

Review of the R&D Tax Incentive

Mr Bill Ferris AC, Chair, Innovation Australia
Dr Alan Finkel AO, Chief Scientist
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4 April 2016

The Hon Malcolm Turnbull MP
Prime Minister
Parliament House
CANBERRA ACT 2600

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Dear Prime Minister

In announcing the National Innovation and Science Agenda on 7 December 2015 you requested that we form a review panel to 'identify opportunities to improve the effectiveness and integrity of the R&D Tax Incentive, including by sharpening its focus on encouraging additional R&D spending'. We have completed this task and commend our report to you.

R&D activities are a key driving force of productivity and economic growth. The R&D Tax Incentive is part of a mix of innovation policies seeking to improve the quality and quantity of R&D investments in Australia, and accounts for around one-third of the \$9 billion of total government support for innovation.

The panel found that the programme falls short of meeting its stated objectives of additionality and spillovers. We make six recommendations to be considered as a package of measures to improve the overall effectiveness and integrity of the programme while encouraging additional R&D. The recommendations reflect the available evidence and the panel's analysis and judgment informed through consultations with stakeholders. The areas of improvement identified in this review would be likely to generate greater benefit for the Australian economy. In particular, although collaboration is not a focus for the programme, the panel believes that the modest existing levels of collaboration between industry and research institutions represents a lost opportunity and we recommend providing a higher tax offset to encourage greater levels of collaboration.

The opinions of a broad variety of stakeholders were canvassed. The panel and supporting taskforce conducted targeted stakeholder consultations with companies participating in the programme, peak industry and research organisations, reference groups and policy makers.

In total, the panel received 92 submissions and also benefitted from earlier programme review activities including consultation and analysis by the Centre for International Economics. Stakeholder views provided through recent consultation processes were also considered.

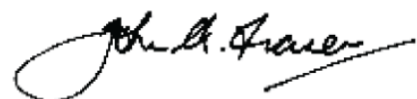
Yours sincerely



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Overview

The R&D Tax Incentive (the Incentive) is the largest component of Australian government support for innovation, with around 13,700 entities performing \$19.5 billion of R&D at an estimated cost to government of \$2.95 billion in 2013-14. The Government commissioned this review to:

‘identify opportunities to improve the effectiveness and integrity of the R&D Tax Incentive, including by sharpening its focus on encouraging additional R&D spending.’

Reviewing the programme against these terms of reference involves the evaluation of the programme against its objectives, weighed against the costs, to measure the net social benefit. The objectives, as stated in the programme’s legislation, are to ‘encourage industry to conduct research and development activities that might otherwise not be conducted...to benefit the wider Australian economy’. In other words, the Incentive seeks to encourage additional R&D (additionality) that benefits others (spillovers).

Most OECD countries have incentive schemes for R&D. Australia and most other countries use tax incentives as part of their public support, but Australia, Canada and the Netherlands are unusual in having tax measures as the principal form of support for business R&D. Countries such as Finland, Germany and Sweden are examples at the other end of the spectrum, in that they do not use tax incentives at all but rather support business R&D through direct measures such as competitive grants.

Overall assessment

The review panel finds that the programme falls short of meeting its stated objectives of additionality and spillovers. There are a number of areas where improvements could be sought in order to improve the effectiveness and integrity of the programme and achieve a stronger focus on additionality.

Based on the best estimates of additionality and spillovers, the panel found that the programme could be better targeted. The areas of improvement identified in this review would be likely to generate greater benefit from the programme for the Australian economy.

The recommendations reflect the available evidence and the panel’s analysis and judgment informed through consultations with stakeholders. Recommendations 2, 4 and 5 relate to improving the effectiveness and level of additionality from the Incentive while recommendations 1, 3 and 6 seek to improve the integrity of the programme. The panel makes these six recommendations to be considered as a package of measures for overall improvement of the programme.

Recommendations

Recommendation 1. Retain the current definition of eligible activities and expenses under the law, but develop new guidance, including plain English summaries, case studies and public rulings, to give greater clarity to the scope of eligible activities and expenses (Section 4.1, p. 30).

The panel finds that the definition of eligible R&D broadly aligns with the OECD Frascati Manual, which is regarded internationally as setting the benchmark for identifying R&D activities. The supporting legislation is drafted using a principles-based approach with a broad concept of eligible expenses, allowing flexibility as R&D activities evolve over time.

The panel considered the potential to tighten the definition to increase the extent of spillovers from the programme, such as by increasing the focus on novelty or removing the concept of “supporting R&D”. It also considered whether the list of exclusions should be expanded. However, the panel formed the view that it is too soon after the programme’s introduction in 2011 to change the definition.

The main issue associated with the scope of eligible activities is the lack of clarity and consistency, perceived or otherwise. This opens the way for the R&D consultant and tax agent industries to charge significant fees to guide potential recipients through the uncertainty. The panel finds that the compliance costs for companies registering in the programme are relatively high as a percentage of the benefit, reducing the effective level of public support flowing to business R&D. The panel recommends that administrators develop new guidance, including plain English summaries, case studies and public rulings, to give greater clarity to the scope of eligible activities and expenses.

Recommendation 2. Introduce a collaboration premium of up to 20 percent for the non-refundable tax offset to provide additional support for the collaborative element of R&D expenditures undertaken with publicly-funded research organisations. The premium would also apply to the cost of employing new STEM PhD or equivalent graduates in their first three years of employment. If an R&D intensity threshold is introduced (see Recommendation 4), companies falling below the threshold should still be able to access both elements of the collaboration premium (Section 4.2, p. 35).

The panel notes that there is a modest amount of collaboration with publicly-funded research organisations (PFROs) within the programme, but it is not an explicit focus. The panel also notes the low employment level of Science, Technology, Engineering and Mathematics (STEM) PhD graduates in Australian industry relative to other OECD countries. This represents a lost opportunity for greater spillovers of knowledge between larger companies, PFROs and the broader marketplace. The panel recommends the Government consider providing a premium rate for the component of a project's total R&D expenditure that is undertaken in collaboration between recipients of the non-refundable tax offset of the Incentive and PFROs. In addition, the collaboration premium should apply to the cost of employing new STEM PhD or equivalent graduates in their first three years of employment. There would need to be detailed consideration of how this could be done in a way that maintains integrity and does not distract research organisations from fulfilling their core functions.

Recommendation 3. Introduce a cap in the order of \$2 million on the annual cash refund payable under the R&D Tax Incentive, with remaining offsets to be treated as a non-refundable tax offset carried forward for use against future taxable income (Section 4.3, p. 37).

The panel finds that the programme incorporates effective additional support for SMEs and start-ups, since its refundable component is available at a premium rate to companies with turnover less than \$20 million. This provides important cash-flow assistance to SMEs and increases the potential for additional investment in R&D.

The considerable growth in the cost of the refundable component is, however, impacting the programme's long-term sustainability. Refundability is likely to provide fewer tangible benefits for SMEs with larger R&D expenditures, who will be more able to find alternative sources of finance at relatively lower costs in comparison with firms with lower R&D expenditure. The panel finds that placing a cap on the amount of cash refund that can be received, for example, at \$2 million would maintain strong cash-flow support for SMEs up to that limit, while improving the sustainability of the programme. While refunds would be capped, any remaining entitlement to a tax offset through the programme would be carried forward and able to be offset against any future tax liability.

Recommendation 4. Introduce an intensity threshold in the order of 1 to 2 percent for recipients of the non-refundable component of the R&D Tax Incentive, such that only R&D expenditure in excess of the threshold attracts a benefit (Section 4.4, p. 39).

There are limits in the ability to target additional R&D in a volume-based scheme. We find that additionality could be sharpened by better targeting larger companies' access to the scheme through the introduction of an intensity requirement. With such a requirement, only companies directing a specified percentage of their total business expenses to R&D would begin to receive the non-refundable tax offset. This reflects that firstly, the literature suggests that spillovers are more likely to flow from R&D in large companies that exhibit higher R&D intensities and secondly, at least such a level of expenditure would be expected as business as usual in a truly innovative company.

Recommendation 5. If an R&D intensity threshold is introduced, increase the expenditure threshold to \$200 million so that large R&D-intensive companies retain an incentive to increase R&D in Australia (Section 4.4, p. 41).

Should an intensity threshold be introduced, the panel recommends that the \$100 million expenditure threshold be raised. The expenditure threshold has effectively locked-in a maximum annual \$10 million tax benefit to around 25 large and very large companies that undertake more than \$100 million in R&D, removing their incentive to undertake additional R&D in Australia. An intensity threshold would remove or substantially reduce the business as usual claims of some large and very large companies, while increasing the expenditure threshold would make the full benefits of the Incentive available for additional R&D by the remaining (R&D-intensive) companies.

Recommendation 6. That the Government investigate options for improving the administration of the R&D Tax Incentive (e.g. adopting a single application process; developing a single programme database; reviewing the two-agency delivery model; and streamlining compliance review and findings processes) and additional resourcing that may be required to implement such enhancements. To improve transparency, the Government should also publish the names of companies claiming the R&D Tax Incentive and the amounts of R&D expenditure claimed (Sections 5.1-5.5, p. 45).

The panel notes that despite the level of coordination between AusIndustry and the ATO, the significant growth in the scale of the programme is placing increasing strain on the administrative and compliance model for the programme. The Government should consider options to improve administration. These could include: adopting a single application process rather than the current separation of registration and claims, introducing a single database for the entire programme, reviewing whether both AusIndustry and the ATO should continue to administer the programme jointly and closer collaboration and streamlining around review and findings. Either or both agencies may require additional resourcing to enable such improvements.

To place the programme into alignment with modern expectations and to allow public visibility of companies receiving public support for their activities, tax secrecy provisions should be adjusted to allow the publication of the names of companies claiming the Incentive and the amounts of R&D they have claimed.

1 Introduction

Australian governments have provided support for research and development (R&D) through the tax system since 1985 when the R&D Tax Concession was first introduced. The R&D Tax Incentive (the Incentive) replaced the R&D Tax Concession in 2011 and is the largest component of Australian government support for innovation. Around 13,700 entities registered and received benefits estimated at \$2.95 billion in 2013-14, which was around one-third of the total government support for innovation. Most OECD countries use tax incentives as part of their public support for R&D; however Australia is unusual in having a tax measure as the principal form of support.

The R&D Tax Incentive

The Incentive encourages industry investment in R&D. It is a broad-based programme accessible by all industry sectors. The object of the Incentive is to support industry to conduct R&D activities that might otherwise not be conducted. Support for these activities is important, because while they may not be viable to an individual company, the outcomes of the R&D may have a wider benefit to Australian society. The Incentive reduces the costs to business of undertaking R&D activities, offering tax offsets for up to \$100 million of eligible R&D expenditure each financial year.

Box 1.1 Programme core components

The R&D Tax Incentive is comprised of:¹

- a 45 percent refundable tax offset for eligible entities with a turnover of less than \$20 million per annum and provided they are not controlled by income tax exempt entities; and
- a non-refundable 40 percent tax offset for all other eligible entities. Unused non-refundable offset amounts may be able to be carried forward to future income years.

The programme is available to entities that are:

- incorporated under an Australian law;
- incorporated under a foreign law that is an Australian resident for tax purposes; or
- incorporated under a foreign law that is a resident of a foreign country with a double tax agreement with Australia and who carries on business through a permanent establishment of the body corporate in Australia.

The programme is accessible by entities:

- self-assessing whether they are eligible and whether they are undertaking eligible R&D activities;
- registering with AusIndustry, typically up to 10 months after the end of the entities' income year; and
- lodging a claim for the income year with the ATO by completing a Research and Development Tax Incentive Schedule and relevant labels of the company tax return.

Programme administration

Policy responsibility for the Incentive is shared between the Department of Industry, Innovation and Science and the Department of the Treasury; and the programme is jointly administered by AusIndustry (on behalf of Innovation Australia) and the Australian Tax Office (ATO). In administering the programme, AusIndustry and the ATO work closely together on integrity assurance of R&D

¹ In the 2015-16 Budget, the Australian Government reiterated its introduction to reduce the rates of assistance under the R&D Tax Incentive by 1.5 percent. The proposed measure would reduce the refundable and non-refundable rates to 43.5 percent and 38.5 percent respectively. It would apply to income years starting on or after 1 July 2014. Legislation to give effect to this measure the *Tax and Superannuation Laws Amendment (2015 Measures No. 3) Bill 2015* is currently before the Senate.

activities and expenditure claimed under the programme. Innovation Australia (and its delegates) provide independent advice to Government on the programme and may seek the advice of technical experts to assist with more complex compliance assessments.

Box 1.2 Administration role and responsibilities

AusIndustry (on behalf of Innovation Australia):

- promotes and supports companies to understand the Incentive;
- manages registration of companies accessing the programme (including registration of Research Service Providers); and
- determines the eligibility of R&D activities—Innovation Australia and its delegates make decisions (in the form of ‘Findings’) about R&D activities and registration.

The ATO:

- determines the eligibility of companies applying for the Incentive; and
- whether the R&D expenditure a company is claiming in its tax return is eligible (including binding private rulings).

The National Innovation and Science Agenda

The National Innovation and Science Agenda (NISA) articulates the government’s role across the innovation system, including support for R&D. The NISA focuses on boosting innovation and science in four key pillars:

- Culture and capital: backing entrepreneurs by making more of public research and opening up new sources of finance, to allow Australians to embrace risk, learn from mistakes, be ambitious and experiment to find solutions;
- Collaboration: increasing collaboration between industry and researchers to find solutions to real world problems and to create jobs and growth;
- Talent and skills: developing and attracting world-class talent for the jobs of the future;
- Government as an exemplar: government leading by example by embracing innovation and agility in the way it does business.

The NISA outlined a suite of measures that invest in enablers such as education, science and research and infrastructure; incentivising business investment; and removing regulatory obstacles such as restrictions around employee share ownership or access to crowd-sourced equity funding.

The Review of the R&D Tax Incentive

This review of the R&D Tax Incentive (the review) was commissioned on 7 December 2015 as part of the NISA.

