovation expert, Professor Frans Nauta (2006, p. 81), wrote:

> Within big organisations it's very hard to get good ideas from the bottom to the top, not to mention getting it from the top down to the bottom again. An inspired idea of a new possibility at the bottom of the organisation loses most of its originality and edge on the way up.

He sees Shell's Gamechanger program as a response to this problem. It receives around 10 per cent of Shell's research and development budget and the employees, suppliers or members of the public are invited to propose innovations. The Gamechanger apparatus assesses proposals and, where it judges appropriate, expedites meetings between the proposer and relevant management. It is then authorised to fund the proposer through to proof of concept. The program is run by a small team reporting directly to the Chief Executive Officer, which helps insulate its projects against middle management resistance. Nauta (2006, p. 81) noted: 'One of the strongest indications that it's working: middle management hates it', before going on to observe that '. . .[i]t wouldn't be hard to set up a Gamechanger-equivalent in the public sector'.

The Review of the National Innovation System Panel felt that the Singapore Government's Enterprise Challenge (TEC) offers a useful lead. An initiative of the Prime Minister's Office, it operates with a panel of senior public servants and business people and it selects projects for innovation that can be proposed by anyone within or outside the public service. It provides seed funding—grants tend to range from around S$50 000 to less than S$1 million[7]—and also matches proposals with public agencies for initial trial. Many TEC-supported projects develop new technologies or applications of existing technologies with strong private sector benefits. Thus, for instance, one project assisted in the development by a private firm of a bioscrubber to reduce odour in a public utility.[8] Other initiatives are less focused on technology and more purely on public sector efficiency. One example is Singapore's world-first 'Internet Home Tele-visit Initiative for Inmates' Families and Visitors'. It was proposed and trialled by the Prisons Department

and received S$200 000 in seed money from TEC.[9] The organisation also operates an awards program that recognises agencies' and individuals' commitments to and success in innovation.[10]

Other deliberate policies to harness innovative ideas from the bottom up include Victoria's new Policy Idol competition, which was initiated in 2007 to capture staff-led innovation within the Victorian Department of Premier and Cabinet (DPC). Policy officers at all levels were invited to submit policy ideas. The eight entries were 'pitched' to a DPC senior executive panel. Congratulations are due to Jonathan Chew who won the inaugural competition. His prize? One week 'offline' to conduct a feasibility study into his proposal. Policy Idol is being expanded and run annually.

The United Kingdom also has been a leader in this regard, with a high-profile website calling for public feedback on regulation and mandated requirements for responses from officials. In June 2008, the website, www.showusabetterway.co.uk, was launched, inviting suggestions from the public on how to improve the availability of information and content generated within the public sector. This is how the homepage read when I visited it:

> Ever been frustrated that you can't find out something that ought to be easy to find? Ever been baffled by league tables or 'performance indicators'? Do you think that better use of public information could improve health, education, justice or society at large?
>
> The UK Government wants to hear your ideas for new products that could improve the way public information is communicated. The *Power of Information Taskforce* is running a competition on the Government's behalf, and **we have a £20,000 prize fund to develop the best ideas to the next level.** You can see the type of thing we are looking for *here*.

The use of prizes to elicit ideas for worthwhile innovation from the bottom up is becoming more popular, with the European Union offering a 'Best Idea for Red Tape Reduction Award'.[11]

4. Challenge Mechanisms to Promote Innovation

The United Kingdom has gone further than most jurisdictions in promoting bottom-up innovation with the establishment of what one might call 'challenge mechanisms' to allow those operating within government systems to bypass regulation and other practices that might otherwise obstruct new approaches. Thus, for instance, the United Kingdom has pioneered Regulatory Reform Orders (RROs), which in principle allow statutes to be overridden by administrative order to reform 'legislation which has the effect of imposing burdens' (*Regulatory Reform Act 2001*), with a view to removing or reducing them. Part of the process of making an RRO involves opening the draft order to public consultation and parliamentary scrutiny, with an undertaking by the minister that 'the orders will not be used to implement highly controversial reforms' (House of Commons 2006). Still, these challenge mechanisms typically focus on improving government performance and service provision.

