THE TREASURY
Kaitohutohu Kaupapa Rawa

Treasury Report: Personal Tax Cut Package: KiwiSaver and R&D Tax Credit Options

Date:	24 November 2008	**Report No:**	T2008/2190

Action Sought

	Action Sought	Deadline
Minister of Finance (Hon Bill English)	Decide which tax package you wish to propose in the December Cabinet paper to implement a tax cuts programme with effect from 1 April 2009	Wednesday 26 November 2008

Contact for Telephone Discussion (if required)

Name	Position	Telephone		1st Contact
Bill Moran	Manager, Tax Strategy	[deleted – privacy]	[deleted – privacy]	✓
Steve Cantwell	Principal Advisor, Tax Strategy	[deleted – privacy]	[deleted – privacy]	

Minister of Finance's Office Actions (if required)

None.

Enclosure: Yes

24 November 2008

Treasury Report: Personal Tax Cut Package: KiwiSaver and R&D Tax Credit Options

Purpose of Report

1. This report seeks decisions or guidance on the personal tax cuts package you wish to take to Cabinet, in particular the KiwiSaver and R&D tax credit elements of the package.

Analysis

2. The Government's pre-election tax package funds reductions in personal tax rates by reducing the current subsidies to KiwiSaver and R&D. Your pre-election policy material costed this package as being slightly fiscally positive (saving $283m over 4 years) and indicated that this saving would be used to reduce the operating deficit.

3. Since then, Ministers have asked that other KiwiSaver options be costed (particularly the CTU proposal) and you have received early indications that officials are divided on the merits of repealing the R&D tax credit (IRD recommend its repeal, while MoRST and Treasury consider the current policy may contribute to increasing innovation, and would like to see it retained at least long enough to fully evaluate its effectiveness).

4. Further, you received advice recently (T2008/2187 refers) that Treasury recommends you focus on paying down debt over the medium term to strengthen the fiscal position. One way we recommend you do this is to use any savings found, over and above funding required to implement your immediate priorities, to pay down debt. One option would be to use the savings discussed below as a first step towards this strengthening of the fiscal position.

5. Therefore Ministers face a range of choices regarding what to do with the savings discussed below. These choices require trading-off three likely Government priorities:

   - a stronger fiscal position (bank the savings and reduce the deficit);
   - more innovation (R&D tax credit and other RS&T funding);
   - supporting private savings (KiwiSaver options).

6. As Ministers have not yet worked through with officials how you intend to balance the Government's competing priorities, officials are not well placed to give you advice that integrates your fiscal goals with other priorities. Notwithstanding this, decisions need to be taken on the tax cuts package by Cabinet on 8 December, in order that the package can be legislated by Christmas and effective from 1 April next year.

7. Therefore this paper seeks Ministerial direction to either develop a Cabinet paper supporting a particular option, or to provide further reporting on a small number of options for a final decision.

8. This paper provides a matrix of policy options and 5-year costs for the tax cuts package. The options are a mix of current Government policy as we understand it, further options that Ministers have asked officials to work up, options for a lesser reduction in government tax support for R&D, and an option for the KiwiSaver member tax credit that achieves the equity outcome sought by the CTU at the same cost as

your pre-election position. It does this by reducing the maximum value of the member tax credit.

9. The fiscal issues are discussed in more length in T2008/2187 referred to above. The KiwiSaver and R&D issues are examined in more detail in two attachments to this report. A key consideration will be balancing the value you place on strengthening the fiscal position against the value you place on private savings support and innovation improvements associated with the various options.

Table 1: Fiscal cost of Government's pre-election tax package (assumes all savings from repealing R&D tax credit devoted to financing tax reductions)

Costs ($m)	Fiscal Years					Total for 08/09-11/12	Total for all 5 years
	2008/09	2009/10	2010/11	2011/12	2012/13		
Cost of tax rate changes	255	1191	1792	2293	2381	5531	7912
Cancelling legislated tax reductions	0	-134	-733	-1314	-1309	-2181	-3490
Cancelling R&D tax credit (full savings)	-54	-243	-290	-332	-373	-919	-1292
KiwiSaver changes	-86	-815	-958	-1046	-1084	-2905	-3989
Net costs	**114**	**0**	**-190**	**-398**	**-385**	**-474**	**-859**

Table 2: Matrix of 5-Year cost of options (negative numbers are savings)

	R&D Tax Credit			
KiwiSaver	**Option A**: Savings from abolishing R&D tax credit devoted to tax cuts	**Option B**: 2/3rds of Savings from abolishing R&D tax credit devoted to tax cuts	**Option C**: Reduce current 15% tax credit rate to 10%	**Option D**: Change to a credit for incremental R&D
Option 1: drop all MTC to 2%	**-859**	**-428**	3	**-54**
Option 2: drop MTC to 2% of income with option of those earning less than $52,000 to top up to $1,040 per annum (CTU proposal).	**-68**	363	794	737
Option 3: Option 2, but with MTC capped at $715 per annum (designed to be same cost as option 1) **(Treasury's preferred option)**	**-851**	**-420**	10	**-46**