The Government requested the review panel:

‘identify opportunities to improve the effectiveness and integrity of the R&D Tax Incentive, including by sharpening its focus on encouraging additional R&D spending’

A review panel was chaired by Mr Bill Ferris AC (Chair of Innovation Australia), Dr Alan Finkel AO (Chief Scientist) and Mr John Fraser (Secretary to the Treasury), under the auspices of Innovation and Science Australia. The review panel was supported by a taskforce within the Department of Industry, Innovation and Science, drawing upon staff from the department, the Department of the Treasury and the ATO.

In developing its response to Government, the review panel has considered the following issues:

- Are there aspects of the definition of what is and is not R&D, the rates and thresholds, the programme design and/or administrative processes that could be improved?

- What is the role of the R&D Tax Incentive in pursuing other objectives, such as international tax competitiveness and collaboration with publicly-funded research bodies?
- How does it compare with international practice around support for business R&D?
- What is the historical and projected cost of the R&D Tax Incentive? What drives the costs?
- How could the R&D Tax Incentive be made easier for users to understand and access?

The review has benefitted from earlier departmental programme review activities including consultation and analysis by the Centre for International Economics (CIE), which was engaged to provide independent advice to the department. Stakeholder views provided through recent consultation processes were taken into account, including:

- previous Tax White Paper submissions;
- the 2014 Senate inquiry into Australia's Innovation System; and
- the Chief Scientist's 2015 consultation paper: *Vision for a Science Nation - Responding to Science, Technology, Engineering and Mathematics: Australia's Future*.

The opinions of a broad variety of stakeholders were canvassed. The panel and supporting taskforce conducted targeted stakeholder consultations with companies participating in the programme, peak industry and research organisations, reference groups and policy makers.

In total, the review panel received and considered 92 submissions.

2 Review framework

This review was undertaken to identify opportunities to improve the effectiveness and integrity of the Incentive, including by sharpening its focus on encouraging additional R&D expenditure. Reviewing the programme involved the evaluation of the performance of the programme against its objectives, its delivery and operation and the outcomes achieved as a result of the programme.

The programme is part of a mix of innovation policies seeking to improve the quality and quantity of R&D investments in the public and private sectors in Australia. R&D activities are a key driving force of productivity and economic growth. However, it is commonly accepted that due to the presence of benefits that flow to the wider economy and the inherent uncertainty of R&D projects there is an underinvestment in private business R&D compared with a socially optimal level.

The core objective of the programme is found in division 355 of the *Income Tax Assessment Act 1997*: to 'encourage industry to conduct research and development activities that might otherwise not be conducted...to benefit the wider Australian economy'. In other words, the R&D programme seeks to encourage activities that are both:

- additional (activities that might otherwise not be conducted); and
- generate spillovers (activities that are likely to benefit the wider Australian economy).

As such, the effectiveness of the programme relates to the extent to which it induces additional R&D activities that also lead to spillovers to the Australian economy. The integrity of the programme also relates to not providing support to those not undertaking R&D.

The extent to which the programme generates benefits through meeting its objectives then needs to be weighed against the programme costs to measure the net social benefit. The costs of the programme include fiscal, economic, compliance and administration costs. Evaluation of the programme against this cost benefit framework provides an indication of how efficient the programme is in achieving its objective.

Effectiveness

In addition to inducing additionality and generating spillovers, the effectiveness of the Incentive includes consideration of the resources used through the programme – both by companies and government (taxpayers).

Spillovers

R&D activities are a key driver of productivity improvement in the economy. Business R&D activity adds to the stock of knowledge in the economy and builds peoples' skills that can catalyse new ideas and ways of doing things beyond the company – in other companies, sectors and countries. In this way, R&D in one organisation can often benefit other companies or the community more broadly. When these benefits flow beyond the involved parties, this effect is termed a 'spillover'.

Spillovers are intangible effects and are difficult to isolate and measure. Judgments about the extent of spillovers and factors that maximise their incidence necessarily rely on international literature as much as specific evidence about the programme.

The Productivity Commission (2007) identifies three major avenues by which spillovers may arise:

- high quality human capital development;
- development of basic knowledge capabilities; and
- diffusion of new ideas among companies and others.

A company may also increase its openness to spillovers by sharing experience and lessons learnt, or by undertaking joint venture research projects and collaborative activities. This may include the movement of trained staff, publication of research findings or product or service imitation.

Individual researchers provide an important channel of spillovers, either directly through employee mobility between companies or indirectly through personal connections and professional networks. To this end, interaction between researchers across companies and organisations should be encouraged through collaborative projects and joint ventures.

The degree of spillovers generated by R&D often relates to the types of activities and expenditures that companies undertake. As such, it can be useful to understand what types of projects the programme supports to evaluate its effectiveness.

Additionality

Additionality refers to the increased private investment in R&D that occurs due to the programme: it is the amount invested in R&D activity above that which would be undertaken in the absence of the programme. By design, volume-based tax instruments such as the Incentive not only subsidise this additional R&D but also support the activities a company would have done anyway. This limits the level of additionality that can be achieved using the tax system as a delivery mechanism.

The factors that lead companies to respond to the programme require investigation in order to recommend improvements to sharpen additionality – or whether other delivery mechanisms may be more effective. Hence, it is important to understand which types of companies are more responsive to fiscal incentives and what levers may be available to target them.

The Government explicitly directed the review panel to consider how to sharpen the focus of the programme to encourage additional R&D spending. This suggests a particular concern that the scope for ‘business as usual’ R&D gaining public support be reduced. ‘Sharpening additionality’ amounts to increasing the amount of additional R&D achieved for each dollar of tax forgone.

Costs

The full cost of the programme includes the fiscal cost of support (cash payments to companies and tax relief); the portion of departmental budgets associated with administering the programme; compliance costs incurred by companies; and the economic cost of raising additional tax revenue to fund the fiscal costs.

As the programme is a volume-based tax expenditure, it does not have a fixed budget. The magnitude of the rates and the degree of uptake become important in deciding whether the social benefits outweigh the direct and indirect costs.

Integrity

The integrity of the programme relates to the extent it minimises support to activities beyond which the programme is intended to support.

Unintended support includes allowing R&D activities that are either outside the definition, or in grey areas. Clear and consistent guidance and uniformity in its application by administrators are essential to preserve the integrity of the programme and the tax system through which it is delivered.

As it is difficult to circumscribe R&D activities in a definition – since they are uncertain processes – it is necessary to focus on ways to strengthen the administration of the programme as a way of mitigating compliance risks.

Summary

There is a trade-off between focusing the programme to companies or activities where additionality and spillovers are greatest per dollar of tax forgone – and – increasing the complexity and subsequent resource cost borne by all parties. Improving the overall effectiveness and integrity of the programme in a fiscally sustainable way requires close scrutiny of the costs and benefits of any proposed changes or recommendations.

3 Assessment of current programme

This chapter uses the framework set out in Chapter 2 to assess how well the Incentive is achieving its objectives and the costs that arise, while identifying possible areas for improvement. The chapter concludes with an overall assessment of the net social impact of the programme.

The assessment is structured according to the key instruments the programme incorporates in order to achieve its objectives. Areas of consideration are:

- 3.1. Types of activities and expenditures the programme supports
 - Definition of R&D activities
 - Eligible expenditure
 - Fostering collaboration
- 3.2. Types of companies that are eligible for support
 - Entrants and R&D start-ups
 - SMEs
 - R&D-intensive companies
- 3.3. Level of benefits provided
 - Current benefits
 - Comparison to social return
- 3.4. Programme administration
 - Registration
 - Simplicity of the programme
 - Compliance activity
 - Transparency and data
- 3.5. Costs of the programme
 - Fiscal costs
 - Compliance costs to business
 - Administrative costs
 - Economic cost

3.1 Types of activities and expenditures

The Incentive is governed by legislation that defines eligible R&D activities and eligible expenditure incurred on R&D activities. It also includes specific exclusions to rule out certain activities and expenditures. The primary motivation for this is to target support towards activities likely to generate the greatest spillovers, although in some instances it is also to maximise additionality.

The Productivity Commission (2007) argues that spillovers are likely to be greatest for:

- basic research in science, especially where most governance and funding mechanisms concentrate on the highest quality and most efficient diffusion practices; and
- novel business R&D activities induced by support that either spillover cheaply to others or that trigger cycles of innovation by rivals.

Definition of R&D activities

The legislation states that the objective of the programme is to be achieved by:

Providing a tax incentive for industry to conduct, in a scientific way, experimental activities for the purpose of generating new knowledge or information in either a general or applied form.

Eligible R&D activities are then defined as core R&D activities and supporting R&D activities.

Core R&D Activities	Supporting R&D Activities
<p>Experimental activities whose outcome cannot be known or determined in advance on the basis of current knowledge, information or experience, but can only be determined by applying a systematic progression of work, that:</p> <ul style="list-style-type: none"> • is based on principles of established science; and • proceeds from hypothesis to experiment, observation and evaluation and leads to logical conclusions; and • are conducted for the purpose of generating new knowledge (including new knowledge in the form of new or improved materials, products, devices, processes or services). 	<p>Activities directly related to core R&D activities. However, if an activity produces goods or services; or is directly related to producing goods or services; then it is a supporting R&D activity only if it is undertaken for the dominant purpose of supporting core R&D activities.</p>

The definition effectively requires the development of new knowledge; a purpose and systematic approach to develop that new knowledge; and an element of technical risk about whether the approach would successfully add to the knowledge base. This definition mirrors the principles in the OECD Frascati Manual which is regarded internationally as setting the benchmark for identifying R&D activities.²

Other countries that provide indirect support for business R&D activities through tax incentives typically also align with the Frascati Manual. Some countries, such as France, make direct use of the R&D definition set out in the Frascati Manual, while others, such as Canada, make use of the three categories within the Frascati definition – basic research, applied research and experimental development. The United States’ definition of R&D is less restrictive than the Frascati Manual, appealing to only one of its conditions (novelty) in its least restrictive form (new to firm).

The novelty requirements embodied in various R&D definitions differs between countries and ranges from ‘new to firm’ (low novelty) through to ‘new to world’ (high novelty). A new to world requirement is widely regarded as best practice for tax incentives given the larger spillovers. For example, the UK’s R&D definition embodies a high degree of novelty by requiring eligible projects to ‘seek to achieve an advance in science or technology through the resolution of scientific or technological uncertainty...’.

Australia’s definition of R&D activities

The definition under Australia’s programme requires slightly lower levels of novelty than most other countries. The definition in the tax legislation itself refers to ‘activities whose outcome cannot be known or determined in advance on the basis of current knowledge’ and ‘are conducted for the purpose of generating new knowledge’, but it does not provide explicit definitions for terms such as ‘current knowledge’ and ‘new knowledge’.³

The Explanatory Memorandum (EM) to the implementing legislation for the programme defines ‘new knowledge’ as ‘knowledge not already available in the public arena at the time the activities are conducted, in the relevant technology, on a reasonably accessible world-wide basis’. Further, AusIndustry’s ‘Guide to Interpretation’ builds on the EM and states that ‘if the knowledge of whether something is scientifically or technically possible, or how to achieve it in practice, is deducible by a competent professional in the relevant field, then it will not be new knowledge’. Viewed together as

² OECD, (2015), ‘Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development’, The Measurement of Scientific, Technological and Innovation Activities, OECD Publishing, Paris.

³ UK HM Revenue & Customs, CIR81900 – R&D tax relief: conditions to be satisfied: BIS Guidelines (2004).

would be done in any legal context, it constitutes a substantial novelty requirement, albeit not as high as some other countries.

The definition of eligible activities was significantly amended with the introduction of the Incentive in 2011. Under the previous R&D Tax Concession the programme definition had diverged from the principles of the Frascati Manual, requiring an element of technical risk or the pursuit of new knowledge, rather than both. At least in part, the introduction of the Incentive was in response to evidence that under the R&D Tax Concession normal business activities were being claimed as supporting R&D expenditure, which was not intended. The Incentive has a more clearly defined difference between core and supporting R&D activities.

While aligning with the principles of the Frascati Manual, the definition of eligible R&D activities has a lower threshold for the level of novelty required. The European Commission's recent study on R&D tax incentives reports that the impact on innovation of individual measures 'will depend strongly on the strictness of its novelty requirement' (EC 2014, pg. 7). Moreover, in its description of what distinguishes R&D from related activities, the Frascati Manual appeals to novelty: 'The basic criterion for distinguishing R&D from related activities is the presence in R&D of an appreciable element of novelty and the resolution of scientific and/or technological uncertainty' (OECD 2002, p. 34).

In line with the relatively lower novelty requirement under the Incentive, the CIE found in its survey that the majority of R&D activities undertaken by both SMEs and large organisations in Australia did not, in the opinion of the businesses surveyed, constitute new to world development. Furthermore, some stakeholders have argued that the definition needs to be further clarified to avoid claims for activities that are not consistent with the objective of generating new knowledge or information. It follows that enhancing the focus on novelty could increase spillovers through the spread of additional knowledge.

Finding 1: The definition of eligible R&D aligns with international best practice. However, enhancing the focus on novelty may increase spillovers from the programme.

Eligible expenditure

While the legislation does contain some exceptions, it supports a very broad scope of expense claims. Almost any type of expense can be claimed so long as it is directly relevant to an eligible R&D activity, with the exception of interest payments and the purchase of capital assets (capital depreciation is an eligible expense). This is in contrast to most other OECD countries.

The European Commission's international best practice guidelines indicate that only R&D labour costs should be subsidised. In part, this is because focusing claims on R&D wages greatly simplifies programme administration while still capturing over 60 percent of R&D expenses. Secondly, companies' demand for R&D labour has been found to be the most price sensitive of all inputs for R&D activity, so by implication, a dollar spent subsidising wages leads to significantly greater additionality than a dollar spent subsidising other types of expenses. Thirdly, R&D workers are considered to be an important channel for generating spillovers through networking and the movement of workers between companies.

Several OECD countries (for example, Belgium, Italy and the Netherlands) link their R&D support programmes to wages to varying degrees through targeting and rates of support. Canada recently removed capital expenses from eligible R&D. This approach does not focus purely on R&D wages, as it still includes overheads and materials.

The international literature is not uniformly supportive of targeting R&D support to labour costs only. A recent study of the Dutch R&D tax incentive programme found that part of the public support for R&D flows strongly into higher salaries and wages for R&D workers, reducing the extent of additional R&D

activity and therefore the effectiveness of that support.⁴ An OECD study further suggests that targeting wages would exacerbate this effect.⁵

Finding 2: The programme uses a broad concept of eligible expenses, which supports a principles-based approach to R&D.