The Review of the National Innovation System's review panel had a wider focus, looking at challenge mechanisms to champion the needs of innovators in the public and private sector. Many innovators in the private sector face a wall of institutions—regulation, routines and culture—that in evolving to service incumbents, typically show inadequate consideration of alternative approaches.

A perfect example is the nightmare that faced small financial start-up, Rismark International. Evolving out of a government-sponsored summit on housing affordability, Rismark sought to fund and sell capital appreciation mortgages.[12] As an innovator, Rismark was a square peg facing a wall of regulation made for round pegs. Was it an investment or consumer finance product? What was the appropriate tax treatment? Did the bundling of its product with an Adelaide Bank product violate prohibitions on third-line forcing? How should the costs be disclosed? Each of these issues required interaction with a different regulator: the Australian Securities and Investments Commission, the Australian Tax Office, the

Australian Competition and Consumer Commission and each of the state and territory consumer regulators.

There are plenty of similar examples. High school science teacher, Clay Reid, established a vineyard on school grounds at Clare High School. His initiative was so successful in transforming science teaching that he won the 2008 Prime Minister's Science Award for his efforts. Attending the function at which the awards were made, I asked Clay why he (and, by implication, other science teachers in other schools) did not contract with local vineyards? Reid pointed to the burden of meeting all the regulatory and other institutional requirements of the vineyard: occupational health and safety, insurance, food safety, workers' compensation and children's safety. He thought that what he had been through was hard enough, but he simply rolled his eyes at the prospect of getting similar approvals if he were doing it in partnership with another business on someone else's land! So, the prospect of 'scaling up' this success to other schools in other endeavours is lost (one can imagine similar school interactions with many local businesses) and it is lost in a way that is almost invisible. We never see regulation closing activities down, for they never get that far.

It is rare for innovations to survive in the private market—often, the failure is not due to technical inferiority. It seems perverse not to actively facilitate innovation in the way that good private businesses do—at the very least, by removing unnecessary obstacles as assiduously as possible. For that reason, the Review of the National Innovation System went beyond simply documenting these issues and proposing that governments be more flexible and accommodating of innovation. The Review of the National Innovation System's review panel felt that it needed to recommend something that would, if successful, institutionalise our thinking and, in so doing, place Australia at the forefront in dealing with a hitherto-intractable problem.

We recommended the establishment of an 'Advocate for Government Innovation', a broad-based challenge agency within government. Its remit would be to act across a wide front to facilitate innovation within government, both to improve the performance of government in government service delivery and policy development and also to facilitate the regulatory needs of innovators, like Rismark, who are not in the public sector.

Our Advocate for Government Innovation would perform a suite of functions that include:

- Operating a scheme like Singapore's TEC;
- Providing funding and resources for randomised policy trials;[13]
- Managing a process by which government agencies and firms could challenge regulation or administrative arrangements that obstruct innovation;
- Providing specific 'project facilitation' assistance to innovative firms;
- Promoting networks to disseminate knowledge about worthwhile new approaches to the issues faced by public agencies;
- Operating as a repository of knowledge and resources regarding the tendering of problems to be solved rather than the specifications to be met;
- Establishing a high-profile national awards system to provide national awards for:
  - Individuals
  - Agencies
  - State government agencies making the greatest contribution to public sector innovation; and
- Partnering with an appropriate university agency, such as the Australia and New Zealand School of Government,[14] to host an annual international conference on innovation in government, aiming to make it the premier international conference on the subject—the Davos of public sector innovation.

