The Hon Paul Caica MP
Member for Colton

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Mr Ralph Lattimore
Public Support for Science and Innovation
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Dear Mr Lattimore

Thank you for your invitation of 2 November 2006 to the South Australian Government to submit comments on your draft report: *Public Support for Science and Innovation*. Our overall impression of the report was very favourable and we have made only relatively minor suggestions for your consideration which we hope will be useful.

Rationale, Impact and Balance of Public Funding Support

The Productivity Commission (PC) report notes the very significant contribution to R&D funding provided by State governments (Fig 1, $826m in 2002-03). However, its treatment of the public research institutions that are supported by State governments in the report is brief. Such treatment gives the impression that State contributions are of lesser significance and this impression could be corrected. In particular, States provide significant and core infrastructure and research leadership funding for particular state-based R&D institutions, notably in the agricultural, health and environmental research areas. These resources are major contributors to national programs such as Cooperative Research Centres and the National Collaborative Research Infrastructure Strategy through the provision of contributing funding, intellectual capital and facilities.

Furthermore, on the issue of interplay between the State and Commonwealth systems, there is little attention given to the potential effects of program proliferation, duplication and coordination and movement of human capital across Australia and how these contribute to the Australian innovation system as a whole when considering the impact, spillover benefits and funding mix of public support for science and innovation.

Little reference was made in the report to the importance of horizon scanning procedures in identifying future innovation priorities and opportunities and how this process can inform policy decisions on national research priorities and funding allocations.

Of particular importance for public funding of R&D is the issue of crowding out (does an increase in public funded R&D reduce the spending on R&D in the private sector?). It is noted that the PC modelling of this issue, based on international panel data, corrected for a bias in some large countries for high public R&D spending on defence,

suggested that there is no crowding out in Australia, and that public spending on science programs will not inhibit R&D spending by private firms. This conclusion is encouraging, and endorsed by the South Australian Government, which recommends it should be considered when developing future funding policy.

The PC report expresses concern that there has been a recent shift away from fundamental research: (....when assessed against the rationales for public support of science and innovation there are dangers if the trend goes too far). However, studies have shown the association between fundamental research and new technologies is weak, at least in the short term (Kealey 1996[1]). In formulating policies and priorities, a balance should be pursued between short and long term aims for the contributions of science and innovation to Australia's commercial performance.

Impediments and Aids to the Functioning of the Innovation System

The PC report could make an explicit reference in its findings to the advantages of considering the impact that framework conditions like taxation, regulation and education can have on the capacity and performance of Australia's innovation system. Furthermore, greater acknowledgement of, and recommendations pertaining to capturing the potential of the Commonwealth and State governments' substantial purchasing power to stimulate innovation could be made.

In its submission to the Australian Law Reform Commission Inquiry into Gene Patenting in 2004, the South Australian Government supported amending the Patents Act to expressly exempt experimentation or research use of patented inventions from liability or infringement. However, it remains unclear for many researchers as to what rights they can exercise to undertake further research on patented invention. A call for clarity about this matter and further investigation of the above issues as to their impact on economic development and research could be recommended in the report.

The inability to undertake data linkage was raised in the PC report as an impediment related to privacy regulation. Western Australia has successfully linked data for decades and South Australia is considering implementing a similar system. The Commonwealth has Memorandums of Understanding with several States for use of Commonwealth data (for example Medicare). The States could introduce specific legislation for data linkage. The South Australian Government agrees that the option referred to in the PC report (p. 5.27), to enact specific changes within the Privacy Act, as a possibility which could limit privacy regulation as an impediment to innovation.

The PC report discusses options for improving current ethical review processes, most of which have been superseded by work at both a State and Commonwealth level. These include the Australian Health Ministers' Advisory Council multi-centre working group established to consider a national system of streamlining the ethical review process and work done by the National Health and Medical Research Council (NHMRC) in moving towards a nationally harmonised system with the NHMRC as the coordinating body. Furthermore, a number of States have already begun to streamline their own ethics review process, and the South Australian Government is working with researchers, Human Research Ethics Committees (HRECs) and other stakeholders to identify ways in which the system can be more effective in South Australia. It would be appropriate if the

[1] Kealey, T. (1996) The Economic Laws of Scientific Research. MacMillan.

current initiatives referred to above were given time to be implemented, trialled and assessed and each jurisdiction be provided with the opportunity to be actively involved in restructuring. This process may change some of the views detailed in the PC report towards both HRECs and the ethics review process as a whole.

Innovation and Science in Business and Industry

R&D tax concession

Over the last ten years the R&D tax concession as a proportion of total company tax revenue, has fallen from 4.4 percent in 1996-97 to a forecast 1.1 percent in 2006-07. Nationally 47 percent of business expenditure on R&D (BERD) is spent by manufacturing, an important sector of the South Australian economy, and one that needs to invest in more knowledge intensive products and processes if it is to successfully compete in an increasingly global marketplace.

The South Australian Government therefore supports the PC's draft findings that the R&D tax concession should move towards the 175 percent increment component of the program through the adoption of a fixed base of an R&D to sales ratio as the basis for payment, rather than the existing rolling base. This will enable firms who exceed their fixed base ratio to access the 175 percent concession without having to meet the unrealistic requirement of continually increasing their R&D activity in perpetuity.

The South Australian Government also agrees with the PC's draft finding that start-up firms should be able to access the 175 percent component, as it is inequitable to exclude these firms for reasons that they do not have a history of R&D.

Commercial Ready programme

While competitive grant programs can provide scope to target socially valuable R&D projects that might not otherwise occur, the Commercial Ready program is specifically targeted at stimulating expenditure on commercially focused R&D by business. As Australian BERD as a portion of GDP is generally lower than those of other advanced economies, the South Australian Government would not support the Commercial Ready program changing its focus away from its commercialisation objectives.

Rural Research and Development Corporations (RRDCs)

The great majority of industry based RRDC funding of research also enjoys additional and significant State Government support. The recommendation to consider reducing the more narrow industry focussed RRDCs is based on the fact that technologies arising from funding of research programs by RRDCs will be captured by the industries involved, with little spillover. This is true, but it should also be recognised that the transfer is due to a large number of nationally/geographically distributed separate enterprises and any 'capture of returns from benefits derived' is likely to require a facilitated structure and mandatory approach, such as through the RRDCs.

The PC report made the assertion that non-R&D innovation does not require public support because of the competitive forces driving business innovation. However, the SA State Government believes that there is a case for public support of non R&D innovation, particularly with regard to:

1) leadership, entrepreneurial and management skills for running an innovative business
2) overcoming the difficulties faced by SMEs in accessing finance
3) better performance in and understanding of product, service, process, market and supply chain innovations.

Co-operative Research Centres (CRCs)

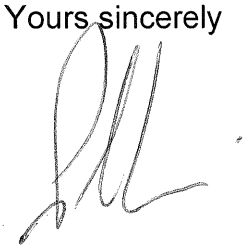
There is strong support from the South Australian Government for the call to rebalance the CRC objectives to those which strike a balance across the key goals of research excellence, effective collaboration, creation of new educational opportunities and translation of research outputs into economic, social and environmental benefits, in particular, in making those proposals which may yield a great public good, for example in health care and environmental care, more competitive in the CRC funding allocation process.

General comments

On an editorial/layout note, given the size of the report, the density of argument and analytical results, an index would be very useful.

I hope that the above commentary is useful to you and the Productivity Commission in completing your *Public Support for Science and Innovation* report, and I look forward to reading the final published report in March 2007.

Yours sincerely



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