Productivity Commission

Science and Innovation Study

Submission by the Community and Public Sector Union (PSU Group)

28 July 2006

Summary

The CPSU believes that workers in the public sector make a crucial contribution to Australian science and innovation.

CPSU opposes the notion that public support for science and innovation makes no contribution to productivity. The experience of our members from public sector research areas testifies to the productivity and innovation possible if adequate levels of public support are made available.

For success in science and innovation Australia should take the 'high road' through education and public support for research and development. We cannot simply rely on other countries doing the work for us.

CPSU members have identified limited public funding and confused performance standards and research priorities as creating impediments to quality research and innovation at the workplace level. Consequently many researchers are spending increasing amounts of time seeking additional funding instead of doing actual research.

CPSU supports maintaining and increasing of direct levels of funding for government research institutions. It also supports the broad maintenance of research funding to non-government public institutions, and assistance to private firms and organizations.

CPSU also supports a focus on building quality environments for researchers in the public sector. This means that public support should not be narrowly tied to benchmarks and performance indicators. While public funding should be accountable, it should also create a co-operative culture among researchers, rather than a competitive scramble for limited funds.

CPSU believes that science and innovation cannot be separated from the environment in which it occurs i.e. where our members carry out their work. That means the impact of industrial relations policies such as the recent 'WorkChoices' changes must be taken into account when examining how science and innovation is carried out in Australia.

CPSU recommends that the Commission examines the evidence that co-operative arrangements and long term capability building will produce better research and innovation outcomes than individualized, competitive arrangements. Accordingly the Commission cannot afford to ignore the potential impacts of the Commonwealth government's 'WorkChoices' changes, as these foster those type of arrangements in workplaces across both the public and private sectors. Following from the Commission's issues paper, the study should pay attention to the people actually *doing* science, and the environment in which they work.

Introduction

The CPSU (PSU Group) welcomes the opportunity to contribute to this study on behalf of our membership.

About the CPSU (PSU Group)

Our union represents members in the Australian Nuclear Science and Technology Organisation, the National Measurement Institute, GeoScience Australia, the Murray Darling Basin Commission, the Defence Science and Technology Organisation, the Bureau of Meteorology. We are also affiliated with the CSIRO Staff Association.

Our members work in capital cities and regional centres. They work in research, science support, administration and policy. While not all their labours lead directly to commercial innovation, innovation cannot occur without their contributions.

Our submission

Our submission focuses on the role of public support, benchmarks and performance indicators, and impediments to quality science and innovation, with comments drawn from our membership. Particularly we are concerned with their impact at the level of the workplace environment. Throughout the submission we call attention to the potentially detrimental impact of the 'WorkChoices' changes.

We have read and support the submission of the CSIRO Staff Association.

Public Support

The Commission's staff working paper by Sid Shenks and Simon Zheng downplays the significance of domestic research and development for Australian productivity.[1] However, in his submission to the study, Joshua Gans of the University of Melbourne argues that 'Australian R&D expenditures . . . have a significant and positive impact on [multi-factor productivity] growth.'[2]

While the CPSU cannot claim to have carried out comprehensive studies like the above two, we have gathered responses from our members who carry out scientific research and contribute to innovation outcomes. They have confirmed the continuing importance of public support for the work they do, and the difference it makes to innovation outcomes.

For example, one of our members in the Australian Institute for Marine Science remarks that:

> *Public support is required for environmental research due to the low participation of private industry.*

[1] Sid Shanks and Simon Zheng, 'Econometric Modelling of R&D and Australia's Productivity', *Staff Working Paper: Productivity Commission* (April 2006), p.xli.
[2] Joshua S Gans, 'The Economic Case for Public Support for Science and Innovation', *Submission to the Productivity Commission Study* (18 July 2006), p.11.

Australia will pay the price with its major environmental and economic assets if it let its public commitment to research decline. Research and development should be viewed not only as a mechanism for technological innovation, but also as a means of increasing preparedness to cope with environmental and other significant changes in the future.

