

The Treasury

Budget 2014 Information Release

Release Document

July 2014

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In preparing this Information Release, the Treasury has considered the public interest considerations in section 9(1) of the Official Information Act.

Budget 2014: Investing in tertiary education and research to drive growth

Proposal

1. I am seeking your agreement, subject to Budget 2014 decisions, to invest additional funding in tertiary education to strengthen the contribution of higher education and research to the Government's business growth agenda and better support our universities to compete internationally.

Executive summary

2. This Government has had a strong focus on improving the performance and value for money from New Zealand's tertiary education system. In a tight fiscal environment, we have reduced spending on low-value student loans and allowances, and re-invested the savings into higher value tertiary expenditure such as research, science and engineering. We are now seeing promising results with more students in the system studying at higher levels, and the system is delivering more graduates than ever before, without new investment from the centre.
3. Our tertiary sector is, however, facing a number of challenges. Research-led tertiary institutions (particularly universities) are operating in an increasingly competitive international environment. Fast-growing Asian economies are investing heavily in their university sectors. One impact of this on our tertiary system is the recent fall in international rankings for our universities, which are a public measure of the reputation and quality of our universities. Higher expenditure by institutions per equivalent full time student (EFTS) is associated with better results in the performance measures that underlie rankings, e.g. citations per faculty staff member.
4. A high quality and well-regarded tertiary education system is better positioned to grow its export education markets, compete for high-quality researchers and staff, and make linkages with leading overseas research systems. This assists our research institutions to increase research depth, intensity and quality generally.
5. I recommend that we make an additional investment in our research-led tertiary institutions in Budget 2014. This investment will increase funding for our higher education institutions and allow them to invest more per EFTS in education and research, but in a way that encourages providers to focus on areas that will most strongly lift the sector's contribution to our economic goals and better position New Zealand's institutions to take advantage of international linkages.

6. I therefore propose to target funding in the following ways:

Part of system targeted	Rationale	Indicative cost at full capacity
Targeted increases to tuition subsidy rates	<p>To target areas that university data shows is relatively under-funded.</p> <p>Agriculture and science are research-rich fields that are key for New Zealand's growth goals.</p>	\$23.5 million per year
Additional Centres of Research Excellence (CoREs)	<p>To consolidate research capability across the TEIs and other institutions and attract research capability from overseas.</p> <p>CoRES are chosen on basis of excellence and economic growth and ability to contribute to economic and social needs.</p>	\$10 million per year
Establish graduate Information and Communications Technology (ICT) programmes focussed on ICT precincts	To address skills issues in key industry and encourage tertiary providers to link with firms to better match supply of skills with demand	\$10 million per year

7. Although the tertiary system makes no current fiscal pressures on the centre because the funding system is capped, forecast demand for tertiary study remains steady over the next four years, meaning it will also be difficult to gain significant savings from funding to providers. Our ability to make further significant savings in student support (in the context of retaining interest-free student loans) is also now limited without risking access goals for tertiary education. However, I do propose to extend the current freeze on the Consumer Price Index adjustment of the student loan repayment threshold for either:

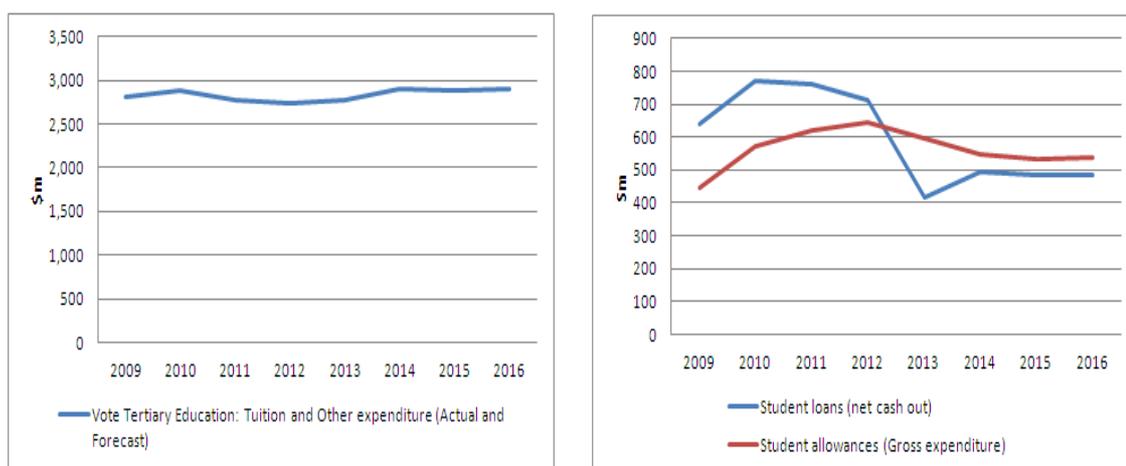
- Two years (until 1 April 2017), with ongoing savings of \$13 million to \$15 million per year and a one-off positive impact of \$51.6 million