5. Conclusion

Paul David's (2008) history of the emergence of open science reminds us of the fragility of

innovation—in that case, of new ways of doing things (see also Arrow 2008). David argued that the precondition for 'take off' in modern science was the culture of peer review within a community of openness. David asked where such a culture might have come from given the ancestry of science in the secretive cultures of alchemy and military engineering. He argued that science emerged from the conjunction of various princes seeking to aggrandise their court by attracting to it 'stars' of natural philosophy and the arts. Subsequently, the culture of openness arose from emerging stars that needed to advertise their achievements to distant princes in the hope of patronage. The culture of peer review emerged from the need that princes had to ensure that those they hired were truly the most worthy and not cranks whose presence might reflect more embarrassment on their patrons than glory.

But, as David reasoned, just as the system of private property rights over ideas embodied in patent laws can be a threat to the culture of openness and peer review, so the traditions of secrecy in military technology and in alchemy continued as threats to the emerging scientific culture. David commented on the historical contingency and the fragility of the institutional matrix within which modern science emerged.

It was ever thus.

Whether it is in science or business or government or anywhere else, that which is new is usually contingent and fragile. In human life, as in the animal and plant kingdoms, most innovations will not survive. Sometimes, that is for good reason because, despite the enthusiasm of their protagonists, they are not good enough. More often they are good enough, but not lucky enough. With a large proportion of innovations failing in the marketplace, only some fail for their inadequacies. Others fail because of the hostility of the environment into which they were born, consisting of a constellation of phenomena from consumers' knowledge of the product and their capacity to learn new routines to the strength of competitors and myriad obstacles that the incumbents already have managed to overcome and now work at turning to their own competitive advantage.

We could do worse than systematically trying to make that environment just a little more welcoming, a little less hostile to, and a little less shocked by, the new.

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Endnotes

1. Centrelink was short-listed for a Commonwealth Association for Public Administration and Management award (Borins 2006).

2. The Review of the National Innovation System Panel argued that we should value the innovative platforms that this tradition of top-down innovation has given us and consider extending them wherever this makes sense. Indeed, the Higher Education Contribution Scheme (HECS) uses the tax system as a platform to establish income-contingent loans, just as the Child Support Agency uses the same tax system to replace the scandalously ramshackle court-based system for enforcing maintenance orders. So as not to range too far afield, we confined our recommendations to policy changes that had some direct relevance to the innovation agenda. Accordingly, we proposed that consideration be given to further extending the HECS in non-university education and to sole trader entrepreneurs seeking funding for innovative projects.

3. Thus, for instance, Democrat congressman, John F. Tierney, of Massachusetts, introduced a bill that provided funding for up to ten states to deliver comprehensive health care. In effect, ten experiments would be conducted with onlookers that then would be able to judge what worked best and why (HR 4412: *States Right to Innovate in Health Care Act 2000*).

4. Personal communication with senior officers in both states.

5. See House of Commons Public Administration Select Committee (2003). Another example is provided by targets for schools in the United States and United Kingdom, with student tests being used to measure teacher and school performance. There is evidence that teachers respond to these incentives by increasing the rate at which poorer students are placed in special programs that exempt them from the test (Jacob 2002; House of Commons Public Administration Select Committee 2003), they hold them down a year (Jacob 2002), 'teach the test' (Klein et al. 2000; Jacob 2002; House of Commons Public Administration Select Committee 2003) or simply cheat (Jacob and Levitt 2002).

6. Although incremental innovations can have some success without the need for policy or legislative modifications, systemic changes are often required in order to create higher levels of successful innovation. This might mean radically reducing the number of targets and planning and monitoring requirements as this would create freedom for creative thinking and an examination of other possibilities.

For example, aligning funding streams with improvements in performance and outcomes would act as a stronger incentive (Mulgan and Albury 2003).

7. At the time of writing, Singapore's dollar was at rough parity with the Australian dollar.

8. See <http://www.tec.gov.sg/TEC%20News/2002/bet%5Bnews%5D.htm>.

9. See <http://www.tec.gov.sg/TEC%20News/2002/televisit%5Bnews%5D.htm>.

10. See <http://www.tec.gov.sg/TEC%20Home/home1.htm>.

11. See <http://ec.europa.eu/enterprise/admin-burdens-reduction/competition_en.htm>.

12. Rismark would forward funds to a home-owner and, instead of charging interest, would acquire rights to the capital appreciation of the property. For every 1 per cent of the value of the property Rismark funded, it gained 2 per cent of the capital gain on the sale of the property.