The Simons and Zhang paper argues for the positive impact of the reduction of centralised wage determination on productivity, when combined with R&D investment.[3] There is ample evidence from around the world that there are other ways to do this without the erosion of conditions and intensification of work reported by our members in science organisations. The work of Baker, Glyn, Howell and Schmitt has called into question whether centralised wage determination and other 'recommended' policies have had the beneficial affects claimed for them in OECD countries.[4] Certainly the example of Ireland in recent decades has run counter to this, with the 'Social partnership' between government, the labour movement and employer interests being widely seen as a positive contributor to that nation's overall economic success.[5]

The CPSU believes that science and innovation success requires Australia to take the 'high road' through education and public support for research and development. Relying on labour market changes like those promoted by 'WorkChoices' will not unleash any 'wave' of productivity in the economy, indeed they run counter to the need for co-operation that creates the environment for innovation to occur.

Benchmarks and Performance Criteria

Many of our members mentioned the confusion and contradiction between commercial and non-commercial work, even in agencies where the overall level of public funding is beginning to improve. This goes to the issue of how benchmarks and performance criteria affect both outcomes and people working in publicly funded research who must adhere to such conditions.

Where researchers are able to set benchmarks and performance standards for themselves, they have more control over their own work projects – with more fruitful results. According to one respondent:

> *At my working level we set performance indicators for projects ourselves as part of the planning phase, with major outcomes set by the definition of the projects as we take them on.*

Where there is less control for researchers over their performance measures, the results can be poor, as another CPSU member observes:

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[3] Shanks and Zheng, pp.xxxvi-ii.

[4] Dean Baker, Andrew Glyn, David Howell and John Schmitt, "Labour Market Institutions and Unemployment: A Critical Assessment of the Cross-Country Evidence', *Dept of Economics, Oxford University* (July 2003).

5 J. D House,. & Kyla McGrath, 'Innovative Governance and Development in the New Ireland: Social Partnership and the Integrated Approach', *Governance: An International Journal of Policy, Administration, and Institutions* 17 (1), 29-57 (2004).

> *Little can be done to cultivate a climate of effective research. This is particularly the case when the political goals of the management organisations are often at odds with or poorly matched to scientific goals.*

The CPSU acknowledges that public support should be accountable, however our members, particularly in the science and research area, do not find methods that reduce their influence and control over their own work conducive to innovation.

Given this situation, the Commonwealth government's 'WorkChoices' changes will work against a 'climate of effective research' by severely reducing people's control over their work environment. The CPSU's experience of individualised work arrangements across the public sector, in the form of Australian Workplace Agreements (AWAs) and individual contracts, is that they have precisely this effect on individual employees. 'WorkChoices' actually encourages management to force people to accept AWAs as a condition of employment in their own fields. While individualised arrangements are often promoted as empowering people at work, the reality for most employees is that their negotiating power is reduced while that of management increases. Under these circumstances 'performance' requirements become more burdensome than useful for individuals.

Therefore the interaction of 'performance' requirements and individualised working arrangements is potentially detrimental to science and innovation in Australia.

Impediments to Innovation

CPSU members identify the above issues around public funding and performance as creating impediments to quality research and innovation at the workplace level. Straightforward examples of the problems of shrinking public support include aging equipment in laboratories not being replaced, and the lack of continuity of funding, with the requirement for work to constantly stop and start under 'new banners'. Inadequate and uncertain funding that undermines capability limits both creativity and innovation.

There are also the issues of researchers spending an increasing amount of their time preparing applications for grants and contracts rather than on research itself. As one of our members commented, management criteria that focus on demonstration of 'outcomes' rather than 'innovations' means that a short-sighted approach to science prevails in workplaces.

An example of how workplace issues translate into impediments for innovation is the problem of technical and support staff being lost and not replaced. For example, a member in DSTO reports that their agency suffers from:

> *. . . a large number of senior scientists balancing precariously on a tiny technical framework which is overworked and underpaid.*

The feedback from CPSU members suggests that a managerialist approach in workplaces, seeing support staff as budget costs, and outcomes bringing short term results, represents a serious impediment to quality science and innovation. Once again it works contrary to fostering a co-operative workplace environment, and

can only be made worse by the introduction of individualised, competitive workplace arrangements.

Conclusion

The CPSU affirms that for Australia to take the ‘high road’ to science and innovation success, ongoing public support is an absolute necessity. The quality of that support is best assessed by how it translates at the workplace level. An effective study of science and innovation in Australia must look at how to foster a co-operative workplace environment that allows quality science and innovation to take place. The commission should examine recent work on the contribution of co-operation and networking to innovation, such as Yochai Benkler’s *The Wealth of Networks.*

Workers in the public sector have made vital and irreplaceable contributions to Australian science and innovation. They can continue to do so as long as public support is maintained, and their workplaces are environments that allow them to do their best work.