[7]

Background

8. We are seeking a stronger contribution from New Zealand's skills development and research, science and innovation systems to our wider economic objectives. This contribution is emphasised in the draft Tertiary Education Strategy (TES) that has recently been through public consultation, and in the Government's Business Growth Agenda via the Skilled and Safe Workplaces and Innovation streams.
9. The draft TES seeks improvements in the delivery of skills for industry, getting at-risk young people into a career, boosting the achievement of Māori and Pasifika, improving adult literacy and numeracy, strengthening research-led institutions and growing international linkages.
10. In addition, the Government's leadership statement for international education seeks to maintain and improve international linkages, increase participation and revenue, increase the transition rate from study to residence for international university students, and increase New Zealanders' skills and knowledge to operate effectively across cultures.
11. We have recently announced the Science and Society Project. The project will support the development of the science, technology, engineering and mathematics (STEM) skills we need in the 21st century. We are also continuing to increase the number of engineering graduates and are undertaking work to address known skill issues in areas such as ICT. Initiatives such as these focus on growing the contribution of the skills and innovation system to economic development.
12. We have improved the value for money of the tertiary education system by reviewing student support settings over the past four years and investing the resulting savings into higher value expenditure. Figure 1 shows the change in Vote Tertiary Education costs and student loans and allowances costs since 2009. Overall, savings initiatives in the tertiary and student support systems have returned over \$1 billion to the Crown since Budget 2009, while quality has improved.

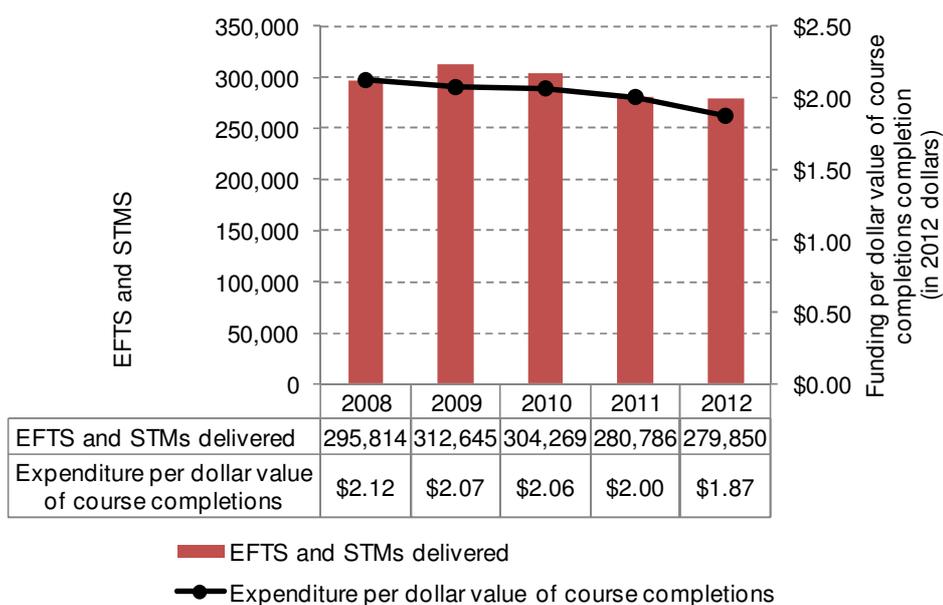
Figure 1: Vote Tertiary Education (tuition and other expenditure), and student loans and allowances changes in expenditure 2009-2016



Note: 2014-2016 are forecasts. Tuition and other expenditure combines the lines in the core Crown expenses tables for tertiary education for tuition and other tertiary funding. The student loans figure is the net cash out, as this is indicative of changes in lending. The net cash out is lending offset by repayments but independent of revaluations of the student loans scheme.

13. We have improved the value of expenditure on vocational and foundation level tertiary education through reviewing the industry training fund, increasing contestability and quality at foundation levels of the system, and introducing the Youth Guarantee, Vocational Pathways and Māori and Pasifika Trades Training.
14. The Ministry of Education has calculated changes in the efficiency of the tertiary education system per government dollar spent (see Figure 2). Overall, the efficiency of the tertiary education system improved in each year (with less Government expenditure required for each dollar worth of course completions).