13. There is not enough space in this article to articulate The Review of the National Innovation System Panel's approach to randomised trials. Given the prominence of expert independent advisory bodies in formulating policy, it is surprising that Australia has a relatively undistinguished record in this regard (Parker 1965). Suffice it to say that, although there have been plenty of policy trials in Australia, only a few such trials have produced evaluations of sufficient robustness to have led to major advances in our policy understanding and to changes in policy practice. As worthwhile as they are, policy trials typically leave policymakers a long way from the knowledge that often can be gleaned from properly randomised policy trials. Most particularly, randomised trials provide a means of observing all important counterfactuals (including, most particularly, doing nothing). It appears that enthusiasm for the idea of randomised trials is growing in Australia—with support from the Victorian and Western Australian submissions (Breunig et al. 2003). In addition to proposing an institutional structure for funding and resourcing randomised policy trials, we also suggested that a virtue could be made of necessity in many cases where the expenditure on schemes was capped.

For instance, the cost of the Export Market Development Grants Scheme, at roughly A$150 million per annum, has not substantially increased since the 1980s, the result being that grants are usually quite small. Often, grants are 'modulated' ex-post, meaning that the recipients are unsure of what they will get in advance. It is hard to think of a more efficient means of minimising the extent to which the program induces additional export marketing.

An alternative would be to ration the grants according to different criteria in a randomised way. This would yield crucial data for assessing the scheme's effectiveness, most particularly, the degree to which the scheme induces additional export marketing and export performance. In the absence of such data, no matter how incessantly we assess such programs, we can never have real confidence in the judgements about their cost-effectiveness.

14. Another appropriate partner might be the Institute for Public Administration Australia.

References

Arrow, K. J. 2008, 'Comment on "The Historical Origins of 'Open Science'" (by Paul David)', *Capitalism and Society*, vol. 3, no. 2, article 6.

Bjornlund, H. 2003, 'Efficient water market mechanisms to cope with water scarcity', *International Journal of Water Resources Development*, vol. 19, pp. 553–67.

Borins, S. 2006, *The Challenge of Innovating in Government*, 2nd edn, IBM Center for the Business of Government, Washington, DC, viewed December 2008, <http://www.businessofgovernment.org/pdfs/Borins Reprint.pdf>.

Breunig, R., Cobb-Clark, D. A., Dunlop, Y. and Terrill, M. 2003, 'Assisting the long-term unemployed: Results from a randomised trial', *Economic Record*, vol. 74, pp. 84–102.

Burke, E. 1790, 'Reflections on the revolution in France, the proceedings in certain societies in London relative to that event: In a letter intended to have been sent to a gentle man in Paris', <http://www.gutenberg.org/dirs/1/5/6/7/15679/15679-0.txt>.

Campbell, D., Brown, D. and Battaglene, T. 2000, 'Individual transferable catch quotas: Australian experience in the southern bluefin tuna fishery', *Marine Policy*, vol. 24, pp. 109–17.

Chapman, B. 1997, 'Conceptual issues and the Australian experience with income contingent charges for higher education', *Economic Journal*, vol. 107, pp. 738–51.

Chapman, B. J. and Harding, A. 1993, 'Australian student loans', *Australian Economic Review*, no. 101, pp. 61–75.

Chapman, B. and Ryan, C. 2005, 'The access implications of income-contingent charges for higher education: Lessons from Australia', *Economics of Education Review*, vol. 24, pp. 491–512.

Council of Australian Governments Reform Council 2008, *Report to the Council of Australian Governments, March 2008*, viewed December 2008, <http://www.coag.gov.au/coag_meeting_outcomes/2008-03-26/docs/CRC_report_to_COAG_2008.pdf>.