Table 3: Extra Cost of options compared to the cheapest option

	R&D Tax Credit			
KiwiSaver	**Option A**: Savings from abolishing R&D tax credit devoted to tax cuts	**Option B**: 2/3rds of Savings from abolishing R&D tax credit devoted to tax cuts	**Option C**: Reduce current 15% tax credit rate to 10%	**Option D**: Change to a credit for incremental R&D
Option 1: drop all MTC to 2%	0	431	861	804
Option 2: drop MTC to 2% of income with option of those earning less than $52,000 to top up to $1,040 per annum (CTU proposal).	791	1222	1652	1595
Option 3: Option 2, but with MTC capped at $715 per annum (designed to be same cost as option 1) **(Treasury's preferred option)**	8	439	868	812

10. The exact cost of each option would depend on the final design of the tax cut package. However we would expect the broad relativities to be unchanged.

Recommended Action

11. We recommend that you:

EITHER:

a **select** an option from the table below that you wish officials to develop for the Cabinet paper to implement a tax cuts programme with effect from 1 April 2009;

OR

b **indicate** which sub-set of the options described in the table below you wish officials to report to you further on by 26 November; and

KiwiSaver	R&D Tax Credit			
	Option A: Savings from abolishing R&D tax credit devoted to tax cuts	**Option B**: 2/3rds of Savings from abolishing R&D tax credit devoted to tax cuts	**Option C**: Reduce current 15% tax credit rate to 10%	**Option D**: Change to a credit for incremental R&D
Option 1: drop all MTC to 2%	**-859**	**-428**	3	**-54**
Option 2: drop MTC to 2% of income with option of those earning less than $52,000 to top up to $1,040 per annum (CTU proposal).	**-68**	363	794	737
Option 3: Option 2, but with MTC capped at $715 per annum (designed to be same cost as option 1) **(Treasury's preferred option)**	**-851**	**-420**	10	**-46**

c **note** that final decisions on policy and design issues are required by 26 November in order that a paper can be developed for consideration by Cabinet by 8 December 2008.

Bill Moran
Manager, Tax Strategy
Economic Performance Group
for Secretary to the Treasury

Hon Bill English
Minister of Finance

DELIVERING ON KIWISAVER MANIFESTO COMMITMENTS: FISCAL OPTIONS

Member Tax Credit (MTC)

You have indicated that the MTC will be retained and will continue to match a member's contributions. It will match their contributions at the minimum contribution rate, up to a maximum of $1,040 a year. From 1 April 2009, the minimum contribution rate for employees in KiwiSaver will be two percent of gross salary.

How the MTC works currently

In general, the MTC is calculated on a July to June year and is based on a member's contributions[1] made during the year, regardless of the employment status or income of the member. To receive the maximum MTC of $1,042.86 a member must contribute at least that amount.

In order to provide more detailed advice we seek guidance on the intent of the policy as the policy could be interpreted to mean:

Option 1:

- The minimum employee contribution rate will be two percent of a member's income. The MTC will be limited to two percent of an employee's pay - or a person's taxable income in the case of the self-employed - with the maximum amount of $1,040 only available to those on incomes above $52,000, regardless of contribution level.
- This would mean that instead of basing the MTC on the level of contribution, up to a maximum of $1,040, the MTC is based on the income level of the member. Depending on the income level of an individual member, a member contributing two percent may not receive the maximum MTC. The effect of this option creates equity issues if a person has no income. For example, where contributions are out of capital or a partner's income or the member has a loss for tax purposes.
- Requiring income data and associated changes to systems has significant administrative and compliance costs and adds to the scheme's complexity. In addition, this option raises concerns about the ability for Inland Revenue to implement this policy option in a timely manner.
- Any design requiring accuracy of income data would impose significant compliance and administrative costs and have an impact on when the MTC would be paid. Therefore, to ensure that the credit is paid in a timely manner, a trade off will need to be made between accuracy of income information and using readily available information.

[1] Excludes the employer contributions and contributions subject to the mortgage diversion provisions.

Or

Option 2:

- The minimum contribution rate for an employee is two percent; however, the MTC will continue to match the member's contributions up to a maximum of $1,040.
- This means that the amount of the credit can continue to be calculated on the basis of the level of contribution by the member, up to a maximum of $1,040 per year. If salary or wages are less than $52,000, the member may still choose to contribute at the minimum two percent rate, and, as a consequence, not receive the full MTC on their contribution level. Alternatively, they could contribute more than the minimum two percent in order to receive the maximum credit of $1,040 per year. Non-employees will receive the amount of the credit based on their contribution level up to a maximum of $1,040 per year.
- In contrast to option 1, this option does not create any additional administrative or compliance costs over and above what is already in place.