Fostering collaboration

R&D collaboration between industry, universities and research organisations is generally considered an important channel for R&D to benefit the broader economy. The OECD defines collaboration as active participation in joint innovation projects with other organisations, excluding pure contracting-out of innovation-related work. This can involve the joint implementation of innovations with customers and suppliers, as well as partnerships with other companies or organisations.

Australia's rate of collaboration between industry and public researchers is the lowest in the OECD. As of 2013-14, only 9.5 percent (3,033 projects amounting to around \$2.7 billion worth of R&D) of projects registered under the programme reported any level of collaboration with another organisation. A priority of the National Innovation and Science Agenda is improving the level of collaboration in Australia.

Collaboration tends to occur in industries that are at or close to the technological frontier. As a small trade exposed economy, Australia's comparative advantage tends to place most of our sectors as importers and adaptors of frontier technology rather than producers – except for a few pioneering sectors. As a result, Australia's ranking on collaboration may simply reflect structural factors in the economy.

The Incentive is not designed to target collaboration and it is not a stated objective of the programme. The only element of the programme that encourages collaboration is the Research Service Provider (RSP) provisions. Companies that may not have the internal resources to undertake R&D can use the services of an RSP to connect with Australia's public and private R&D organisations, enabling them to benefit from providers' expertise, facilities, equipment and infrastructure. If a specific instrument were to be considered to foster collaboration through the Incentive, the programme objectives may need to be revised.

Assessment

The definition used for the Incentive aligns with international best practice. The principles-based approach to eligible expenses is appropriately flexible. Tightening the definition around novelty may improve outcomes from the programme.

Encouraging collaboration is not a stated objective of the programme. If a component is added to the programme to focus on collaboration, this should be reflected in the programme objectives.

Finding 3: While there is a modest amount of collaboration within the programme it is not an explicit focus.

⁴ Lokshin, B, and P. Mohen, (2013), 'Do R&D tax incentives lead to higher wages for R&D workers? Evidence from The Netherlands,' *Research Policy*, Vol. 42, pp. 823-830.

⁵ OECD, (2010), 'R&D tax incentive: rationale, design, evaluation,' OECD Innovation Policy Platform. It is possible that the increase in R&D wages could correspond to a change in quality of researchers in which case the increased cost would be related to a real increase in innovative activities.

3.2 Types of companies eligible for support

The most effective R&D incentives target those companies most likely to respond to fiscal incentives (additionality) and the types of activities that lead to the greatest spillovers. That is, R&D that is both beneficial to others and where the company conducting the R&D is not able to fully capture these benefits (through increased profits).

While eligible R&D activities can be defined so as to maximise the occurrence of spillovers, specific types of companies can be targeted to improve additionality. The CIE's, and other studies have shown that the most responsive companies are often cash constrained R&D start-ups, SMEs, and R&D-intensive companies (those companies whose core business is R&D-centric).

Entrants and R&D start-ups

Additional R&D can be induced by encouraging existing companies to undertake new projects and/or scale up their current projects (i.e. at the intensive margin); or, policy can encourage new companies to enter the Australian R&D market (i.e. at the extensive margin).

At the intensive margin, large companies tend to spend more on new projects than SMEs, which tend to instead scale up existing projects. According to the CIE, large companies devote 67 percent of extra R&D funding to new projects, compared with 55 percent for SMEs.

The extensive margin is important for increasing a country's R&D intensity. Arque-Castello and Mohen (2015) argue that an increase in overall R&D intensity within a country (business expenditure on R&D to GDP ratio) must necessarily be achieved through expanding the number of R&D performing companies, and not by increasing expenditure by existing R&D performing companies.⁶ In Australia, new registrants currently account for around 25 percent of registrations but only around 5 percent of registered R&D.

SMEs

Small companies tend to respond more to fiscal incentives than large companies. Box 3.1 summarises the CIE's findings supporting this claim. SMEs tend to face greater constraints to undertaking more R&D. According to the CIE, while capital availability is the main constraint reported across all companies, it is more of an issue for SMEs.

Box 3.1 Evidence of additionality in Australia

In its analysis of the R&D Tax Incentive, the CIE found additionality of between 0.3 and 1.0 additional dollars of R&D per dollar of tax forgone for large companies and between 0.9 and 1.5 per dollar of tax forgone for SMEs. This is broadly similar to studies of R&D tax schemes used in other countries. These magnitudes imply that around 10 to 20 percent of the total R&D registered would not be undertaken in the absence of the programme.

International studies generally agree that additionality is greater for SMEs than for larger companies. This is consistent with the CIE's findings that the R&D Tax Incentive has a higher influence on R&D spending decisions by SMEs – 54 percent of R&D decisions were materially influenced by the programme, compared with 34 percent for large entities.

Source: CIE (2016)

While SMEs are found to be more responsive to fiscal incentives, cash flow constraints and lack of finance can prevent young SMEs from investing in innovative projects, commercialising ideas, covering working capital requirements and meeting market demand. To assist in mitigating these

⁶ Arque-Castells, P. and P. Mohen, (2015), 'Sunk Costs, Extensive R&D Subsidies and Permanent Inducement Effects,' *The Journal of Industrial Economics*, Vol. 63, pp. 458-494.

issues, the refundability of the tax offset for SMEs improves their cash-flow by bringing forward the tax benefit for those companies in tax loss. This may partially explain why SMEs in tax loss were found to have the greatest additionality.

The refundable tax offset acknowledges that start-up companies often take many years before generating profits. This can substantially reduce the benefit of a completely non-refundable tax offset to a start-up company. Furthermore, during consultations, several stakeholders noted that the refundable component has been used to obtain matching funding from venture capitalists. Stakeholders also noted that the refundable offset was non-dilutive so that in some instances additional equity partners, with the associated complications, were not needed.

In its 2014 report *A Study on R&D Tax Incentives*, the European Commission (2014, p7) found:

As R&D expenditure may precede revenue generated by innovation by several years, it is good practice to provide a carry-over facility and an option to receive the benefit even in case a company is not profitable (cash refunds). Such features offer companies more flexibility and certainty for investment decisions. This is especially relevant for young companies that typically are not profitable in the first years of operations.

Notwithstanding this finding, of the 33 countries surveyed in the report, only nine countries provided cash refunds to companies in tax loss.

A number of submissions from SMEs noted the importance of the refundable offset. In the 2013-14 income year, of the approximately 9,000 companies that received the 45 percent refundable offset, 6,500 received a cash refund.

The considerable growth in the cost of the refundable component – discuss in Section 3.5 below – is impacting the programme's long-term fiscal sustainability. Refundability is likely to provide fewer tangible benefits for SMEs with larger R&D expenditures, who will be able to find alternative sources of finance at relatively lower costs in comparison with firms with lower R&D expenditure. Placing a cap on refundability at, for example, \$2 million would maintain strong cash-flow support for SMEs up to that limit, while improving the sustainability of the programme. While refunds would be capped, any remaining entitlement to a tax offset through the programme would be carried forward and able to be offset against any future tax liability.

Integrity of claims

Refund payments under the Incentive represent increased compliance risks for administrators, as the self-assessment tax system can provide opportunities for fraud and exploitation from aggressive and speculative claims. Although tax returns can be amended following post-lodgement assessments, recovering refund payments can be challenging as companies may have already expended the money. The ATO and AusIndustry seek to address integrity concerns through risk profiling and compliance reviews, but the risks remain.

Chapter 5 discusses options to improve integrity through greater compliance activities, but placing limits on refundability could assist in reducing the degree to which it is an attractant in the first place.

Finding 4: The programme incorporates effective support for SMEs and start-ups, in particular those in tax loss that can access the refundable component. This provides important cash-flow assistance to SMEs and enhances their potential for risk-taking. However, the considerable growth in the cost of the refundable component could impact the programme's long-term fiscal sustainability.

R&D-intensive companies

Additionality is more likely to be achieved by policies that encourage the application of scarce R&D resources – such as skilled labour and specific capital equipment – to their highest value use. As the

Incentive is volume-based and accessible to all, it is a blunt instrument and necessarily includes the subsidisation of R&D that would have taken place anyway, including those inefficiently using scarce R&D resources. By directing policy toward high-potential entrants and R&D-intensive companies, greater overall additionality could be achieved per dollar of tax revenue forgone. Furthermore, Acemoglu et al. (2013) argue that the resulting strong effect from reallocation would improve both growth and welfare prospects.⁷

Companies that make the most efficient use of R&D resources include high-potential new entrants, early stage ventures and R&D-intensive companies already operating. Lattimore (1997) identified the latter group in Australia to include: consistent R&D performers that make use of R&D plans; or companies undertaking R&D that are subject to tough competitive pressures – including those engaged in strategic R&D rivalry and exporters.⁸

High-potential new entrants, and R&D-intensive companies, tend to attract other sources of government funding. For example, high-potential entrants may interact with venture capital programmes and R&D-intensive companies may access Cooperative Research Centres or Industry Growth Centres. Clawback provisions in the programme will recoup much of any potential double benefit, but rather than representing an inefficient allocation of government expenditure, this may be a useful selection device: according to Lattimore (1997), those companies attracting other government funding at the time of his survey tended to be more responsive to fiscal incentives. This set of companies is more likely to have greater technological opportunities available to them (closer to the technological frontier).

For large companies, the recently introduced expenditure threshold caps the amount of expenditure eligible for public support through the programme at \$100 million per year, regardless of the company's R&D intensity. While the expenditure threshold provides effective restraint on the cost of the programme with respect to companies with a large R&D presence, it has the downside of limiting the scope for additionality from large R&D-intensive companies.

It may be possible to further sharpen the focus on additionality by introducing an intensity requirement for large companies in receipt of tax offsets under the programme. If such a measure was to be introduced, consideration should be given to whether the expenditure threshold needs to be increased from the current \$100 million level.

Finding 5: There are limits in the ability to target additional R&D in a volume-based scheme. Additionality could be sharpened by better targeting access by larger companies, possibly by the introduction of an intensity requirement. Consideration should be given to the appropriate level for the claims threshold.

Assessment

Refundability is an appropriate method for supporting SMEs and start-ups that have difficulties with cash-flow and successfully accessing finance.

Greater additionality and spillovers could be achieved through the programme by targeting R&D-intensive companies. This approach would be most effective if applied to large companies. In that case, consideration should be given to the appropriateness of the \$100 million expenditure cap.

⁷ Acemoglu, D., U. Akcigit, N. Bloom, and W.R. Kerr, (2013), 'Innovation, Reallocation and Growth,' NBER Working Paper No. 18993.

⁸ This reasoning follows a standard Levin and Reiss (1985) style argument. See Levin, R.C. and P.C. Reiss, (1988), 'Cost-Reducing and Demand-Creating R&D with Spillovers,' *RAND Journal of Economics*, Vol. 19, pp. 538-566.

3.3 Level of benefits provided

The size of the tax benefit needs to be sufficient to induce the desired behavioural change and be stable enough to provide certainty for companies engaged in long-term planning of R&D.

In principle, the tax offset rates should be set so as to align the private return to the social return on marginal R&D projects. That is, the subsidy should induce companies to proceed with R&D projects that they would have otherwise rejected but which have a sufficient level of social value – in terms of spillovers. It is exactly those marginal projects that comprise the ‘additional’ part of the total R&D subsidised, from which the spillover benefit should be measured.

Current benefits

Under the current law⁹, Australia’s R&D Tax Incentive takes the form of a tax credit by providing a:

- Refundable 45 percent tax offset for companies with turnover of less than \$20 million; and
- Non-refundable 40 percent tax offset available to other companies.

As the Incentive reduces the after-tax cost of R&D, conducting R&D activities becomes a more attractive business investment, which is how the programme induces greater R&D investment in Australia.

For profitable companies with a tax liability in excess of the tax offset the Incentive provides 10 cents in the dollar benefit to a large company and 15 cents in the dollar benefit to an SME company¹⁰. These figures represent the difference between the benefit rate of the programme and what could have otherwise been claimed as a deduction at the headline company tax rate.

For a large company in tax loss, the benefit is a carry-forward tax offset of 10 cents in the dollar. The real benefit decreases over time due to the carry-forward nature. For an SME in tax loss, the benefit is an immediate cash payment of 45 cents in the dollar rather than having to carry-forward the tax offset.

Many other countries with R&D tax measures also offer higher rates for SMEs. Box 3.2 shows how the relative net benefit gap changes across companies for the Incentive and the UK’s R&D Tax Credits programme.

Box 3.2 R&D tax support measures in Australia and the UK

The UK’s R&D Tax Credits programme includes different rates for large companies and SMEs. While Australian and UK tax offsets are set at a similar headline rate, the UK has a 20 percent corporate tax rate. This has the effect of increasing the net benefit of the UK programme.

Headline offset rates and effective net subsidy

	Australia (company tax rate 30%)		UK (company tax rate 20%)	
	Tax offset (%)	Net subsidy rate (%)	Tax Relief (%)	Net subsidy rate (%)
<i>SME - Profitable</i>	45	15	46	26
<i>SME - Tax loss</i>	45	45	46	33
<i>Large</i>	40	10	26	6

The UK scheme is not fully refundable but SMEs in tax-loss can surrender their 46 percent carried forward tax offset in exchange for a 33 percent cash refund.

⁹ Leaving aside the policy to reduce the rates announced in the 2014-15 Budget but not passed by Parliament.

