Supplementary submission:

Productivity Commission inquiry into rural Research and Development Corporations.

A comparison of the R&D tax concession and the matching funding arrangement for rural research and development corporations.

A comment was made in the Cross-industry submission to the Productivity Commission inquiry into rural R&D corporations about the relative incentives provided by different government programs for businesses to invest in research and development.

Specifically, the cross-industry submission stated;

> *The industry R&D Tax Concession (which has essentially been accessible to large private-sector organisations) and the rural RDC arrangements (whereby the Australian government matches rural industry funding up to 0.5% of the gross value of production (GVP)) are broadly similar in terms of the level of financial incentive they provide for businesses (either collectively in the case of the rural sector, or individually in the case of other sectors) to invest in R&D.*

The Productivity Commission has requested further comment on this statement. In requesting further comment, it has noted that a 2007 Productivity Commission inquiry into public sector support for science and innovation reported that the matching funding arrangements for rural R&D corporations provided between three and ten times the level of government subsidy per dollar of business spending compared to the R&D tax concession available to businesses directly investing in R&D. The Productivity Commission based its findings on the industry and government contributions to rural R&D corporations for the 2004-05 year. These findings were from the perspective of Government, rather than from the perspective of industry.

The following provides some further examination of this question, in an attempt to explore the relative benefits of the two schemes from the perspective of a business investing in research and development activities.

A Hypothetical model.

A comparison can be made between two hypothetical farm businesses, each with the same level of gross income and gross expenditure. It is assumed that one of these is operating under current rural research and development corporation compulsory levy arrangements, and the other is operating under the R&D tax concession arrangements, ignoring minimum expenditure thresholds.

Both farms have gross income of $300,000, and gross expenditure of $200,000, leaving an operating profit of $100,000. The farm business operating under the “RDC Model” is assumed to

pay compulsory levies of 0.5% of gross sales, which is deducted before tax. The farm business operating under the R&D Tax concession model elects to spend $3,000 on R&D, for which a tax concession can be claimed (assumed to be at the 150%[1] rate). As a consequence of the two models, both businesses have $3,000 available for R&D expenditure. The following table provides a summary of the financial situation for each, under some simple assumptions.

Table 1. Comparison of alternative R&D 'models

Item	Rate %	RDC Model	R&D Tax concession model
Gross farm receipts		$ 300,000	$ 300,000
Gross farm expenditure		$ 200,000	$ 200,000
R&D levies paid	0.5%	$ 1,500	
R&D expenditure			$ 3,000
Net profit		**$ 98,500**	**$ 97,000**
Add back R&D expenditure			$ 3,000
Sub-total			$ 100,000
Less R&D tax concession	150%		$ 4,500
Taxable income		**$ 98,500**	**$ 95,500**
Tax payable (Corporate rate)	30%	$ 29,550	$ 28,650
Income after tax		$ 68,950	$ 66,850
Government matching funds	100%	$ 1,500	$ -
Gross R&D funds available		**$ 3,000**	**$ 3,000**
Gov't contribution (matching)		$ 1,500	$ -
Gov't contribution (tax foregone)		$ 450	$ 1,350
Gov't total		**$ 1,950**	**$ 1,350**
Govt $ per business R&D dollar		**$ 1.30**	**$ 0.45**
Buisiness net contribution		$ 1,050	$ 1,650
Gross R&D expenditure		$ 3,000	$ 3,000
Less RDC o'heads	10%	$ 300	
Less Public good component	20%	$ 600	
Net R&D investment 'value'		$ 2,100	$ 3,000
R&D value/business dollar		**2.00**	**1.82**

[1] It should be noted that current arrangements are such that a general concession is available for eligible R&D tax expenditure which can be deducted at a rate of 125%, and for some expenditures a premium rate of 175% deductibility is available. In 2009 the Australian Government proposed changes to the scheme, specifically the introduction of a 45 per cent refundable tax credit (the equivalent to a 150 per cent concession) for eligible entities with an aggregated turnover of less than $20 million per annum, and a non-refundable 40 per cent R&D tax credit (the equivalent of a 133 per cent deduction) for all other eligible entities. These changes are yet to be legislated.

As can be observed under this model, taking into account both Government tax revenue foregone and the matching government contribution, the government contribution per business dollar invested in R&D under the RDC model is approximately 2.8 times greater under the RDC model compared to the R&D tax concession model, using the 150% tax concession rate for eligible R&D, and noting that this is an indicative rate only, with different rates available to different organisations depending on their particular circumstances. That is, the dollars of Government contribution per dollar of business contribution are estimated to be $1.30 for the RDC model, compared to $0.45 for the R&D tax concession model.

However, from the perspective of the owners of the two businesses, a different picture emerges. While the business taking advantage of the R&D tax concession model is able to include any direct R&D administration costs as part of total R&D expenditure and claim a 150% deduction for these, this is not the case under the RDC model.

Under the RDC model, all the overhead and administration costs associated with RDC R&D expenditure have to be paid for out of the pool of funds held by the RDC. While there is no absolute data available on how much these overheads may amount to, anecdotal evidence indicates that a figure of 10% would be a reasonable estimate.

In addition, because of their nature and their requirement to consider national research priorities in their R&D strategies, the RDCs direct a proportion of their R&D expenditure to what might be termed public-good R&D activities. These are issues that may be of no direct benefit to industry participants, particularly in the short-term. While such R&D activities have always been part of RDC activities, this is likely to be even more the case with the shutting down of Land and Water Australia in 2009. The proportion of RDC expenditure directed to these issues is not readily available, and undoubtedly varies between RDCs and years. However, for the purposes of this comparison it is presumed that the proportion of R&D expenditure direct to pure public good R&D is 20%. There is no requirement for businesses accessing the R&D tax concession to consider public good outcomes in deciding on their R&D expenditure.

Based on this assumption and assuming the chances of successful R&D are equal under both models, it can be seen that from the perspective of the business manager the R&D value delivered per dollar of business expenditure is almost equal ($2.00 for the RDC model compared to $1.82 for the R&D tax concession model). That is, if faced with a hypothetical choice between either of these two models, the business manager would not perceive there to be a great deal of difference in the relative incentive to invest in R&D.

Some caveats.

The results of an analysis such as this will vary greatly depending on assumptions used, and in particular assumptions about the amount of overhead costs incurred by RDCs, and the amount of funding they direct to pure public good research. The figures in the model are indicative only, and should not be assumed to reflect actual data. They are used simply for demonstration purposes.

It is also important to recognise that analysis has shown that there has been a relatively high level of public good outcomes that arise from successful agricultural R&D, delivering both industry and community benefits. The pure public good R&D considered in the above model would be R&D that does not deliver industry benefits, but that the RDC is required to undertake.

The outcome of this simple analysis will also vary depending on the R&D Tax Concession rate assumed (possibilities include either 125%, 150% or 175%) and will also vary depending on whether the business under the RDC model is paying tax as an individual or a company.

It is also the case that a business operating under the R&D tax concession model can opt not to incur R&D expenditure in a year when business profitability is low or negative, which is an advantage in comparison with a business under the RDC model which is required to make the R&D contribution, irrespective of the level of profitability of the business in a particular year.

It is acknowledged that this model is overly simplistic and ignores issues such as the need for large-scale investment in many research areas to achieve outcomes (which the RDC model provides), and also ignores the fact that not all the productivity-enhancing R&D undertaken by an RDC will be applicable to each individual levy-payer, whereas it would be assumed that an individual electing to invest in R&D would have a very specific and immediately relevant outcome in mind and would expect to be able to quickly secure 100% of the benefits if a successful outcome arises.

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