Or

Option 3:

If you wish to achieve the same savings as option 1, while addressing the equity issues raised by the CTU and administrative issues raised by IRD, a third option would be to adopt the principle underlying the CTU proposal and lower the $1,040 per annum cap to achieve fiscal neutrality.

- This option will go some way towards addressing the CTU's concerns that option 1 disadvantages low income earners. As with option 2, this option is contributions based rather than income based and involves reducing the MTC contribution rate to $715 per year ($13.75 per week).
- This option will ensure that KiwiSaver remains an inclusive scheme because incentives will be based on contribution rather than income levels. Consequently this option will provide incentives for members to join and remain in the scheme.
- This option will not create additional administrative or compliance costs over and above what is already in place.

Fiscal implications of the MTC options

The tables below show that the three options reduce the amount of the cost of the MTC.

However, in developing the figures for these options, a number of assumptions were made:

- The figures for option 1 are based on the assumption that all members' contributions drop to 2 percent and that on average, non-employee members will contribute according to their taxable income. This is a proxy for a two percent contribution rate cap on income.
- The cost of option 2 is driven by the behavioural response to the reduction in the minimum contribution rate to two percent and how this policy change is implemented.

At one extreme no savings may be realised because all existing and new members top-up their contributions to $1,040 a year. At the other extreme all existing and new members contribute 2% of their income which result in similar savings to option 1. We have modelled the cost of option 2 as follows:

- the minimum contribution rate is two percent and therefore those earning $52,000 or more will receive the maximum credit; and
- some members within the $0 - $52,000 income group will top-up to the maximum MTC but some will simply contribute at two percent of their income and therefore an average contribution rate of three percent has been used.

Table1: Cost estimates compared to current policies[2]

	2008/09	**2009/10**	**2010/11**	**2011/12**	**2012/13**
MTC forecast cost ($m)	646	765	846	895	929
Option 1: all MTC drop to 2% ($m)	646	566	626	662	688
Option 2: option one but with those earning below $52,000 and making contributions over 2% able to receive matching member tax credits up to $1,040 per annum	646	742	821	869	902
Option 3: MTC is capped at $715 per annum for all contributors	-	568	628	664	690

Table 2: Savings compared to current policy

Option 1 savings	0	199	220	233	242
Option 2 savings	0	22	25	26	27
Option 3 savings	-	197	218	231	239
cost difference between Option 1 & 2	0	-177	-195	-207	-215
cost difference between Option 1 & 3	-	-2	-2	-2	-3

Comment

Treasury prefers MTC options based on contribution rates rather than income as they are less regressive and administratively less costly. Option 3 would deliver a similar level of savings to Option 1 but it also reduces to $715 the current member tax credit of $1,040 per annum which may be difficult to present.

We recommend that you:

Indicate which of the three options you prefer.

Option 1: lower the maximum member tax credit to 2% of taxable income; ***or***
Option 2: option one but with those earning below $52,000 and making contributions over 2% able to receive matching member tax credits up to $1,040 per annum; ***or***
Option 3: option 2 with the member tax credit capped at $715 per annum for all contributors.

[2] As KiwiSaver uptake was not re-forecast as part of Defu, Prefu data has been used.

R&D TAX CREDIT OPTIONS

Executive Summary

New Zealand's business expenditure on R&D is one third the OECD average. We see this as a drag on productivity growth and competitiveness. Our advice to retain the R&D tax credit is based on our judgement that the credit offers a more effective means of incentivising business R&D than discretionary grants because they are more driven by business and reach many more firms. Our reading of the international evidence is that well-designed R&D tax credits can have a positive impact on productivity growth (even allowing for administration and compliance costs and the deadweight cost of subsidising existing expenditure).

As we understand it, the Government's reasons for seeking to remove the R&D tax credit relate primarily to its affordability (the need to ensure that the Government's tax package is fully funded), concern over reclassification of non-R&D expenditure to claim the credit, and the deadweight cost of credits for R&D expenditure that has occurred or would occur anyway. Below we identify some options that lower the cost of the R&D tax credit and, in the case of the incremental expenditure option, may alleviate concern around the deadweight cost of existing expenditure.

Option	Comment	Estimated saving ($m)[1]
Reduce rate to 10%	Lower fiscal cost but may be less effective in incentivising R&D and in retaining/attracting R&D in NZ (vis-à-vis other countries)	$81m to $124m
Base tax credit on incremental expenditure above some pre-defined baseline	Lower fiscal cost. Focuses on additionality – i.e. avoids credit being paid on existing expenditure, which is good. However, administratively more complex to operate and may have perverse incentive effects.	$150m ($38m in 2009/10. Will also depend on base year)
Restrict eligibility to Small and Medium enterprises (SMEs)	Lower fiscal cost. Impact on incentives will depend on extent to which large firms are able to bear risk associated with investing in R&D and effective at stopping the benefits of their R&D spilling over.	$135m to $200m
Impose cap on total annual R&D expenditure (eg $200k or $1m)	Similar to restricting eligibility to SMEs, but offers some incentive to larger firms	$160m to $250m ($200k cap)
Restrict scope of the tax credit to certain types of expenditure or exclude certain types	Lower fiscal cost. May be less effective in incentivising R&D and skew incentives toward certain type of projects. Higher administrative costs but not as high as incremental expenditure option.	$120m to $180m (R&D wages and salaries only)

Treasury's preferred options among these are reducing the rate to 10% and the incremental option. The 10% option could be straightforwardly implemented in the December tax legislation. Other options would require more detailed policy work to confirm feasibility and design options and would require longer timeframes to implement. The incremental option would unlikely be able to be implemented until April 2010. While neither option is clearly superior, on balance we recommend the 10%-rate option.