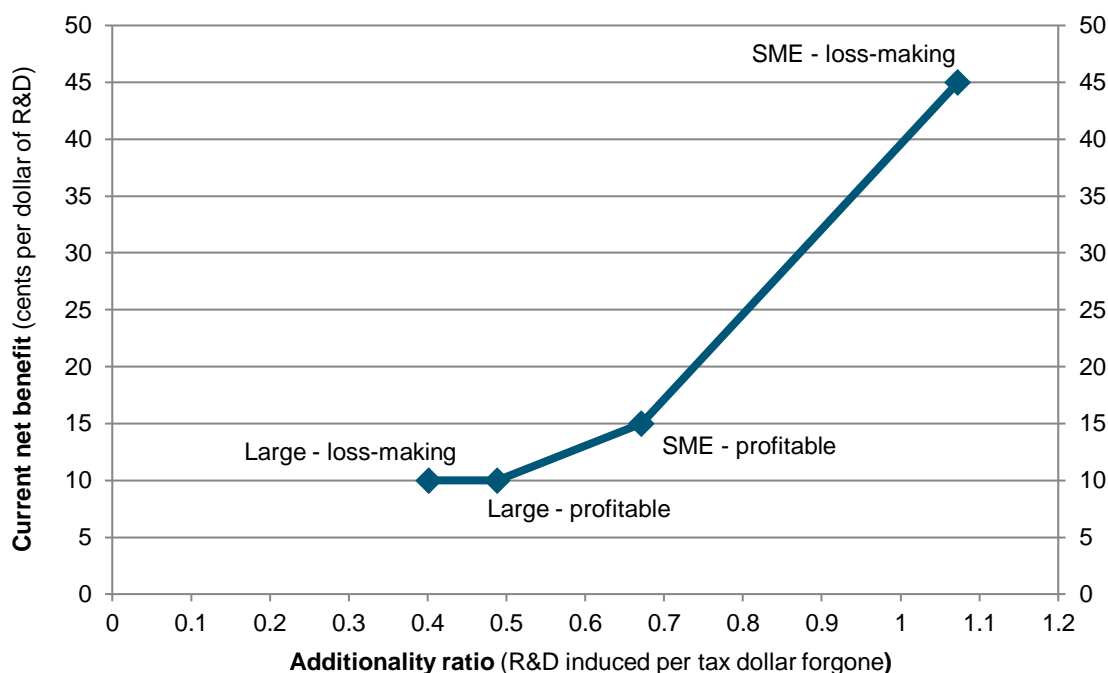
¹⁰ A very small company will receive a benefit of 16.5 cents in the dollar as the company tax rate that it faces is 28.5 percent.

As it stands, the Government's stated policy is to reduce the rates under the programme by 1.5 percentage points to 38.5 percent for the non-refundable component and 43.5 percent for the refundable component, effective from 1 July 2014.

Comparison to social return

As was shown in box 3.1, the CIE estimated the rates of additionality associated with various types of companies. Fig 3.1 provides an illustration of how the effective tax benefit received ramps up strongly for loss-making SMEs in comparison to the median of the CIE's estimates of additionality.

Figure 3.1 **Additionality and tax benefit for different company types**



Source: CIE (2016).

It is difficult using the available data to be any more precise in plotting the relationship between additionality and company type under the current programme. (Chapter 5 discusses options to improve the availability of data to assist future evaluations.) It is even more difficult to then take account of the potential for spillovers to be larger or smaller for different types of company. However, based on the CIE's modelling of additionality and the Productivity Commission estimates of average spillover rates, providing support through the programme to companies that deliver additionality of 0.5 or more would improve the effectiveness of the programme and the likelihood that the social return at least covers operational costs.

For large companies, this finding supports the measures mentioned in section 3.2, namely to restrict the programme to more R&D-intensive companies, as those companies are more likely to have higher levels of additionality.

Some stakeholders indicated that the stated government policy of 8.5 cents in the dollar is likely to be sufficient to maintain the level of R&D undertaken by large companies in Australia. However, any further reduction may not provide a strong enough incentive to induce a behavioural response.

Indeed, for many large companies even a tax benefit of 10 cents in the dollar will be outweighed by other considerations. This could prompt consideration of an 'all or nothing' policy judgment but for the fact that for some large companies the location of their R&D is very flexible and removing support altogether could have a substantial (negative) inducement effect with respect to the R&D ecosystem

in Australia. That is, for some large companies the Incentive may be an international tax competitiveness tool.

It is a matter of judgment whether the level of additional effective benefit provided to small compared with large companies and loss-making companies compared with profitable ones, is appropriate. Some stakeholders have suggested that the 45 percent refundable offset is overly generous for companies in tax loss, compared with the effective 10 percent non-refundable rate for larger companies and 15 percent refundable rate for profitable smaller companies. They further argue that the higher rate has increased incentives for advisers to test the boundaries with speculative claims. As presented in Box 3.2 above, the UK's approach to the issues has been to offer a reduced rate if the benefit is taken as an immediate cash payment.

As discussed in section 3.2, the evidence around additionality, however, does clearly support a premium rate for smaller companies. The gap between the effective benefits to small profitable companies and small tax-loss companies is very wide, giving additional justification for limits on refundability. This is especially true for companies that expect to be in loss for some time, where the present value of the cash refund is greatest.

As the tax offsets under the programme are at a fixed level, they are relatively more valuable when the company tax rate is lower (in comparison to the deduction received for normally deductible expenses). Hence, the fixed level of the tax offset should always be calibrated to the level of the company tax.

Assessment

In summary, the panel's assessment is that the headline rates of support available under the programme are appropriate so long as other measures to improve spillovers and additionality are adopted and that the benefit-cost assessment for the programme (as adjusted by those measures) meets expectations.

The panel assesses the premium for smaller companies to be justified, but it is not possible to assess whether it is sufficient to achieve the policy objectives.

The panel also assesses the availability of refundability for loss-making smaller companies to be justified, but consider the relative benefit it gives to be significantly large so that some limits could be appropriate to improve fiscal sustainability.

The benefit rates of the Incentive are in the right order of magnitude to achieve the programme objectives of additionality and spillovers. However, the panel considers that the lower rates announced in the 2014-15 Budget would improve the cost-effectiveness of the programme without disproportionately affecting the programme objectives.

3.4 Programme administration

The administration arrangements for the programme need to optimise trade-offs between making the programme straightforward to understand and interact with (minimising the compliance burden), while at the same time enabling efficient administration as well as effective review and compliance activity. The programme should be underpinned by strong integrity measures to ensure the benefit is provided for genuine R&D activities and to preserve the credibility of the tax system through which it is delivered. The issues of most concern relate to poor understanding of the R&D definition that leads to incorrect self-assessment of eligibility of activities; exaggerated expenditure claims and lack of a sufficient nexus between the amount of expenditure and registered R&D activities; 'boundary pushing' of the interpretation of the R&D definition and expenditure rules; and complexity in the rules of the programme.

Registration

A guidance-led approach is used in the administration of the Incentive which seeks to empower companies to effectively self-assess their eligibility under the programme.

Under the Incentive, an entity self-assesses whether or not it is eligible to register activities and claim R&D tax offsets in any given year. Generally, an entity can claim eligible R&D if it is a corporation. Trusts are not eligible to claim the Incentive. The exception is a body corporate in the capacity of trustee for a public trading trust.

If a company is an eligible R&D entity and wants to claim the Incentive in its income tax return, it must first register its R&D activities with AusIndustry (on behalf of Innovation Australia):

- for every income year it is seeking to claim the offset;
- within 10 months of the end of the entity's income year; and
- before it lodges its company income tax return in which it is claiming the offset.

Where a group of companies have formed a consolidated group, subsidiary members of that group are treated as part of the group's head company for income tax purposes. Subsidiary members of consolidated groups or multi-entry consolidated groups cannot register R&D activities in their own right under the Incentive. The R&D activities of the entire group must be registered by the Australian head company of that group.

The application for registration requires the claiming company to describe the core and supporting R&D activities that it undertook in the income year and which they have self-assessed as being eligible with the legislated definitions. Companies also provide information about its industry sector, the fields of research that the R&D activities relates to, the number of employees involved in the R&D and the amount of expenditure on the R&D activities.

The number of registrations for the financial year 2013-14 is set out in Table 3.1 and the level of registrations in relevant sectors is shown in Table 3.2.

Table 3.1: R&D Tax Incentive registrations and R&D expenditure 2013-14

Total registrations	11,869	
Total R&D entities (including subsidiaries)	13,776	
Applications processed within service standard	9,912	83.5%
Applications processed outside service standard	1,957	16.5%
New registrations	3,351	24.3%
Registrations returning entities	10,425	75.7%
New registrations using tax agent	2,830	84.5%
New registrations self-managed	521	15.5%
Registrations managed by tax agent	11,487	83.4%
Registrations self-managed	2,289	16.6%
Total R&D expenditure	\$19,545,430,873	100.0%
R&D expenditure new registrations	\$1,157,303,824	5.9%
R&D expenditure returning entities	\$18,388,127,049	94.1%

Source: AusIndustry

Table 3.2: R&D Tax Incentive R&D entities & R&D expenditure by industry sector 2013-14

Industry sector	Number of R&D entities	Percent of R&D entities	Value of R&D expenditure (\$ million)	Percent of R&D expenditure
Agriculture, forestry and fishing	514	3.7%	\$469.7	2.4%
Mining	1,204	8.7%	\$3,403.8	17.4%
Manufacturing	4,386	31.8%	\$6,305.3	32.3%
Electricity, gas, water and waste services	355	2.6%	\$560.6	2.9%
Construction	445	3.2%	\$669.9	3.4%
Services	6,872	49.9%	\$8,136.1	41.6%
Total	13,776	100.0%	\$19,545.4	100.0%

Source: AusIndustry

Simplicity of the programme

The scale of the programme and method of delivery creates challenges for the programme administrators to strike a balance between providing a positive user experience and ensuring programme integrity. User experience is influenced by the ease of access to the programme benefits. In this respect, the level of guidance provided by administrators can influence the cost of compliance and the need to resort to specialist advisers to support registration and claims. The growth in specialist adviser activity could point to the complexity of the process and the need for enhancement of the administration.

The panel considers that understanding of the programme is limited beyond specialist tax advisers and the costs that participants incur in seeking advice to interact with the programme is considerable (further detail in Section 3.5). While recognising the improvements in the level of guidance with the transition from the Concession to Incentive, administrators need to further invest in guidance and other support for companies to improve accessibility. Furthermore, the two agency administration system may be resulting in duplication of effort, uncertainty and additional compliance burden above what is necessary. Options should be considered around how the programme's administration can be made more simple, clear and certain for users.

Finding 6: AusIndustry and the ATO work collaboratively in the current two agency administration system. However, there remains some duplication of administrative effort and data management and users can experience a lack of certainty and additional compliance burden above what is necessary.

Compliance activity

It is possible that a combination of the separate registration and claim process and degree of complexity of the eligibility requirements have led to high rates of specialist adviser activity. On the other hand, specialist adviser activity may be facilitating efficient uptake of the programme leading to additionality and spillovers that would not otherwise be achieved.

AusIndustry and ATO compliance activity suggests that most participants in the programme are acting in accordance with the programme rules. However, the large increase in the number of claimants in recent years has also led to a significant increased requirement for compliance activity to ensure programme integrity.

The panel assesses that consideration should be given to increasing the amount of resourcing for review and auditing of companies for compliance.

Finding 7: Given the number of participants in a self-assessment benefit programme, there appears to be insufficient resourcing for review and auditing of companies for compliance.

Transparency and data

As the Incentive is delivered through the tax system, registration and claim data for the programme is subject to tax secrecy provisions regarding use and disclosure of information. The strictly enforced tax laws are designed to maintain taxpayer privacy and confidence. Programme administrators are generally prohibited from using the information in a way that would lead to identification of individual companies. However, there are exceptions that permit government departments to use taxpayer information for specific purposes.

The objective of the tax system as a whole is different from the intent of the R&D tax offsets. While accounted for on the revenue side of the government budget, they are effectively a subsidy. In fact, the refundable component of the programme is treated as an expense by government. As such, the

subsidy element made available to recipient companies in the programme should be held to a higher standard of transparency for the use of public funds.

In the history of R&D tax measures, the lack of transparency on the tax data has impeded policy evaluation and public scrutiny. Other countries have better access to the R&D tax data from their programmes and as a consequence have better internal and external contestability of policy reform. The panel assesses that improved access to data by policymakers and the public would facilitate programme evaluation and expose recipients to appropriate public scrutiny around their receipt of public funds. Options should be examined to rectify this situation.

Finding 8: Tax secrecy provisions currently prevent transparency of information around which companies benefit from the programme.

Assessment

The Incentive can be simplified to improve the user experience and reduce the increasing use of specialist tax advisers. Additional resources should be directed to increasing programme certainty through increased guidance material and for additional compliance and integrity checks.

Details of the benefits received by companies should be made public, such as for other government programmes.

3.5 Costs of the programme

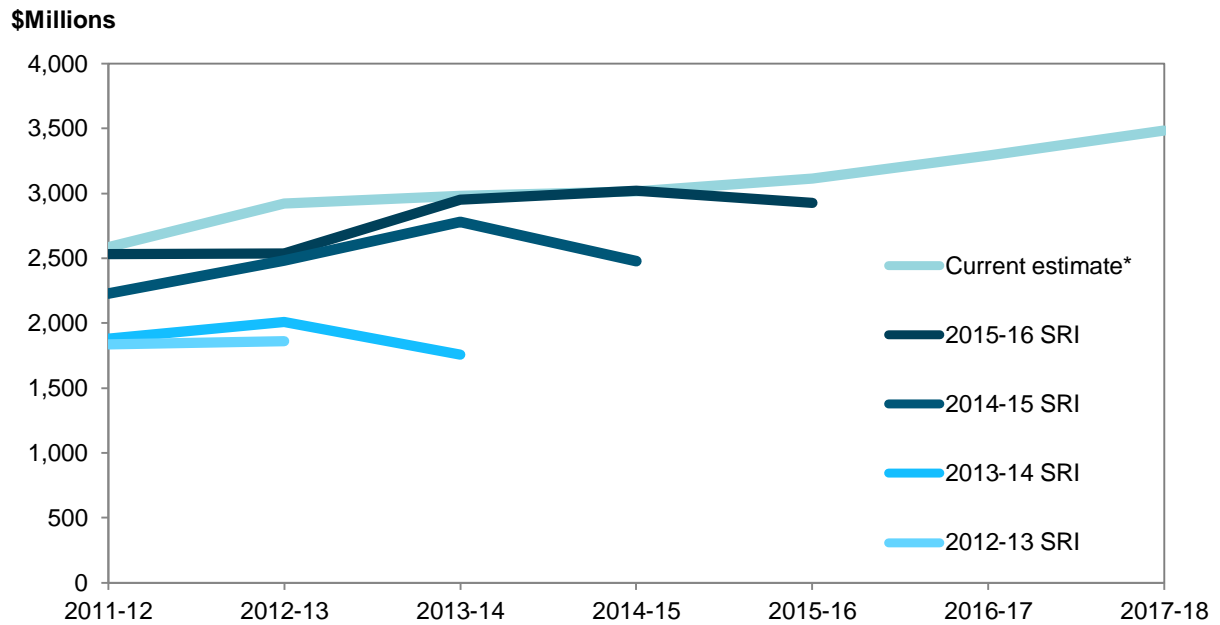
Like any government programme that intervenes in the economy, there are costs in terms of the efficiency of using the tax system; compliance costs for companies accessing the programme; and the administration cost of delivering it to the business community. To ensure fiscal sustainability of the programme, it is important that the ongoing benefit to the economy – the spillover – from the additional R&D from the programme is great enough to offset the associated costs over time.