Figure 2: Government expenditure per dollar value of course completions and the number of delivered EFTS and STMs – in 2012 dollars

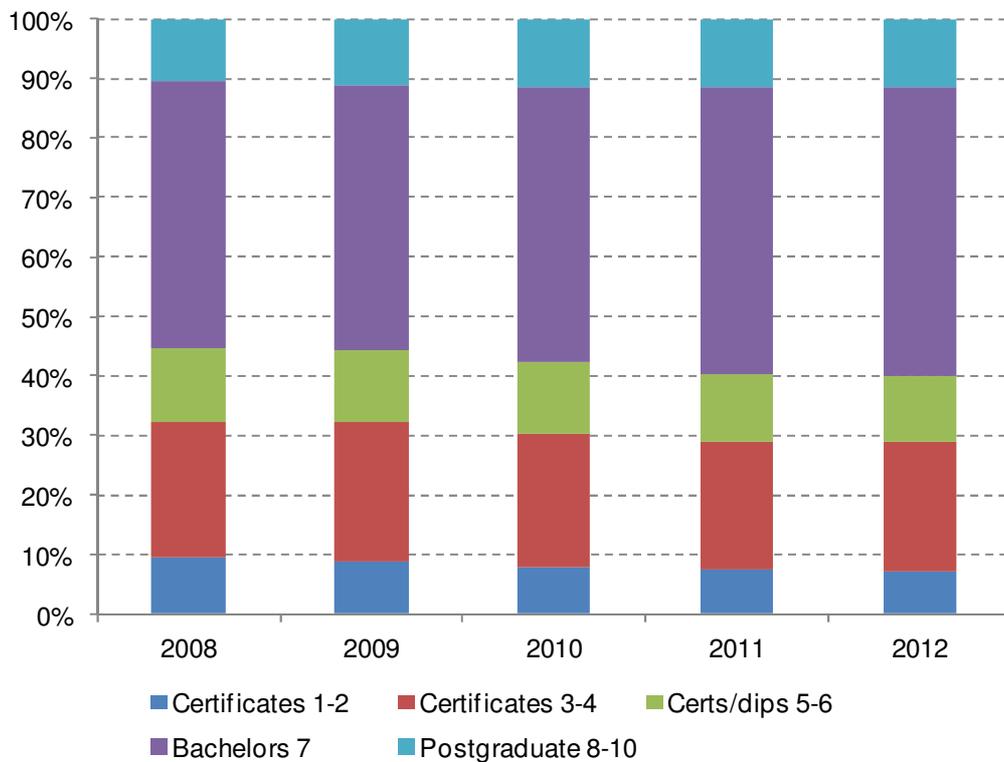


Notes:

1. Government spending is exclusive of GST and in 2012 dollars (the CPI was used to adjust the funding data for inflation).
2. Government funding includes: SAC, Industry Training Fund, Modern Apprenticeships, Modern Apprenticeships brokerage fund, student allowances, and student loans net cash out (new lending – repayments).

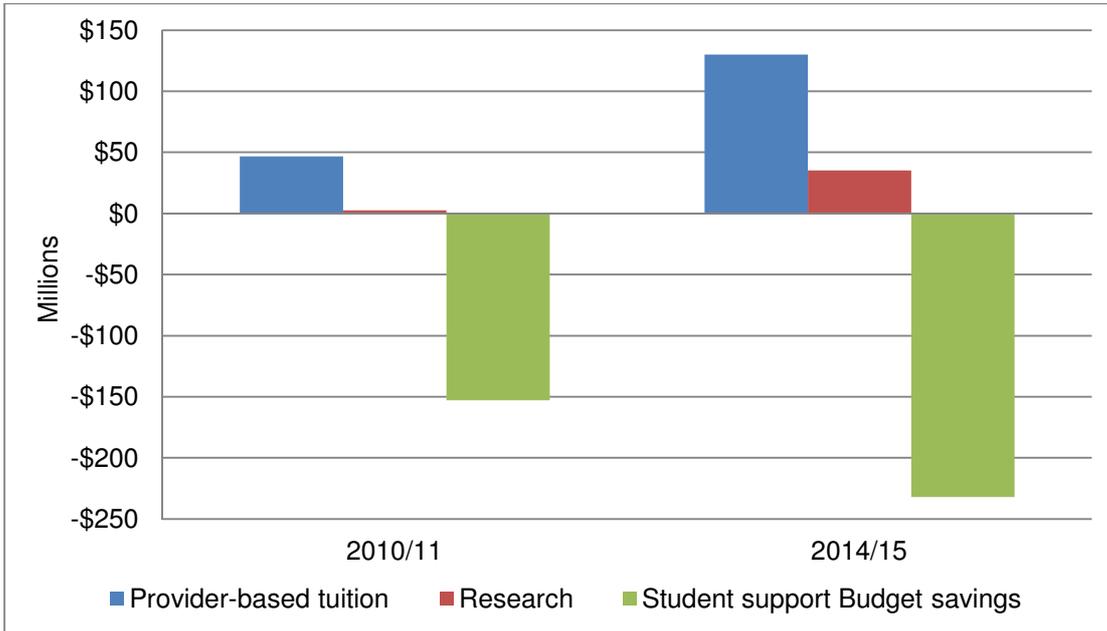
15. Government funding of universities has increased by 17% from 2008 to 2012, and the efficiency of the sector has improved. The number of university places at degree level and above has increased since 2008, and funding for economically important study, such as science and engineering, has been increased. Across the sector there has been a shift from lower- to higher-level qualifications. Figure 3 shows the distribution of delivered SAC EFTS by NZQF level. The share of bachelors or higher delivered EFTS has increased from 55% in 2008 to 60% in 2012.