There are differing views on the policy merits of R&D tax credits. IRD advice is that the costs of retaining an R&D tax credit are likely to outweigh the benefits. Among its concerns is that some accounting firms are preparing to charge a high percentage of successful tax credit claims as fees for their advice. IRD is also concerned with the options for redesigning the R&D tax credit. They suggest that there are severe practical difficulties with many of them and they should not be contemplated without a full report to joint ministers (Finance and Revenue).

A key difference between supporters and detractors turns on the amount of additional R&D that a tax credit would generate. Until the scheme can run a few years and then be evaluated, the question of additional R&D becomes a judgement call.

The 10% tax credit option and the incremental option each reduce the amount of savings that can be applied to offset the cost of the Government's proposed tax rate changes, resulting in a net cost for the tax rate changes of $139m (for the 10% tax credit) and $108m (for the incremental option) over three years (see Annex 2).

[1] Annual saving between 2009/10 and 2012/13. Estimates are ball park and provisional. Combining options would generate greater savings. See more detail in Annex 2.

We believe that savings could be found among existing Vote Economic Development (ED) and Vote Research, Science and Technology (RST) grant programs that offer lower value for money than the R&D tax credit. Potential candidates that Treasury has identified are presented in Annex 2. The savings from reducing the tax credit to 10% would need to be fully used to help offset the cost of the Government's tax rate changes, unlike under the current Government proposal in which one third of them are set aside for other RS&T spending. If this spending proceeds it may be possible to fund it by finding further savings within the two Votes but the value foregone may be higher. Other options for altering the parameters of the R&D tax credit offer greater savings and so reduce the amount of savings that would need to be found among Votes ED and RS&T programs.

We have not tested these savings with the Ministry of Economic Development or Ministry of Research, Science and Technology and it is possible that these departments and their Ministers may have different views on the value for money offered by the grant programs and other expenditure lines. It is also possible that some of this expenditure has already been committed through contracts and so our estimates may overstate the potential savings.

If you would like to pursue the option of identifying savings in the Vote ED and Vote RS&T portfolios, we recommend you discuss with the respective vote Ministers in order to establish a process to identify and confirm such savings. This process could operate as part of the 2009 budget process.

We recommend that you:

Note that Treasury's judgement is that the current R&D tax credit is well designed and will have a positive impact on firm productivity (even allowing for administration and compliance costs and the deadweight cost of subsidising existing expenditure);

Agee to retain the R&D tax credit but reduce the rate from 15% to 10%;

Agree/Disagree

Note that to ensure the tax rate changes are fully funded by corresponding savings, we believe that savings can be found among lower-value existing Vote Economic Development and Vote Research, Science and Technology grant programs;

Agree (in the event you agree to retain the tax credit as above) to meet with the Minister of Economic Development and the Minister of Research, Science and Technology in order to establish a process to identify and confirm such savings, this process to operate as part of the 2009 budget process.

Agree/Disagree

AIDE-MEMOIRE:R & D TAX CREDIT OPTIONS

Introduction

This note sets out Treasury's advice on the R&D tax credit.

We note the Government's pre-election announcement that it would remove the newly introduced R&D tax credit in order to help fund income tax rate reductions. As we understand it, the Government's reasons for seeking to remove the R&D tax credit relate primarily to its affordability (the need to ensure that the Government's tax package is fully funded) concern over reclassification of non-R&D expenditure to claim the credit, and the deadweight cost of credits for R&D expenditure that has occurred or would occur anyway.

Treasury's advice is to retain the R&D tax credit and continue to evaluate its effectiveness. Our judgement is that this intervention will produce net benefits to the economy (through innovation and higher productivity) over the medium term. This takes into account that not all R&D expenditure for which credits are claimed will be additional, and that some firms will re-characterise some existing spending as R&D.

The note elaborates the reasoning and evidence that supports this advice. It also examines lower-cost versions of the tax credit and policy alternatives.

Broad rationale and evidence: knowledge spillovers, productivity and underinvestment in creating knowledge

There is a prima facie case for government to support those who invest in creating knowledge – whether they are firms, or specialist research organisations. This case rests ultimately on the special characteristics of knowledge: once created ideas are non-rival and can be shared by everyone at negligible additional cost; and in practice knowledge leaks or spills over to others even when creators try to keep it secret[2].