The full cost of the programme includes both the direct and indirect costs incurred by business and the government in delivering the programme. These include the administered costs of the programme (cash payments to companies and tax relief), the portion of departmental budgets associated with the programme; compliance costs incurred by companies; and the economic cost of raising additional tax revenue to fund the government's direct costs.

Fiscal costs

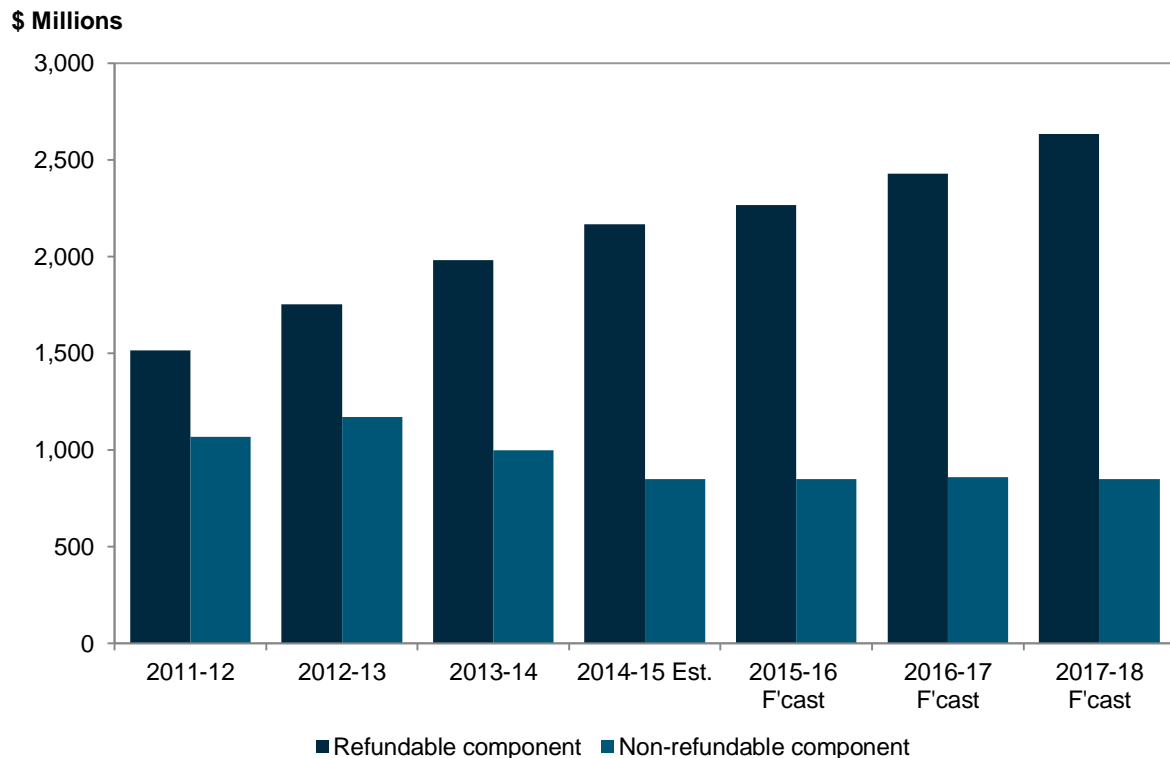
The administered cost of the programme has risen strongly since its introduction in 2011. Figure 3.2 shows the revisions to cost estimates that have occurred since then, when the expected cost of the programme was approximately \$1.9 billion. The consistent upward revisions reflect difficulties in forecasting a new, demand-driven programme linked to investment and the business cycle, as well as the enhanced attractiveness of the Incentive relative to its predecessor, the R&D Tax Concession. Figure 3.3 shows that the main cost driver of the programme has been from the refundable component.

Figure 3.2: Cost revisions to the R&D Tax Incentive



* The current estimate combines tax expenditures published in the 2015 Tax Expenditure Statement with projections from the 2015-16 MYEFO. This replicates the annual Science, Research and Innovation (SRI) Budget Tables, which combine expense estimates from the preceding Budget and Tax Expenditure Statements. Source: Treasury data and Department of Industry, Innovation and Science.

Figure 3.3: Programme cost by component (2011-12 to 2017-18)



Source: Department of Industry, Innovation and Science estimates using data from the 2015-16 MYEFO and 2015 Tax Expenditure Statements.

While the average claim amount per company has remained relatively stable (and declined in the case of the non-refundable component), the cost drivers have been the greater than expected growth in the number of companies registering for the programme, in particular, the proportion of companies in tax-loss registering for the refundable component of the programme.

Around 1,000 additional companies have registered for the refundable component each year since 2011-12. As of 2014-15, almost 10,000 registered companies were in the refundable component and around 60 percent of which reported being in tax-loss.

Compliance costs to business

Policy interventions that require a business to perform some task will invariably divert time and resources from income generating activities to unproductive compliance activities. This represents a compliance cost to the company.

Compliance costs include the time and resources required to complete: the registration process with AusIndustry; a programme tax schedule with the ATO; and maintain proper records to justify the activities and, respond to reviews and audits.

From a recent survey, the CIE estimates that the average compliance cost for small business is around \$27,000 and \$118,000 for large companies per annum. This equates to 23 percent and 8 percent of programme benefits received, respectively (see Table 3.3). Around half of the total compliance costs were fees paid to specialist advisers. This is consistent with feedback received during consultations with stakeholders and advertised rates of specialist advisers.

Based on the same survey, the CIE estimated the total compliance cost of the programme to be \$437 million for business, including fees paid to advisers of around \$199 million in 2014-15.

Table 3.3: Compliance cost estimates by business size

	Small companies	Large companies	All (weighted average)
Application and registration	\$ 9,503	49,599	13,784
Tax return	\$ 9,665	27,354	11,554
Record keeping	\$ 6,887	37,171	10,120
Other	\$ 1,115	3,748	1,396
Total compliance costs (95 percent confidence interval)	27,170 \$ (19,380 to 34,962)	117,782 (78,860 to 156,855)	36,845 (25,730 to 47,980)
Paid to a consultant	\$ 11,234	63,334	16,797
Share paid to a consultant	% 41	54	46
As a share of benefits	% 23	8	9

Source: CIE 2016

Finding 9: The large compliance costs for companies registering in the programme reduce the effective level of public support flowing to business R&D.

Administration costs

In 2014-15, the combined administration cost of the Incentive for the department and the Australian Tax Office (ATO) was around \$22-25 million.

Since the programme is based on a self-assessment model and administered through the tax system, departmental costs are significantly less than would be the case for a similar sized programme administered through a competitive process, such as a grants programme. However, the benefits of the self-assessment model should be considered in the context of programme integrity.

Economic cost

The economic cost of providing the programme is the forgone benefits that could otherwise be achieved if the expenditure was redirected to its next best use.

The programme provided \$2.95 billion worth of cash payments and tax relief in 2013-14. If the next best use of this expenditure was a general company tax cut, economic modelling by the CIE suggests that a cut to the corporate income tax rate equivalent to a reduction in tax receipts of \$2.95 billion would yield \$3.5 billion in economic benefits. This provides the preferred benchmark return to justify the cost to budget of the programme.

Assessment

The cost of the refundable component has been increasing rapidly and is not currently on a path that is fiscally sustainable.

The panel considers that compliance costs for companies registering in the programme are larger than they should be, reducing the effective level of public support flowing to business R&D. High compliance costs are likely a consequence of a lack of clarity around the scope of eligible activities, opening the way for the R&D consultant and tax agent industries to charge significant fees to guide potential recipients through the uncertainty.

The CIE finds that the benefits generated by the programme most likely exceed the costs. However, their cost benefit analysis also concludes that the programme does not meet the benchmark return of a cost-equivalent cut in the company tax rate.

3.6 Summary

Based on the evidence available, the panel finds that the programme falls short of meeting its stated objectives of additionality and spillovers and the extent to which the benefits it generates outweigh the costs. There are number of areas where the effectiveness and integrity of the programme could be improved and a stronger focus on additionality achieved.

Based on the best estimates of additionality and spillovers, the panel finds that that the programme could be better targeted. A smaller amount of expenditure focused more tightly on the areas of improvement identified in this review would be more likely to provide greater benefit to the Australian economy.

Chapter 4 Options for change

This chapter presents a suite of possible options for change that seek to address the issues identified in chapter 3. While each option stands alone, they are also interdependent. This reflects the trade-off between options that focus the programme to companies or activities where additionality and spillovers are greatest per dollar of tax forgone – and – the likelihood of increasing the complexity and subsequent resource cost borne by all parties. Hence, full consideration should be given to the costs and benefits of each option and the weight attached to it in improving the overall effectiveness and integrity of the programme in the most sustainable way.

The suite of options for change presented target the following:

- 4.1. Eligible activities and expenses;
- 4.2. Encouraging collaboration;
- 4.3. Sharpening the focus on additionality in SMEs;
- 4.4. Sharpening the focus on additional, high-value R&D by large companies; and
- 4.5. Rates of support.

4.1 Eligible activities and expenses

As the assessment in chapter 3 identifies, the definition of R&D delineates between the types of activities that receive public support through the programme and those that will not. It does so in an effort to focus support on activities likely to generate the greatest spillovers, or benefits to the economy as a whole.

The programme currently applies to eligible expenditures on experimental activities conducted in a scientific way for the purpose of generating new knowledge or information in either a general or applied form. In general terms, most types of expenses incurred during the financial year are claimable as long as they were directly relevant to an eligible R&D activity.

Options for change

Some stakeholders argued that the definition is too loose and is allowing too much business as usual activity to be classified as eligible R&D. They argue that the Incentive should be focused on R&D into break-through technologies. Others argue the opposite, suggesting that the definition is too 'scientific' for the reality of R&D in a business context. As the review examines opportunities to improve effectiveness and integrity, the critical policy consideration is how the definition, any exclusions and the scope of eligible expenses ensure the programme are focussed on activities likely to generate the greatest spillovers, or benefits to the economy as a whole.

The definition in substantive terms

The panel has examined the substance of the definition, with a particular focus on possible ways to improve its effectiveness and integrity. Some stakeholders argue that relatively marginal business development activity should not receive public support in the same way as research into cutting edge technology. As found in chapter 3, enhancing the focus on novelty may increase spillovers from the programme. With respect to this, possible amendments to the definition could include:

- a stricter and clearer 'novelty' requirement, to raise the hurdle in the current legislation which requires that '... the outcome of R&D cannot be known in advance on the basis of current knowledge';

- generating new knowledge could be required to be the main purpose of the R&D activity, instead of just ‘a purpose’ of the activity;
- increasing the level of technical risk involved in the activity, or possibly the amount of expenditure at risk; or
- removing the concept of supporting R&D completely from the definition, or at least amending the eligibility requirements for supporting R&D to, for example, exclude expenditure jointly incurred on ineligible activities (in effect, a 100 percent dominant purpose test).

However, some stakeholders, including companies engaged in research into cutting edge technology, argued that relatively marginal business development activity went hand-in-hand with basic research and pointed to evidence that many ‘breakthroughs’ are the result of an accumulation of marginal adaptations.

In the context of looking for improved effectiveness, it may be possible to make relatively minor changes to the definition by changing a small number of words to (for example) lift the extent of novelty or technical risk that would be required to be considered eligible. This sort of change would be minimal and retain the principles-based nature of the definition in the tax legislation. However, it is not clear whether this sort of change would produce the degree of improved effectiveness being sought, especially when compared with the other options canvassed in this chapter.

Change the legal definition to ‘black letter’ law

Some stakeholders argue that the current principles-based law is too ambiguous and difficult to apply in a commercial context. An alternative approach would be a more prescriptive definition that clearly targets the type of R&D most likely to lead to economy wide spillover benefits. Some have suggested targeting particular stages of the R&D lifecycle.

While at face value it may seem helpful to include more descriptive detail into the definition, such an approach to legislative drafting would require more frequent updates to reflect the changing nature of R&D activities to ensure continued alignment with the policy intent and over time would be likely to add to complexity. It is inherently difficult to prescribe activities that by their nature are new and unknown, hence the current principles-based approach to the definition of eligible R&D. A principles-based approach relies on high quality, up-to-date and if necessary tailored guidance from administrators around how they are interpreting and implementing the law, in a way that assists users. If that guidance is currently not sufficiently accessible for users, then that needs to change through improved administration (chapter 5 examines this issue in more detail). Writing the existing guidance into law would do little to change the current situation except to make the programme less adaptable to changes in technology and ways of doing business.

The impact of any definitional change also needs to be weighed against the negative impact on programme stability (and participants’ confidence to rely on the programme when considering their R&D investment decisions in future years).

As such, the panel recommends against changing the definition to be more prescriptive, or drafted as ‘black letter’ law.

Adjustments to the list of exclusions

Exclusions are used in R&D tax incentives to provide clarity on certain activities that are not eligible. Excluded activities broadly fall into two categories:

1. those that clarify activities that are not considered core R&D activities; and
2. those that are excluded for specific reasons, despite meeting the definition of core R&D activities. These types of activities are generally considered to run contrary to the policy objectives and provide little additionality and/or spillovers.

Exclusions should provide certainty and aid efficient administration. They should not generate additional ambiguity. The experience of AusIndustry suggests some of the current exclusions may, in fact, be adding unnecessary ambiguity.

There are a range of exclusions applied across international jurisdictions. Commonly excluded activities include R&D in social sciences and humanities (Canada, Ireland, Korea, Spain, and the United States) and elements of software development. Some countries completely exclude software development (Austria, Czech Republic, Ireland, and Japan), while others only include software costs as part of an R&D project (Canada, Korea, Norway, Portugal, Spain, the United States). Other approaches include supporting services based software (the Netherlands) or wages of software developers (Poland) only¹¹.