Figure 3: Distribution of student achievement component delivered EFTS by NZQF qualification level



16. A portion of the student loans and allowances savings made in each year was reinvested in additional funding for tertiary providers and research. Funding for providers and research has been steadily increased over the past four Budgets. The combined increases in funding are slightly lower than savings generated from the student support system. This approach has shifted the balance between private and public spending on tertiary education. In 2004, Government funded 74% of costs of tuition and this has reduced to a projected 71% in 2013.
17. In Budget 2012, we increased funding rates for science by 2.0% and engineering by 8.8%. This was followed by a further 2.0% increase in Budget 2013. We have also significantly increased investment in the major tertiary research funds, the PBRF and Centres of Research Excellence (CoREs).
18. Figure 4 below shows the movement of funding between student support system and tertiary providers as a result of Budget and policy decisions since 2009/10.

Figure 4: Actual and forecast changes in funding compared to 2009/10 for tertiary providers, tertiary education research, and student support in 2010/11 and 2014/15



Note: Provider-based tuition and research in 2010/11 show funding changes in these two parts of the overall tertiary funding system compared to 2009/10. Provider-based tuition and research in 2014/15 shows actual and forecast changes compared to 2009/10. Student support savings presented add savings agreed by Cabinet at Budgets 2010-2013.

19. These increases in funding will support high-quality research and innovation in the sector. Universities also benefit from other Government contestable funding for research, including through Callaghan Innovation, the National Science Challenges, the Marsden Fund and the Primary Growth Partnerships, which are also open to Crown Research Institutes, companies, consortia and other research organisations.

We perform well ... but we need to do more...

20. The New Zealand tertiary education and research system is therefore performing well. However, greater economic growth depends on improving the contribution of tertiary education and research to the skill and knowledge level of New Zealand's workforce and companies. Key contributions include:

- foundation education provides basic skills that can improve productivity in workplaces and provide the basis for higher-level study where students start to make gains in terms of lifetime outcomes
- vocational and higher education provide key skills directly to the labour market and/or the workplace via providers or through education that occurs in workplaces such as apprenticeships
- tertiary education supports innovation in firms by connecting skilled graduates, research and expertise with businesses and communities.

21. To achieve the Government's goals, the system needs to be:

- upskilling those already in the workforce, including those with literacy and numeracy needs