Adding to the special nature of knowledge is its critical role in fuelling the long-term growth in productivity that has underpinned rising living standards for many people in the developed world over the last two centuries.[3] And it is widely agreed that New Zealand's key economic challenge is to raise its rate of productivity growth.

Research on growth also shows that there is a high probability of a causal link between business expenditure on R&D (BERD) and productivity growth. More BERD is likely to lift multifactor productivity (MFP) and this, in turn, will stimulate business investment. Additional MFP and investment each help to lift labour productivity. New Zealand's BERD is very low – at 0.49 per cent of GDP, it is one third of the OECD average.

When someone creates a new piece of economically-relevant knowledge, the spillovers from it result in higher returns to the economy as a whole than accrue privately to the knowledge creator (e.g. a firm or research organisation). Evidence from many studies indicates that average social returns to R&D are very high (50 to 90 per cent) whereas average private returns are typically around 20 to 25 per cent.[4]

The large difference between social and private returns means that it is highly likely that firms invest less in R&D than is optimal in terms of maximising economic gain. R&D tax credits are one form of intervention that aims to reduce the gap between social and private returns and boost investment in

[2] For a fuller explanation, see Blakeley, Lewis and Mills (2005) "The economics of knowledge: what makes ideas special for economic growth" Treasury Policy Perspectives paper, PP 05/05
[3] See Treasury (2008) "Innovation and productivity: using bright ideas to work smarter", TPRP 08/05
[4] See Blakeley, Lewis and Mills (2005), page 11.

R&D. Public funding of research undertaken in universities and other public research organisations (such as CRIs in New Zealand) are another major form of support for knowledge creation.

Several empirical studies show that when a firm invests in R&D there are two ways in which a firm (and, to the extent there are spillovers, the wider economy) benefit. First the new knowledge created enables the firm to lift its productivity directly via product or process innovation. Secondly, undertaking R&D typically lifts the firm's ability to absorb knowledge from external sources. This is another important way that firms can lift their productivity. These dual channels have been referred to as "the two faces of R&D"[5].

R&D grants versus tax subsidies

In the past, Treasury has favoured direct R&D grants to firms doing R&D rather than support via the tax system. This was mainly because grants make the fiscal expenditure more transparent, it was thought they could be better targeted than tax incentives and it was a way to keep the tax system "clean" or neutral.

Several factors have led us to switch our support from grants to tax credits as the preferred means of supporting BERD:

- Grants rely on bureaucratic choices about which firms are more likely to be 'winners'. Tax credits on the other hand allow any firm to opt in conditional on it investing in R&D. In this sense, a tax credit is more 'market friendly'.

- Evidence from several studies, either undertaken by the OECD or cited by it[6], indicate that tax subsidies for R&D are more effective than grants in stimulating BERD. The evidence suggests as a rough ballpark figure that each $1 of tax incentive leads in the medium term to an additional $1 of BERD.

- While this meets the test that the intervention leads to additional activity, on its own it is not sufficient to meet a full benefit-cost test. Such a test would need to weigh the estimated economic benefits of the additional activity against its costs including administration and compliance costs and the deadweight costs from the higher tax rates on other forms of taxation. A benefit-cost analysis of Australian R&D incentives by the Australian Productivity Commission showed that if high spillovers occur then the test is met but not if spillovers are low. The analysis takes account of administrative and compliance costs, re-classification of non-R&D activity as R&D, and only counted the estimated R&D that is additional to business as usual[7]. While the case is therefore not proved beyond doubt, on the basis of a similar analysis we came to a judgment that well-designed R&D tax incentives applied in a country like New Zealand where BERD is low would likely add to overall economic welfare[8].

- From a firm's viewpoint, applying for a grant has a high compliance cost and an uncertain outcome. These two negative factors discourage firms from applying and the outcome is that comparatively few firms have been awarded grants for BERD. Therefore it seems that grants have failed to produce a significant increase in BERD.

---

[5] Griffith, Rachel, Stephen Redding and John Van Reenen (2004) "Mapping the two faces of R&D: Productivity growth in a panel of OECD industries." *Review of Economics & Statistics*, 84(4): 883-895.

6 See OECD (2007) "Reviews of Innovation Policy: New Zealand"; Griffith, Rachel (2000) .How important is business R&D for economic growth and should the government subsidise it?. London, Institute for Fiscal Studies, Briefing Note No 12.