Some of the exclusions under the programme have continued through iterations of the previous R&D Tax Concession programme and may be outdated. Where this is the case there may be scope to update text to reflect modern practices. Potential changes to the exclusions list should also consider areas where registrants have difficulties applying the principles-based definition or where heightened compliance risks are present.

The introduction of a principles-based approach to exclusions has also been proposed. The argument is that, as the current legislation uses principles-based legislation to include activities, a consistent approach to exclusions could prove more effective. It seems unlikely a principles-based exclusion component could be drafted to replace the current list of 'black letter law' exclusions given their exceptional nature. A principles-based exclusion criterion would be in addition to the current provisions and add complexity and ambiguity.

Again, this is an area where it may be possible to make relatively minor changes to the list of exclusions by changing a small number of words. However, it is not clear whether this sort of change would produce the degree of improved effectiveness being sought, especially when compared with the other options canvassed later in this chapter.

Changes to eligible expenses

The final substantive option that the panel considered in terms of eligibility was the scope of eligible expenses. Some international commentary suggests that eligible expenses incurred in pursuing eligible R&D activities should be limited to labour costs in order to improve additionality, simplify programme administration and increase spillovers from networking and staff movements (chapter 3).

By its nature, R&D is human capital intensive. Indeed, the CIE notes that skilled labour accounts for more than half of all R&D expenditure, followed by R&D contracting out (12 percent). Capital inputs - rent, buildings, plant and machinery, accounted for just 11 percent of total expenditure. The primary mechanism for generating knowledge spillovers are employee networking and job turnover, since employee movements proliferate training and technology between organisations.

Another key finding of the CIE is that skilled labour is the most sensitive R&D input to price changes (additionality). Based on the survey results, a hypothetical 20 percent reduction in the cost of wages would lead to a 32 percent increase in labour demand for SMEs and 21.5 percent for large enterprises. This compares favourably to all other R&D inputs which for the same 20 percent cost reduction, demand increases by just 5 percent.

On the other hand, some sectors rely more on labour-related R&D costs than others. The sectors that rely more heavily on non-labour R&D costs would receive a relative cut in the level of their public support were the programme be changed to target R&D wages only.

¹¹ *R&D Tax Incentives: Rationale, Design, Measurement and Evaluation*, OECD 2011.

Furthermore, as noted in chapter 3, the international literature is not consistent on the question of whether targeting R&D support to labour costs would assist with maximising spillovers.

On balance, the panel does not support limiting the programme to R&D wages.

Summary

Consistent with the panel's finding that the definition is close to international best practice, has only been in place for less than five years and does not appear to have major flaws, revisiting the concepts of eligible activities or eligible expenses is not recommended as a high priority by the panel. Other recommendations from this review are more prospective in achieving greater effectiveness and integrity within the programme. These include, importantly, additional efforts in administrative guidance and compliance activity to engender better understanding of the scope of eligible activities and expenses prescribed under the current law.

The panel considered whether an additional consultative process could be commenced to examine in greater detail whether legislative changes would be appropriate. If such a process were to be initiated, consideration should be given to the matters discussed above. However, this would prolong uncertainty around the programme, hampering the innovative activities it seeks to support.

Should no action be taken at this time on the legislated scope of eligible activities and expenses, we recommend that they be reviewed again no later than 2021 and no earlier unless major unforeseen faults emerge.

Recommendation 1. Retain the current definition of eligible activities and expenses under the law, but develop new guidance, including plain English summaries, case studies and public rulings, to give greater clarity to the scope of eligible activities and expenses.

4.2 Encouraging Collaboration

The assessment in chapter 3 found that the programme does not encourage collaborative R&D. This is primarily because collaboration is not a programme objective and as such the programme was not designed to directly target it.

Collaborative R&D, especially between companies and publicly-funded research organisations (PFROs)¹², is considered to be more likely to produce spillovers, so adjusting the programme to encourage collaborative R&D could increase the programme's effectiveness. Supporting this claim, the Review of Research Policy and Funding Arrangements reports that collaboration with research institutions has a highly positive impact on business. The report cites evidence that collaborative innovation more than triples the likelihood of business productivity growth.¹³

This section looks at the evidence around the benefits of collaboration and the potential to include a pro-collaboration element into the programme.

Analysis

As described in the 2015 Australian Industry Report, sharing of knowledge accelerates the pace of innovation by giving firms access to a larger pool of knowledge – a spillover. The importance of the industry-PFRO partnership over other types of collaboration is because these types of projects are more likely to provide the basis for disruptive innovations (OECD (2016)).¹⁴ More broadly,

¹² PFROs include universities, medical research institutes and public research agencies.

¹³ Department of Education, (2015), *Review of Research Policy Funding Arrangements*.

¹⁴ OECD (2016), 'R&D Tax Incentives: Design and Evidence', OECD DSTI, Paris.

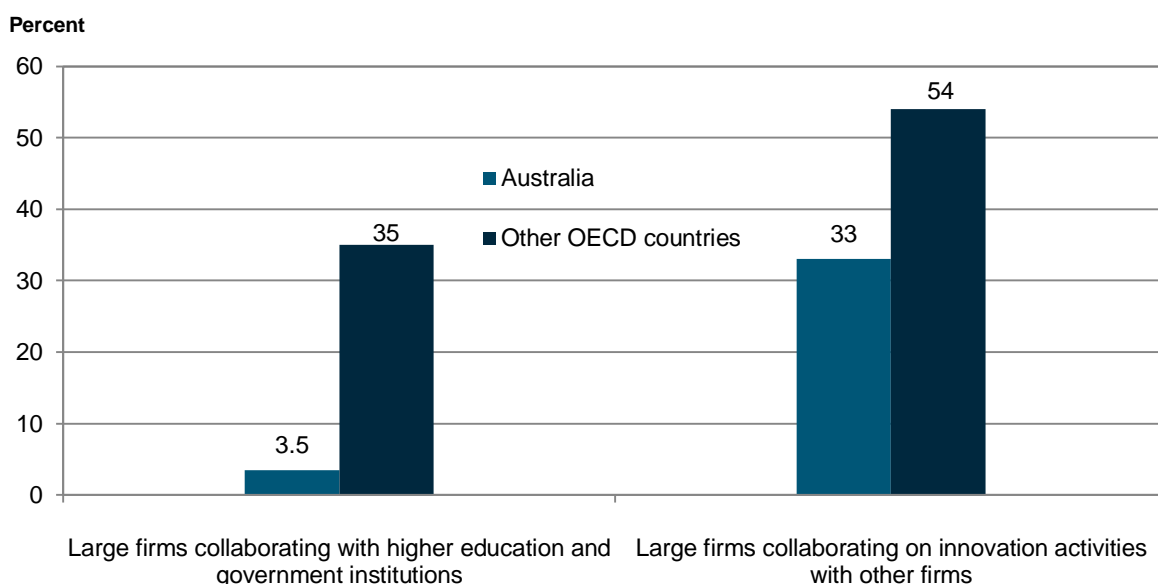
collaboration generates R&D spillovers by increasing personal connections and professional networks by facilitating a greater flow of knowledge between staff.

Collaborative R&D can take many forms, ranging from outsourcing arrangements which are contractually based with strict terms and conditions including how any intellectual property rights are assigned through to strategic R&D partnerships which involve the sharing of risks and benefits and the joint ownership of intellectual property.

While spillovers will be generated by all forms of collaborative R&D, it is likely that the greater the level of partnering or sharing of skills and knowledge the greater will be the transfer of knowledge and information which gives rise to the wider spillover benefits to the economy.

R&D collaboration levels are generally low across the board in Australia. Figure 4.1 shows that they are particularly low for large companies and PFROs relative to broader collaboration activities. In 2013 the OECD reported that 3.5 percent of large firms in Australia collaborated with PFROs, compared with the other OECD countries' average of 35 percent respectively.¹⁵ In contrast, 33 percent of large firms in Australia engage in innovation activities with other firms compared with 54 percent for the rest of the OECD. This suggests that the barriers to collaboration are likely to be greater for PFROs rather than for industry.

Figure 4.1: Collaboration in Australia compared with other OECD countries



Source: OECD Innovation Indicators (June 2013).

The low level of R&D collaboration with PFRO's may also be a contributor to the relatively poor commercialisation outcomes recorded in Australia compared with other economies. Greater encouragement for public-private collaboration with business R&D is likely to improve the translation and commercialisation of the basic research they undertake. Efforts on this front would complement the various measures in the NISA that focus on improving commercialisation.

Factors that inhibit R&D collaboration in Australia

An explanation for the current low rate of collaboration may be that as a small open economy, Australian industry tends to be geared towards adapting, rather than producing, frontier technology that demands basic research. There is also evidence that lack of finance may be a factor inhibiting collaborative R&D in Australia. Survey results from CIE 2016 and Orima Research 2015 confirm that

¹⁵ Data source: OECD Innovation Statistics and Indicators (2013).

lack of funds is a prominent factor restricting companies from collaborating with external researchers in Australia.

While financial constraints represent one factor which may impede effective collaboration between industry and PRFOs, others include: timing and capacity differences, capability mismatch, intellectual property rights allocation and attaining agreement of the sharing of risks and rewards between prospective partners (Cunningham and Gok (2012), CIE (2016)).¹⁶

Stakeholders echoed the cultural aspects of collaboration noted by the CIE, contending that collaboration at a project level occurs due to relationships, trust and complementary goals. Others claim that collaboration was low in Australia due to mismatched expectations on timing, flexibility and IP generation and that this rather than financing constraints is the greater barrier to collaboration.

Moreover, survey findings by CIE and Orima also identified that business may not be undertaking collaborative projects with PFROs simply because firms are not fully aware of the value of the knowledge generated by universities. This factor underscores the argument for greater facilitation between basic researchers and business, which may take the form of accelerator programmes or R&D consortia.

Fostering collaboration: tax system versus grants

The European Commission (2014) identified that best practice for a targeted R&D tax incentive system is to include an incentive for collaboration with publicly funded institutes. Box 4.1 outlines a range of different approaches taken to incentivising collaborative R&D through more generalised R&D tax support measures. These range from offering an additional premium rate of tax deduction or offset for collaborative R&D to allowing an increase in the actual base or dollar value of the deduction allowed.

Box 4.1: International comparison of selected collaboration incentives

France, Italy and Japan provide additional incentives in their respective R&D tax measures to encourage collaboration.

Italy: The incremental R&D tax credit benefit is increased from 25% to 50% for expenditure on highly qualified personnel and R&D activities outsourced to universities, research centres, or to other companies.

Japan: The volume based R&D tax credit is increased from 12% for SMEs and 8%-10% for large businesses, to a 30% credit for joint or contracted R&D with a university or PFRO. The credit is increased to 20% where the R&D is with other non-public entities.

France: Expenditure on contracts with PFROs and wages for researchers employed with a PhD may be double counted when determining expenditure eligible for the volume based R&D tax credit of 30%. While the size of the claim (the base) increases, the rate remains constant.

In considering using the Incentive to encourage collaboration, it is important to note that in Australia there are a range of existing policies and programmes in place that aim to increase collaboration – see Box 4.2. Primarily, these programmes seek to encourage publicly funded research organisations toward collaborations with industry, rather than the other way around. While it is outside the scope of this review, Government may wish to review, consolidate and refocus existing programmes to prioritise current objectives, particularly if a collaboration option is adopted in response to this review.

In its 2007 Report, *Public Support for Science and Innovation*, the Productivity Commission noted that there was scope for the trialled introduction of a collaboration incentive that would complement the

¹⁶ Cunningham, P. and A. Gok (2012), 'The Impact and Effectiveness of Policies to Support Collaboration for R&D and Innovation,' NESTA Working Paper, 12/06.

Cooperative Research Centres programme by supporting smaller, shorter and more flexible collaborations between firms and researchers. Such an incentive could be provided as a tax concession (or credit) where all proposals that meet the eligibility criteria receive support. During consultations, other stakeholders also echoed support for encouraging collaborative R&D through the Incentive.

Box 4.2: Current measures to encourage collaboration

Research block grants – new funding arrangements will give equal emphasis to industry engagement and research quality, further rewarding collaborative universities – beyond the existing support offered by competitive grants.

CSIRO innovation fund – supports the early stage commercialisation of innovations from publicly funded research bodies, such as universities and CSIRO.

Cooperative Research Centres – provides medium-to-long-term grant funding for collaborative research projects between universities and the private sector.

Global Innovation Strategy – supports international collaborative engagement through the establishment of 'landing pads' in international innovation hot spots, seed funding for research-industry clusters and regional science workshops.

Industry Growth Centres Initiative – not-for-profit organisations in key sectors tasked with improving engagement between research organisations and industry and within industry, to achieve stronger coordination and collaboration.

Innovation Connections within the Entrepreneurs' Programme – business advice and matched grants that incentivise industry-led collaborations between researchers and SMEs.

Rural Research and Development Corporations – provides matched funding for R&D projects selected by agricultural cooperative statutory and industry-owned groups.

ARC Linkage scheme – grant streams that encourage the collaboration of universities with other parts of the national innovation system.

ARC university research impact and engagement measurement – national assessment of university research aimed at incentivising universities to improve industry collaboration and research commercialisation.

Collaboration Premium

To increase the rate of collaboration through the Incentive a premium rate of tax offset for expenditure on collaborative R&D could be introduced. The collaboration premium would provide an additional financial incentive for large R&D-conducting companies to choose to undertake new collaborative projects with PFROs. A few other countries have adopted a collaboration premium in their tax measures – see Box 4.1.

A collaboration premium for Australia's programme could take the form of an additional premium rate of offset above the current non-refundable tax offset rate for collaborative R&D. For simplicity and integrity this could function as a non-refundable offset.

Noting that financing constraints are just one of the potential barriers to enhancing collaborative R&D in Australia, it is expected that the level of collaboration would build over time as cultural barriers and lack of familiarity are reduced and stronger linkages are formed between business and PFROs. This may mean that the initial cost of a collaboration premium would be small. In addition a collaboration premium would also build on other measures announced in the NISA.