David, P. 2008, 'The historical origins of "Open Science": An essay on patronage, reputation and common agency contracting in the scientific revolution', *Capitalism and Society*, vol. 3, no. 2, article 5.

Hayek, F. A. 1955, *The Counterrevolution of Science: Studies on the Abuse of Reason*, Free Press of Glencoe, London.

Hollander, R. 2006, 'National competition policy, regulatory reform & Australian federalism', *Australian Journal of Public Administration*, vol. 65, no. 2, pp. 33–47.

House of Commons 2006, *Hansard*, Col.1101, 9 February, viewed December 2008, <http://www.publications.parliament.uk/pa/cm200506/cmhansrd/vo060209/debtext/60209-32.htm>.

House of Commons Public Administration Select Committee 2003, *On Target? Government by Measurement, Fifth Report of Session 2002–03*, Public Administration Committee, House of Commons, London, viewed December 2008, <http://www.publications.parliament.uk/pa/cm200203/cmselect/cmpubadm/62/6205.htm#a9>.

Jacob, B. A. 2002, 'Accountability, incentives and behavior: The impact of high-stakes testing in the Chicago public schools', National Bureau of Economic Research Working Paper no. 8968, Cambridge, Massachusetts.

Jacob, B. A. and Levitt, S. D. 2002, 'Rotten apples: An investigation of the prevalence and predictors of teacher cheating', National Bureau of Economic Research Working Paper no. 9413, Cambridge, Massachusetts.

James, E. 2005, 'Reforming social security: Lessons from thirty countries', Policy Report no. 277 for the National Center for Policy Analysis, viewed December 2008, <http://www.ncpa.org/pub/st/st277/>.

Klein, S. P., Hamilton, L. S., McCaffrey, D. F. and Stecher, B. M. 2000, 'What do test scores in Texas tell us?', *Education Policy Analysis Archives*, vol. 8, viewed December 2008, <http://epaa.asu.edu/epaa/v8n49/>.

Lloyd, P. 2008, '100 years of tariff protection in Australia', *Australian Economic History Review*, vol. 84, pp. 99–145.

Mulgan, G. and Albury, D. 2003, 'Innovation in the public sector', version 1.9 October, viewed December 2008, <http://www.cabinetoffice.gov.uk/strategy/work_areas/innovation.aspx>.

Nauta, F. 2006, 'Business innovation as inspiration for the public sector', Blog entry, viewed December 2008, <http://www.excellentgovernment.org/blog/?p=81>.

Organisation for Economic Co-operation and Development 2007, *Benefits and Wages 2007*, Directorate for Employment, Labour and Social Affairs, Paris, viewed December 2008, <http://www.oecd.org/document/33/0,3343,en_2649_34637_39619553_1_1_1_1,00.html>.

Parker, R. J. 1965, 'Power in Australia', *Australian and New Zealand Journal of Sociology*, vol. 1, pp. 88–9.

Ramia, G. and Carney, T. 2003, 'New public management, the job network and non-profit strategy', *Australian Journal of Labour Economics*, vol. 6, pp. 253–75.

Sturgess, G. L. 2005, 'Bound for Botany Bay: Contracting for quality in public services', Serco Institute Discussion Paper no. 1, viewed December 2008, <http://www.serco.com/Images/Botany%20Bay%20Oct%202005_tcm3-9870.pdf>.

Webster, E. M. and Harding, G. 2001, 'Outsourcing public employment services: The Australian experience', *Australian Economic Review*, vol. 34, pp. 213–42.

Whiteford, P. 2006, 'The welfare expenditure debate: Economic myths of the left and the right revisited', *Economic and Labour Relations Review*, vol. 17, pp. 33–78.

Review of the National Innovation System Panel 2008, *Review of the National Innovation System*, viewed December 2008, <http://www.innovation.gov.au/innovationreview / Documents / NIS _ review _ Web3.pdf>.