[7] Lattimore, R. (1997) "Research and development fiscal incentives in Australia: Impacts and policy lessons", Productivity Commission paper presented to the OECD Conference on Policy Evaluation in Innovation, Paris, 26 -27 June 1997. http://www1.oecd.org/dsti/sti/stat-ana/prod/lattimore.pdf

[8] See MERG presentation: Business assistance policies DRAFTv6

- Many OECD countries have used tax subsidies to support BERD. Therefore there is now a lot of experience to draw on in designing a good R&D tax subsidy. (NZ has indeed drawn on this experience in developing the current R&D tax credit, for example in the definition of R&D and in making the base for the credit the total volume of R&D rather than its increment)

- With globalisation, the increasing willingness and ability of firms to relocate parts of their operations in different countries could leave New Zealand (in the absence of a tax subsidy) vulnerable to R&D activities being located in Australia or elsewhere rather than in New Zealand. There is evidence that tax incentives can affect the decisions of firms about where to locate it[9].

In a joint Treasury-IRD report (T2007/162) early in 2007 and prior to final decisions on the R&D tax credit announced in Budget 2007 (available at http://www.treasury.govt.nz/publications/informationreleases/budget/2007/btr/index.htm) Treasury supported the introduction of an R&D tax credit as follows:

"The key question is whether the use of tax credits would be more effective than the existing forms of support. Treasury believes that the objectives around economic transformation and the impact of capital mobility (including human capital moving overseas) are a sufficiently high priority for New Zealand at this point in time to justify the consideration of limited moves away from our traditional taxation model.

There is international evidence that suggests tax credits have been more effective than discretionary grants at encouraging business R&D. However, the question is whether the benefits outweigh the costs. Based on Australia's evidence it could be concluded that a well designed and well implemented R&D tax credit would have a positive impact on welfare and growth."

IRD comment

Inland Revenue's advice is that the costs of retaining an R&D tax credit are likely to outweigh the benefits. Their experience with implementing the credit to date has confirmed that the costs of the credit are high. For example, at least one large accounting firm is to be paid 30 percent of any successful R&D claim each year while other firms are charging a wider range of fees. Inland Revenue also notes that considerable private-sector effort is being directed at re-characterising standard operating expenditure as R&D related expenditure, which arguably should not be characterised as R&D, in order to be eligible for the tax concession.

Inland Revenue considers the benefits of reducing tax rates are certain, whereas the benefits of the R&D tax credit are less certain. Lowering taxes and removing the R&D tax credit would better align policy with a broad-base low-rate framework for the tax system.

Treasury is raising a set of options for redesigning the R&D tax credit. There are severe practical difficulties with many of these and they should not be contemplated without a full report to joint ministers.

Other comment

Private sector commentators also have differing views on the policy merits of R&D tax credits. A key difference between supporters and detractors turns on the amount of additional R&D that a tax credit would generate. Until the scheme can run a few years and then be evaluated, the question of how much additional R&D is generated is a judgement call.

[9] See Bloom, N and Griffith, R and Van Reenen, John (2002), Do R&D tax credits work? Evidence from a panel of countries 1979-1997, *Journal of public economics*, 85 (1). pp. 1-31.

OECD recommendations

Each year the OECD Economics Department makes three policy recommendations for each member country that in its view are the priorities to raise that country's economic-growth performance. These recommendations are based on indicators of performance over a large number of policy areas and the importance of performance in these areas for growth outcomes.

[information deleted in order to maintain the current constitutional conventions protecting the confidentiality of advice tendered by ministers and officials]

The OECD undertook a comprehensive review of New Zealand Innovation Policy in 2006/07. This review also recommended a shift towards the use of R&D tax incentives.

On the other hand, in its past Economic Surveys of New Zealand, the OECD has generally praised our tax system for its neutrality i.e. its absence of incentives for particular sectors or activities. In addition, a recent major study of taxation and growth by the OECD Department of Economics and Centre for Tax Policy Administration found that some tax cuts (such as to the corporate rate) were more effective than R&D tax incentives in lifting productivity growth[10].

Overall therefore there is somewhat mixed evidence and a range of advice coming out of the OECD on the merits of supporting R&D through the tax system.

Modifications to the current R&D tax credit that would cost less

There are a number of ways to modify the current R&D tax credit that would reduce its fiscal cost:

- Reduce the value of the tax credit from the current 15% of R&D expenditure to 10%. A less generous scheme would be less effective in incentivising R&D and in retaining/attracting R&D in New Zealand (since it would compare less well with incentive schemes in other countries such as Australia).

- Restrict eligibility of the tax credit to SMEs. The possible arguments to justify this are that large firms are more likely to be effective at stopping the benefits of their R&D spilling over, and they are more able to bear the risks associated with investing in R&D.

- Restrict the scope of the tax credit by ruling out certain types of expenditure e.g. software, or limiting eligible expenditure to a subset such as wages and salaries for those engaged in R&D.

- Base tax credits on firms' incremental R&D spend above some defined baseline rather than on the total volume of R&D spend. While this option targets additional expenditure (which is good), experience from other countries suggests that incremental schemes are complex to administer and can have perverse incentive effects.

- Impose a cap on the total annual R&D expenditure that each firm is eligible to receive credits on e.g. $200K or $1M.

Savings across these alternatives vary. We have developed preliminary ball-park estimates of the fiscal savings that each of them would generate. These are presented in Annex 1.