Employment of new STEM PhD graduates

Australia has a low level of employment of Science, Technology, Engineering and Mathematics (STEM) PhD graduates in industry relative to other OECD countries. This represents a lost opportunity for knowledge spillover between larger companies, publicly-funded research organisations and the broader marketplace. Encouraging business to employ new STEM PhD graduates will facilitate the development and utilisation of informal networks between research organisations and business in the generation and commercialisation of new ideas. The collaboration premium rate could apply for companies employing new STEM PhD or equivalent graduates in their first three years of employment.

Magnitude of the premium rate

The level of the premium would need to be large enough so as to elicit genuine behavioural change. A smaller rate may simply reward those collaborative projects that already take place without enhancing additional levels of collaboration. On the other hand, a larger premium put in place without due consideration for the broader innovation environment and the non-financial factors that inhibit collaboration may simply lead to a transfer to PFROs without a commensurate increase in R&D collaboration effectiveness.

Accordingly, the premium should be calibrated with the broader innovation policy environment in mind. The level of the premium would ideally complement existing direct measures and those recently announced in NISA.

While the benefit of a collaboration premium would be measured in terms of spillovers from greater numbers of collaborative agreements, there are a number of costs. These include the added complexity to the programme; greater compliance costs for companies structuring collaboration agreements; and a potential disincentive effect for in-house R&D.

An issue flagged in international literature is that a collaboration premium may lead PFROs to shift resources away from their core functions, as the benefit of the collaboration relies on a strong basic or applied research component. However, this risk is low in Australia due to the very small base of collaborative research with PFROs currently undertaken by industry.

If an intensity trigger were to be introduced to recipients of the non-refundable component of the programme, collaborative R&D could be made exempt (see section 4.5). This would allow a company to receive the Incentive for all collaborative R&D regardless of whether it achieves the intensity threshold.

The benefit of this option is that it would provide a strong incentive for marginal R&D projects that were excluded to be undertaken collaboratively.

In view of these considerations, the panel finds the most appropriate option to embed a collaboration premium in the Incentive would be to increase the non-refundable tax offset for large companies from 40 cents to 50 or 60 cents per dollar of collaborative R&D expenditures with PFROs. This would effectively double or triple the benefit from collaborative R&D over other R&D activities from 10 to 20 or 30 cents per dollar of expenditure. The level of this rate would reward companies for undertaking R&D with PFROs and better ration PFRO resources to deliver R&D outcomes that are most beneficial to businesses and society.

The panel recommends the premium should be applied for a period of four years, and be reviewed in the third year. The review would consider the success of the premium in raising both the rate of collaboration with PFROs and an assessment of the spillover benefits likely to be achieved if the rate were varied or removed.

Recommendation 2. Introduce a collaboration premium of up to 20 percent for the non-refundable tax offset to provide additional support for the collaborative element of R&D expenditures undertaken with publicly-funded research organisations. The premium would also apply to the cost of employing new STEM PhD or equivalent graduates in their first three years of employment. If an R&D intensity threshold is introduced (see Recommendation 4), companies falling below the threshold should still be able to access both elements of the collaboration premium. See Box 4.3.

Box 4.3: Examples of a collaboration premium

Biofanatics is an Australian, tax-paying company that develops components for surgical devices.

WindWake is an Australian, loss making, incorporated company that initially emerged as a spin-off out of a local university, specialising in wind-data analysis and wind-flow modelling technologies.

Both companies have turnovers greater than \$20 million, and conduct \$10 million of eligible R&D for which each currently receives a \$4 million non-refundable tax offset.

WindWake spends \$2 million of its total R&D expenditure on contracted research with a publicly funded research organisation (PFRO). Biofanatics does not currently collaborate with PFROs but employs a team of new PhD graduates with costs of \$1 million per year as part of its total R&D expenditure.

If a collaboration premium of 20 percent were introduced, both companies would attract the premium non-refundable tax offset rate of 60 per cent on an element of their R&D expenditure.

WindWake would receive the premium offset on its \$2 million of PFRO contracted research for a total tax offset of \$4.4 million, of which \$1.2 million comprises the collaboration premium.

Biofanatics would receive the premium rate on its \$1 million of new PhD graduate costs, for a total tax offset of \$4.2 million, of which \$600,000 comprises the collaboration premium.

4.3 Sharpening the focus on additionality in SMEs

As discussed in the assessment in chapter 3, international and Australian experience suggests that the best way to incentivise additional R&D is to target the companies most likely to be responsive to public support.

In the panel's assessment, the programme currently does this but there is scope to sharpen the focus further by closer targeting to high-potential entrants, who are often loss-making and for whom the Incentive can be a highly-valued source of finance. The panel also assesses that placing some limits on the amount that is refundable would also ensure that the level of support for loss-making companies is appropriate and sustainable.

Quarterly Payments

One option is to consider quarterly payments of expected annual refunds to offer a further level of support for R&D-performing SMEs, addressing cash flow issues for eligible companies. The cost to budget of such an option would be comprised of a one-off bring forward cost, in cash terms, but there would not be an ongoing cost impact.

Analysis

As set out in chapter 3, while SMEs are found to be more responsive to fiscal incentives, cash flow constraints and lack of finance can prevent young SMEs from investing in innovative projects, commercialising their ideas, covering working capital requirements and meeting market demand.

Quarterly payments of the refundable tax offset would improve such companies' cash flow. Under the existing practice, eligible entities must wait until after the end of each financial year to receive the refund. For some companies, more frequent refunds may improve cash flow management and alleviate shorter time-frame financial constraints. As evidence that shorter timeframes are an issue for some companies, a small number of private financing companies have begun providing advance payments – in the form of a loan facility – based on an R&D performing company's expected annual entitlement under the Incentive.

Quarterly payments is supported by some stakeholders, especially in areas with new growth opportunities such as biotechnology and information and communication technology sectors, as well as by business incubators and accelerators, entrepreneurs and most major accounting companies. This position was echoed in several submissions to the Tax White Paper discussion paper. However, other stakeholders indicated that the administrative cost to eligible firms would significantly offset any benefit.

Alternative perspectives

Providing payments under R&D tax regimes on a quarterly basis is not commonplace. One example is Singapore's Research Incentive Scheme for Companies, which may be received on a quarterly basis, following preapproval.

While stakeholder feedback has been positive in relation to the proposition, some did not support quarterly payments on the basis that there may be companies that will receive larger payments than they are ultimately entitled to and subsequently become insolvent.

Providing a refundable tax offset to eligible companies on a quarterly basis also presents a number of risks to the integrity of the Incentive programme. To ameliorate these risks, it would be necessary to restrict quarterly payments to companies with good tax records. Unfortunately, this would mean that many of the companies that might benefit the most from quarterly payments would be ineligible to receive them.

Assessment

In consideration of the potential risks to the integrity of the programme and the resultant need to restrict access in some way, the panel has concluded that quarterly payments would not be a well-targeted addition to the programme compared to other higher priority options.

Limits on Refundability

While the refundable component of the Incentive has been successful in assisting more SMEs to deal with cash flow constraints that may otherwise affect their R&D activity, the cost of this component of the programme has been significantly more than forecast (see Chapter 3).

Refundability of the tax offset is designed to improve the cash flow of companies during the early stages of R&D projects. Companies that benefit the most from refundability are those that expect to be loss-making for a number of years. Cash flow management is in part affected by a company's ability to raise funds: young SMEs typically find it more difficult to raise capital than mature companies with a sound financial history. It is those young SMEs that are the target group of the refundability element of the R&D tax offset.

The effectiveness of the refundable element of the programme would be improved by limiting the amount of cash refunds claimed by mature companies that are closer to the upper \$20 million turnover threshold, or less R&D-intensive operations that make large refundable claims.

The generous nature of the refundable terms of the programme may attract unintended behavioural responses, which could be driving the higher-than-anticipated costs. Limiting the refund size would improve the integrity of the programme by limiting the potential benefit that can be obtained from that type of behaviour.

The next section considers how the programme can best support smaller companies within appropriate limits, to ensure it is fiscally sustainable and improve the programme's integrity.

Specific options

A number of policy levers could be used to reduce the cost of the refundable tax offset. These include a cap on the total refund payments or offset amounts (no current limits); a reduction to the refundable eligibility threshold (currently \$20 million turnover); or a reduction in the refundable offset rate (currently 45 percent). This section covers the first two of those options, as rates are discussed in section 4.5.

A. Cap on cash refund payments

Introducing a cap on the total value of cash refunds available under the refundable tax offset is one way of reducing the cost of the programme while retaining access for all companies.

If capped, the refundable tax offset would continue to work as it currently does, except that there would be a maximum benefit that can be paid and any amounts above the cap could be retained by the company as a carried forward non-refundable tax offset. This option continues to assist cash-flow issues for SMEs, but improves the fiscal sustainability of the programme and rewards companies for success (since a company needs to become profitable to benefit from a non-refundable income tax offset).

International use of caps on refundable tax offsets is common. Canada, for example, refunds up to \$CAD1.05 million of qualifying expenditures per year (i.e. refundable credits at a 35 percent rate are available on the first \$CAD3 million of qualifying expenditure per year for eligible entities).

B. Lower the turnover threshold for refundable eligibility

Under the Incentive companies are required to have a turnover lower than \$20 million to be eligible for the refundable offset. Reducing this threshold would limit the number of companies eligible to claim the higher rate and ultimately receive the offset as a refund.

Companies no longer eligible for the refundable offset would instead be eligible for the non-refundable offset. Although no companies would be excluded from the programme, the available benefit for companies in tax loss no longer eligible for the refundable offset would be greatly reduced.

The panel does not support this option as it would not limit the amount of refund that a company would potentially be able to access.

Preferred option

The panel considers that a cap on the annual refundability of the tax offset would maintain a substantial ability for high-potential new entrant companies to supplement their cash flow as they build their companies. Such a cap would also be entirely justified in terms of placing a limit on the amount of cash-in-hand public support that it is possible to receive through the programme, improving fiscal sustainability.

Recommendation 3. Introduce a cap in the order of \$2 million on the annual cash refund payable under the R&D Tax Incentive, with remaining offsets to be treated as a non-refundable tax offset carried forward for use against future taxable income. See Box 4.4.

Box 4.4: Example of a cap on cash refund payments

ColdTec is a small incorporated company with turnover of less than \$20 million, that develops innovative ICT service products. It conducts \$10 million of eligible R&D to develop a new technology application called GroceryVision. Customers of the GroceryVision application configure it to automatically order replacement stock for their retail outlets. ColdTec self-assesses its R&D to be eligible under the R&D Tax Incentive. ColdTec is currently pre-revenue and has declared a tax loss for the year, but expects to become profitable within 3 years. Under the current rules, it receives a refundable tax offset of \$4.5 million after lodging its tax return.

If a \$2 million cap on refundable payments is introduced, ColdTec would receive a \$2 million cash refund, and carry forward a \$2.5 million tax offset, which it will be able to utilise in future income years.

4.4 Sharpen focus on additional, high-value R&D by large companies

The assessment in Chapter 3 suggested there would be scope to sharpen the focus on additional, spillover-generating R&D by introducing an intensity requirement for large companies to receive the Incentive.

Analysis

There are three strands of analysis that support this type of proposal, all of which are canvassed in chapter 3.

The first arises from the evidence that R&D-intensive companies are more likely to use R&D inputs – such as skilled labour and specialised equipment – efficiently and they are more likely to partner with other bodies, increasing the prospects for positive spillovers.

The second arises from the established position in the literature that large companies are more capable of profiting from basic research and R&D that is more novel and has a greater technical risk (such R&D is found to generate greater spillovers). Furthermore, scope and scale increases a companies' capacity to undertake more technologically risky R&D. Thus a company that undertakes a relatively large amount of R&D compared with other business expenses (i.e. R&D-intensive) is more likely to be undertaking basic research and novel R&D.

The third is that, from an Australian perspective, the programme should wherever possible support additional R&D to be undertaken in Australia so that any associated spillovers also arise in Australia. If companies choose to locate their R&D in Australia it will be additional. For many large companies, access to quality R&D inputs such as scientific infrastructure and the supply of skilled labour are usually more important determinants of the R&D location decision than cost considerations (OECD (2011)).¹⁷ These points are supported by CIE's (2016) survey. Ideally, elements of the programme will be a factor in favour of locating in Australia, rather than against and an intensity measure would retain eligibility for such companies.

Defining R&D intensity

The most straightforward way to define R&D intensity is as a proportion of total business expenses (including R&D expenditure). This approach takes advantage of information already collected for income tax purposes minimising additional complexity. Other methods include measuring R&D expenditure as a proportion of turnover or a metric based on the number of R&D to other employees.

¹⁷ OECD (2011), "Attractiveness for Innovation – Location Factors for International Investment," OECD Publishing, Paris.

Alternative views and sensitivities

Within the subset of larger companies in the non-refundable component there is a large disparity in intensities by sector. As a consequence, a potential sensitivity that may arise is that some sectors may be disadvantaged by the introduction of an R&D intensity threshold. However, the sectoral breakdown of R&D intensity can be expected to vary over time as technology matures in some sectors and new technology emerges in others. This helps to make an intensity measure more robust to sectoral biases over time than within a particular year.

Threshold

A threshold would only pay a benefit on R&D expenditure above the threshold rate. The average benefit rate increases at a continuous rate as R&D intensity increases. Once the intensity threshold is passed, the marginal benefit rate is the same for each subsequent dollar of eligible expenditure.

Under this option, public support is not provided for R&D expenditures below the threshold. This would effectively remove support for that portion of activity that would be expected to have occurred anyway. An intensity threshold is more likely to reward companies investing in additional R&D while limiting subsidies for business as usual activities.

The net effect of an intensity threshold would be that all eligible companies receive a lower average subsidy rate than under the current settings.

For some firms – especially those making a discrete investment location decision – this could have an offsetting effect on additionality as the effective subsidy rate would be less significant relative to other investment considerations. On the other hand, companies would have to engage in more R&D under this option to receive the same amount of support under current arrangements which may increase additionality. For this reason, an intensity threshold requirement should be considered in the context of a package of reforms.

Summary

A well implemented R&D intensity requirement sharpens the Incentive's focus to target those large companies expected to be most responsive to R&D subsidies, improving the effectiveness of the programme.

If this option is adopted, the panel recommends implementing a threshold approach as a part of a broader package of reforms, based upon an R&D intensity defined as a proportion of total business expenses (including R&D expenditure).

Recommendation 4. Introduce an intensity threshold in the order of 1 to 2 percent for recipients of the non-refundable component of the R&D Tax Incentive, such that only R&D expenditure in excess of the threshold attracts a benefit. See Box 4.5.

Box 4.5: Examples of an R&D intensity threshold

Enviroloo is an Australian tax-paying company that has developed a non-toxic chemical toilet system for use in eco lodges that does not need to be flushed with water. The company has self-assessed its R&D to be eligible under the R&D Tax Incentive.

Enviroloo is profitable, with turnover over \$20 million and total business expenses of \$10 million.

It spent \$180,000 on its R&D (1.8 percent intensity – calculated as R&D expenditure divided by total business expenses) and received a non-refundable tax offset of \$72,000.

If an R&D intensity threshold requirement of 2 percent were to be introduced, Enviroloo would no longer receive the 40 percent offset as its R&D intensity is less than 2 percent. However it can still receive a standard business deduction for its R&D expenditure, which represents an equivalent offset value of \$54,000. Enviroloo would have an incentive to undertake additional R&D to increase its intensity above the intensity threshold to receive the non-refundable tax offset on expenditure over \$200,000.

BakingStuff is a company incorporated under Australian law, producing and supplying specialised bread products. To improve the health benefits of its products, BakingStuff contracted out a PFRO to develop technology to add fish oil to its wholegrain bread line.

BakingStuff is profitable, with turnover over \$20 million and total business expenses of \$10 million.

Similar to Enviroloo, it also spent \$180,000 on its R&D (1.8 percent intensity), entirely through the contract with the PFRO, and received a non-refundable tax offset of \$72,000. With an R&D intensity threshold of 2 percent, while Enviroloo is not eligible for the R&D tax offset, BakingStuff's R&D is collaborative with a PFRO so it would receive the collaboration premium despite being below the threshold.

Rutimech is a large Australian tax-paying company that manufactures custom alloy for specialist applications. It develops a new technology that uses inert rather than carbon anodes in the manufacture of its alloy – reducing costs and increasing energy efficiency – which it self-assesses to be an eligible R&D activity under the R&D Tax Incentive.

Rutimech is profitable, with turnover over \$60 million and total business expenses of \$30 million. It spent \$1.2 million on R&D (4 percent intensity) and received a non-refundable tax offset of \$480,000.

Rutimech's R&D intensity is above 2 percent and so would receive the offset on expenditure over the threshold, with R&D up to the value of 2 percent of its total business expenses able to be deducted at the company tax rate. This would give Rutimech a total offset of \$240,000 and its deductions would give an after-tax benefit of \$180,000, for a total after-tax benefit of \$420,000.

Rutimech has an incentive to further increase its R&D expenditure, as any additional R&D attracts the full R&D offset rate of 40 percent.

Interaction with existing policy

Expenditure threshold

The expenditure claim threshold of \$100 million, which was introduced effective 1 July 2014, limits the cost-to-revenue of the programme to some extent, but also removes the incentive for companies to undertake additional R&D in Australia beyond that threshold.

Combined with the introduction of an intensity threshold as recommended above which would lower the average subsidy received per dollar of R&D claimed, the impact of maintaining the \$100 million expenditure threshold on additionality could be perverse.

However, coupling the removal of, or an increase in, the expenditure threshold with a measure such as an intensity threshold would sharpen the additionality by larger companies while still maintaining control of the programme cost.

Recommendation 5: If an R&D intensity threshold is introduced, increase the expenditure threshold to \$200 million so that large R&D-intensive companies retain an incentive to increase R&D in Australia. See Box 4.6.

Box 4.6: Example of an increase in the expenditure threshold

Securino is a world-leading Australian tax-paying group with cutting edge technologies across a wide range of sectors and a large R&D centre in a major Australian capital city. The company has self-assessed its R&D to be eligible under the R&D Tax Incentive.

Securino has a turnover of \$4 billion and total business expenses of \$3 billion. It spent \$180 million on R&D in 2014-15 (6 percent intensity). With an R&D intensity threshold of 2 percent and the current expenditure threshold of \$100 million, Securino would receive a non-refundable tax offset of \$40 million on \$100 million of R&D.

With the higher expenditure threshold of \$200 million, Securino would be able to claim \$120 million of R&D, increasing its non-refundable tax offset to \$48 million.

4.5 Rates of support

The size of the tax benefit needs to be sufficient to induce the desired behavioural change and stable enough to provide certainty for companies engaged in long-term planning of R&D. The Panel notes the Government's stated intention to reduce the rates to 43.5 percent for the refundable component and 38.5 percent for the non-refundable component. Lowering the rates any further would erode the capacity to drive the desired behavioural change.

5. Enhancing the R&D Tax Incentive programme administration

This chapter considers how to improve the effectiveness and integrity of the Incentive programme through the enhancement of its administration. The panel has broadly considered the following aspects of the programme administration:

- the real and perceived complexity of a programme that is governed by legislation and utilises the tax system to provide a benefit;
- the user experience of companies accessing the programme;
- the guidance-led approach to the administration of the programme;
- how companies apply for the programme and receive benefits;
- how companies demonstrate compliance and the compliance activities they are subject to (record keeping requirements and compliance management activities); and
- options for enhancing programme administration.

Through consultation the panel were provided with the following views:

- the administration is not streamlined;
- it is relatively easy to satisfy the registration application process and it is not that rigorous;
- administrative resources are spread thinly across the claimants;
- there may not be sufficient expertise within AusIndustry or the ATO to check if activities are aimed toward the generation of new knowledge;
- regulators should not examine expenditure separate from activities;
- Having two regulators is not efficient, while other countries (such as the UK and Canada) have a single regulator;
- the joint administration by AusIndustry and the ATO increases the claimant's costs and, in some cases, such costs may be too large compared with the benefit from the programme;
- there is no single database which can be used to measure the impact, efficiency, effectiveness or integrity of the programme; that is, the data required to make such measurements/judgments are simply not available; and
- there is not enough public knowledge about what the programme has funded; and which companies it has funded.

The panel also sought the views of the administrators, AusIndustry and the ATO.

5.1 Support for self-assessment

Chapter 3 notes self-assessment by companies against the eligibility requirements set out in the legislation is a central feature of the design and operation of the Incentive.

Guidance

AusIndustry and the ATO have adopted a guidance-led approach to empower companies with the knowledge to understand eligibility requirements in order to undertake self-assessment. AusIndustry and the ATO have also developed a suite of guidance and education products to assist companies understand:

- the objective of the programme in supporting the conduct of R&D;
- the eligibility requirements and how they work in practice;
- how to apply and receive the benefit; and
- the compliance review processes and how to be 'compliance ready'.

The survey of businesses undertaken by the CIE found that the majority of SMEs and large firms rated the guidance material developed by AusIndustry and the ATO as very to extremely useful.

Feedback during consultations and through submissions indicated consistent views that additional guidance was required in order to assist companies understand what constitutes eligible R&D activities and expenditure. In particular, strong views were given around the need to publish guidance on R&D activities that were found to be ineligible through compliance reviews and the reasons why. Many companies and stakeholders requested contemporary case studies to illustrate what is and what is not allowed under the programme. This could include establishing a binding public rulings process on R&D activities and the greater dissemination of decisions made on eligibility under the programme through anonymised case studies similar to Australian Taxation Office Interpretative Decisions (ATOIDs). This would provide more contemporaneous and enforceable guidance on the interpretation of eligibility requirements under the programme for its users.

Strengthening of the available guidance materials and case studies would have a direct impact on the effectiveness and integrity of the programme. This would occur by enabling a better focus on the activities that the programme is aiming to support, and increasing the level of compliance with the eligibility requirements. Enhancement of guidance and education materials may require additional resourcing be provided to the programme administrators.

There is widespread use of specialist tax advisers by participants in the programme and high compliance costs for companies participating in the programme. The panel is concerned that the use of specialist advisers is impacting on the effectiveness of the Incentive as it reduces the benefits received by the companies actually performing the R&D. Improved guidance and educational materials may reduce the need for companies undertaking R&D to use specialist advisers to access the Incentive, increasing the effectiveness of the programme.

5.2 Application process

Chapter 3 discussed the current two-stage application process where companies first register the R&D activities they have self-assessed as being eligible and then lodge an R&D Schedule as part of the annual tax return.

Registration

One of the recurring issues raised during the consultation process was that the registration process is relatively easy to satisfy and not that rigorous. This is, however, commensurate with registration being based on self-assessment and seeking to limit the burden placed on companies in applying for the programme. Information provided by companies in the registration form, in particular the description of the R&D activities that they conducted, and other details such as the industry sector they operate in, enable AusIndustry and the ATO to assess possible compliance risks and then target compliance assurance activities.

Noting that most large OECD members do not require a registration process¹⁸, the panel considers there are benefits of reduced company compliance burden and enhanced administrative efficiency that would arise from adopting a single application process for accessing the Incentive. However, streamlining the application process may impact the ability to risk profile companies and target compliance assurance activities which would impact on programme integrity.

The panel recommends that programme administrators investigate the minimum level of information that would be required in a single application process to balance compliance burden and the need to protect the integrity of the programme, as well as gathering sufficient information to enable policy evaluation.

¹⁸ Canada, Denmark, France, Ireland, Japan, Slovenia and the United Kingdom no prior approvals from government/regulatory agencies are required; and that the R&D claim is made on the tax return for the relevant period

Timing and R&D planning

Some stakeholders argue that the registration period could be shortened or made prospective, to enable a closer nexus between the decision to undertake R&D and the programme's influence on that decision.

There appears within some companies to be a separation between R&D decision-making and decisions around the company's tax affairs. This may in part be driven by the fact that currently an R&D-performing entity wishing to claim an offset is required to register its R&D activities within 10 months of the end of the income year in which it undertook those activities.

Guidance from the administrators as to the benefits of effective R&D planning can influence decision making around investment in R&D. Planning may also lead to improved record keeping practices that can support substantiation of a R&D Tax Incentive claim if the company is selected for a compliance review.

Having an R&D plan in place prior to commencing activities is good business practice and demonstrates a company's commitment to performing R&D. However, the impact of mandating the use of R&D plans could increase the compliance burden. Instead, companies should be encouraged and supported to undertake R&D planning ahead of investment.

As to prospective registration, consideration would need to be given to ensuring the process does not lead to an increased compliance burden or greater uncertainty for companies about what activities can be claimed through the programme, including in circumstances where the forward programme of R&D activities changes for legitimate reasons.

Overseas Findings

The *Industry, Research & Development Act (IR&D Act)* requires that a company seek an Overseas Finding about activities to be conducted outside Australia if it wishes to receive a benefit for overseas R&D. A company is required to meet a set of conditions outlined in Section 28D of the *IR&D Act* that the overseas activities cannot be conducted in Australia.

Applying for an Overseas Findings is a time consuming and resource intensive process for both programme administrators and companies. However, the removal of the Overseas Finding process may make it more difficult for the ATO to determine the eligibility of overseas expenditure as Overseas Findings specifically list and evaluate individual activities.

The panel recommends that programme administrators investigate whether on balance it would enhance the administration of the Incentive by removing the requirement for companies to seek a finding for activities conducted outside of Australia and for this to be a self-assessment process.

5.3 Integrity and compliance assurance activities

The integrity and compliance framework utilised to administer the Incentive consists of an inter-related system of activities between AusIndustry and the ATO. Jointly these activities provide for the education of users about the programme, the requirements for registration and claiming for expenditure on eligible R&D activities and risk-based compliance review activities.

Compliance reviews

AusIndustry's risk review activities include a range of products that are designed to deal with the potential risk of non-compliance of registered R&D activities either at a pre-registration or post-registration stage of the process. An escalating compliance review process is used to address areas of concern. Statutory Findings (Pre and Post Registration Findings) can be made about the eligibility of activities registered with the programme and is binding on the Commissioner for Taxation.

The ATO also undertake a range of compliance activities, focusing primarily on expenditure and the behaviour of specialist tax advisers. The compliance activities range from audit activity on an

individual company claiming R&D, to education and guidance, to an identified risk with a large population affected, through to specific action against the R&D consultant and tax agents.

The significant growth in the scale of the programme is placing increasing strain on the administrative and compliance model. While the two agencies address different risks (R&D activities by AusIndustry and expenditure by the ATO) consideration should be given to rationalising, standardising and unifying the separate compliance review processes that the agencies undertake. This would lead to enhanced efficiencies in the delivery of the programme and an improved user experience for claimants.

Two-agency delivery model

A two regulator model of programme administration may not be the most efficient approach. Some other countries (such as the UK and Canada) have a single regulator, while others have a separation of functional expertise within the single agency.

Stakeholders noted during consultations that there is a strong relationship of co-operation between AusIndustry and the ATO, but co-ordination of effort to administer the programme is at times challenging, particularly given the size of the programme. Accordingly, consideration should be given to revisiting the delivery model to explore the appropriateness of a single-delivery agency.

The panel recommends the Government undertake further work to determine whether it would be more beneficial to administer the Incentive through a single-delivery agency model instead of the current joint AusIndustry-ATO administration arrangement.

5.4 Comprehensive database

In order to improve programme administration, it is vital to enhance data management by having a single programme database. This will enable greater data harvesting and risk assessment through data trend analysis; and more data collection including co-operation with other government agencies such as the Australian Bureau of Statistics.

The programme has 100 percent programme access through the online form; and guidance is available through the business.gov.au and ato.gov.au websites.

5.5 R&D Tax Incentive transparency

Given that the benefits from the programme represent expenditure of tax payers' money, it is desirable to publish information about the companies accessing a benefit from the Incentive. Doing so would further improve the sharing of tax information between the ATO and other corporate regulators, allowing enhanced administration, regulation and more considered policy discussion.

The panel recommends the names of companies accessing the Incentive and the amounts of R&D expenditure claimed be published on an annual basis.

Recommendation 6: That the Government investigate options for improving the administration of the R&D Tax Incentive (e.g. adopting a single application process; developing a single programme database; reviewing the two-agency delivery model; and streamlining compliance review and findings processes) and additional resourcing that may be required to implement such enhancements. To improve transparency, the Government should also publish the names of companies claiming the R&D Tax Incentive and the amounts of R&D expenditure claimed.