Of these options, our preferences are reducing the rate to 10% and the incremental option. The 10% option could be straightforwardly implemented in the December tax legislation. Other options

[10] Tax and growth ECO-CPE-WP1(2008)4-ENG

would require more detailed policy work to confirm feasibility and design options and would require longer timeframes to implement.

It is also important to keep in mind that while these alternatives may be less expensive, some suffer disadvantages such as increased complexity, or vulnerability to being gamed by tax planners.

There is good evidence that stability in providing R&D support influences how effective it is. The policy implication of this is that the more radical the change in the regime the more it will increase the perception that this area is subject to policy uncertainty and therefore reduce the effectiveness of any new measures.

Alternatives to an R&D tax credit

The main alternative to a tax credit that would retain its benefits as far as possible would be a **non-discretionary R&D grant scheme**. This would be designed to be "market friendly" by largely eliminating bureaucratic discretion as to which firms receive grants. It would work as follows: providing the firm met certain published conditions, it would qualify.

In Treasury's advice in the lead up to the adoption of the R&D tax credit, we were relatively neutral between the tax credit and a non-discretionary grant scheme. Our thinking was that either can be designed to achieve the more or less the same outcome and features.

However, the fiscal cost of such a grant scheme could be of a similar order of magnitude to the current tax credit scheme. Also, in achieving much the same effect, it would risk being labelled as a costly repackaging exercise.

Other alternatives include discretionary grants, awarding "innovation vouchers" to qualifying firms and supporting small innovative businesses along the lines of the US Small Business Innovation Research programme.

Conclusion

Our best advice is to retain the R&D tax credit based on our judgement that the credit offers a more effective means of incentivising business R&D than discretionary grants because they are more driven by business and reach many more firms. Our reading of the international evidence is that well-designed R&D tax credits can have a positive impact on productivity growth (even allowing for administration and compliance costs and the deadweight cost of subsidising existing expenditure).

To ensure that the Government's tax cut package is fully funded, we suggest that you make some savings by adopting one of two lower-cost versions of the tax credit: cutting the rate to 10% or reforming it to target incremental R&D only. However, savings from these options will be insufficient and we recommend that you find further savings among existing Vote Economic Development (ED) and Vote Research, Science and Technology (RST) grant programs that offer lower value for money than the R&D tax credit. Annex 2 gives more detail about these options for further savings and also overall fiscal numbers for a range of reform packages for tax, KiwiSaver and the R&D tax credit.

ANNEX 1: ESTIMATED FISCAL SAVINGS FROM LOWER-COST VERSIONS OF THE R&D TAX CREDIT

All cost and savings figures in the table are in $m.

Current settings are that the tax credit is 15% of eligible R&D expenditure undertaken in New Zealand by a firm of any size, with a minimum claim of $20,000.

In the savings options:

- The cut off used for firm size is 50 employees.
- Two cases of a cap on R&D expenditure are given: $1m and $0.2m.
- All estimates are provisional and ball park.
- No estimate is given for excluding software since the relevant data were not available.

Years	08/09	09/10	10/11	11/12	12/13
R&D tax credit - current settings	208	250	290	332	373
Potential savings					
10% rate	18	81	97	111	124
15% rate, firms < 50 employees		135	155	175	200
10% rate, firms < 50 employees		170	200	230	255
15% rate on R&D wages & salaries only		120	140	160	180
10% rate on R&D wages and salaries only		165	190	215	245
$1m cap on expenditure		115	135	160	180
$0.2m cap on expenditure		160	190	220	250
Incremental R&D only		38	150	150	150

ANNEX 2: OPTIONS FOR THE R&D TAX CREDIT

We assume that all options must fit within overall fiscal constraints, i.e. be sufficient to fund the Government's proposed tax cuts.

Option 1

Retain the current Government proposal to remove the R&D tax credit and use 2/3 of the fiscal savings to help fund the programme of tax rate changes. The net fiscal impact of this set of proposals is as follows (assuming Kiwisaver assumptions from pre-election announcements):

	2/3 R&D tax credit savings applied						
	Costs ($m)	Fiscal Years					Total for 08/09-11/12	Total for all 5 years
		2008/09	2009/10	2010/11	2011/12	2012/13		
Kiwisaver: National's policy	Cost of tax rate changes	255	1191	1792	2293	2381	5531	7912
	Cancelling legislated tax reductions	0	-134	-733	-1314	-1309	-2181	-3490
	Cancelling R&D tax credit (2/3 savings)	-36	-162	-193	-221	-249	-613	-861
	Kiwisaver changes	-86	-815	-958	-1046	-1084	-2905	-3989
	Net costs	**133**	**80**	**-93**	**-287**	**-260**	**-168**	**-428**

We consider an alternative of removing the 15% R&D tax credit and replacing it with a 10% R&D tax credit. We apply 100% of the resulting savings to fund tax rate changes. The net fiscal impact is as follows:

	10% R&D tax credit option						
	Costs ($m)	Fiscal Years					Total for 08/09-11/12	Total for all 5 years
		2008/09	2009/10	2010/11	2011/12	2012/13		
Kiwisaver: National's policy	Cost of tax rate changes	255	1191	1792	2293	2381	5531	7912
	Cancelling legislated tax reductions	0	-134	-733	-1314	-1309	-2181	-3490
	10% R&D tax credit proposal	-18	-81	-97	-111	-124	-306	-431
	Kiwisaver changes	-86	-815	-958	-1046	-1084	-2905	-3989
	Net costs	**151**	**161**	**4**	**-177**	**-136**	**139**	**3**

Note that:

- the net costs have become larger and have moved from negative to positive over the 4 and 5 year periods (shown in the last two columns). This does not meet the overall fiscal constraint.

- One third of the cost saving from removing the credit was previously set aside for new investment in CRI and university research. In the second table above this is no longer available since the saving in going to a 10% credit is entirely used to fund the tax cuts.

Option 2

This option keeps the 10% R&D tax credit but includes further cost savings from changes to business assistance programmes[1]. We have identified a set of business assistance programmes that are most clearly low value for money in our view. In the table below, we have identified indicative savings that might be possible from these programmes. We have not tested these savings with the Ministry for Economic Development or Ministry of Research, Science and Technology and it is possible that these departments and their Ministers may have different views on the value for money offered by these grant programmes and other expenditure items. It is also possible that some of this expenditure has already been committed through contracts and so our estimates may overstate the potential savings that could be realised.

[1] The Annex contains a table setting out the main categories of business assistance and non-research science programmes from which the suggested cuts have been selected.

Under this option, the net costs of the total package have reduced in each year following 2008/09 and in particular yield savings over the five years 2008/09 to 20012/13. Over four years, these fiscal savings are similar to the savings achieved with option 1. This additional fiscal headroom would give scope, if desired, to fund additional CRI and university research that was to be funded under option 1 using the remaining one-third of the saving from total removal of the R&D tax credit.

If you would like to pursue the option of identifying savings in the Vote Economic Development and Vote Research, Science and Technology portfolios, we recommend you discuss with the respective Vote Ministers in order to establish a process to identify and confirm such savings as part of the 2009 budget process.

Fiscal impact with indicative business assistance changes:

Costs ($m)	Fiscal Years					Total for	Total for
	2008/09	2009/10	2010/11	2011/12	2012/13	08/09-11/12	all 5 years
Cost of tax rate changes	255	1191	1792	2293	2381	5531	7912
Cancelling legislated tax reductions	0	-134	-733	-1314	-1309	-2181	-3490
10% R&D tax credit proposal	-18	-81	-97	-111	-124	-306	-431
Kiwisaver changes	-86	-815	-958	-1046	-1084	-2905	-3989
Net costs (subtotal)	**151**	**161**	**4**	**-177**	**-136**	**139**	**3**
Savings in business assistance:							
[information deleted in order to maintain the current constitutional conventions protecting the confidentiality of advice tendered by ministers and officials]							

Treasury comment on the identified business assistance programmes:

[information deleted in order to maintain the current constitutional conventions protecting the confidentiality of advice tendered by ministers and officials]

Overview of Government Expenditure on Business Assistance in Vote Economic Development and Vote Research, Science and Technology

	Description	Cost	Treasury Comment
MED departmental	Policy advice and implementation of MED-led programmes (eg, administering some regional development grants).	$17m pa	[deleted – confidentiality of advice]
New Zealand Trade and Enterprise (NZTE)	NZTE provides business development services, including managing an offshore trade promotion network. Its functions are allocated as follows: *Generic Training to Firms ($16m pa)* *Customised Support to Firms ($23m)* *Foreign Investment Promotion ($17m pa)* *Regional and Sector Development ($45m pa)* *International Network ($68m)*	$168m pa	[deleted – confidentiality of advice]
New Zealand Venture Investment Fund (NZVIF)	Co-investment programmes to develop the venture capital and seed capital markets.	$2m pa + investments of $200m capital	[deleted – confidentiality of advice]
Economic Development Grants	A range of grant funds to support firms. Major items include: *Export development assistance ($54m pa)* *Large budget film grants ($36m pa)* *Regional and industry development funds ($22m pa)* *Grants to high-growth potential firms ($8m)*	$160m pa	[deleted – confidentiality of advice]
MoRST departmental	Policy advice on research, science and technology.	$14m pa	[deleted – confidentiality of advice]
Technology New Zealand	Matching grants to firms to support hi-technology R&D.	$45m pa	[deleted – confidentiality of advice]
R&D Promotion and Facilitation Fund	Providing services to facilitate links between firms and research providers to enhance the rate of commercialisation of research.	$5m pa	[deleted – confidentiality of advice]
Pre-seed Accelerator Fund	Support for commercialisation of publically-funded research.	$8m pa	[deleted – confidentiality of advice]