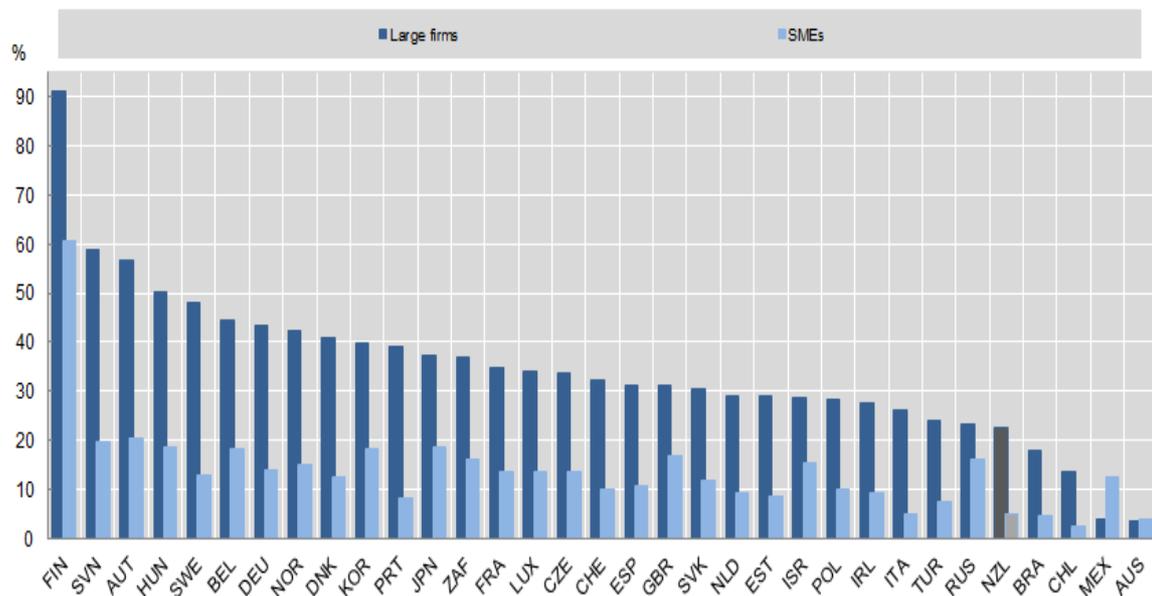
- producing high-quality qualifications, so that graduates will deliver skills to industry
- investing in the right areas that will deliver value to New Zealand, such as STEM subjects and areas of highest importance to New Zealand industry and businesses
- increasing the contribution of research institutions to a growing research base, improving the quality and quantity of research outputs, and focussing on the depth and concentration of research investment in areas of strength and alignment with investment elsewhere in the innovation system
- supporting innovation by connecting research and expertise within the system with businesses and communities
- producing skills and resources to make research and development investment more attractive to firms.

22. We have put improvements in place for foundation education within current funding baselines. These include changes to foundation education by providing fees-free places at New Zealand Qualifications Framework (NZQF) levels 1 and 2 and through the Youth Guarantee for those who have not yet achieved Level 2 qualifications. We have also removed blockages at the welfare / tertiary education interface so the system better helps people into education and then into sustainable employment. However, there remain over 300,000 people in the workforce without formal qualifications. We need to consolidate the gains we have made, and strengthen the focus on foundation education in the workforce as the economy picks up. To do this, we are increasing the amount of foundation education that is fees free to 60% through a further competitive allocation process in 2014.

23. During our consultation on the TES, we were told by employers and industries that there is still an imperfect match between the skills being produced and the skills and attributes required by businesses. The Government has introduced a number of initiatives that will improve matching of skills to the needs of businesses, including occupational outlook reporting, information on the employment outcomes of tertiary education, the Youth Guarantee, Vocational Pathways and the reforms of apprenticeships training which includes the introduction of New Zealand Apprenticeships. There was acknowledgement from feedback that creating such a match was challenging and that the responsibility lies on both sides. We need to improve the efficiency of the education and training system, and its connection with industry, so that we produce the right skills, allowing people to move more effectively into the workplace.

24. At the higher levels of the system, the Ministry of Business, Innovation and Employment (MBIE) invest in a range of funds for firms seeking to improve their business capability and capacity for innovation (e.g. Callaghan Innovation, Regional Business Partners and science investments). We need to seek better alignment of these to leverage greater returns on the Government's investments. The research system has funds that promote research excellence and quality (e.g. the PBRF and science and innovation funding) and collaboration (e.g. CoREs), but there remains a low level of collaboration between firms and research institutions (see Figure 5).

Figure 5: Firms collaborating on innovation with higher education or public research institutions, by firm size, 2008-10



25. We created MBIE to bring together the key areas of economic development, the labour market and research and development and make connections to the skills and knowledge development systems. There are opportunities to leverage investments across the Tertiary Education, Skills and Employment and Science and Innovation portfolios to create stronger links between research organisations and firms, to deliver greater economic outcomes.

Investing in higher education/ research-led institutions

26. A further investment in tertiary education of approximately \$43 million a year, (to be partially offset by savings) would improve the competitiveness of the New Zealand system, of which the bulk would be directed into higher education and research. In making such an additional investment, I will consider the balance of mechanisms that would drive greater competitiveness from the New Zealand system.

27. The New Zealand university system is one of the most efficient in the world. Relative to national income or population, we rate very highly in the major international university ranking systems. New Zealand's entire university system is ranked in the top 500 in the influential QS ranking system, which is highly unusual for any country. We also rank highly on key OECD measures, such as the proportion of the population with a tertiary education qualification. However, our universities are operating in an increasingly competitive international environment, as the balance of economic power shifts from Europe and North America to the fast-growing Asian economies who are investing heavily in their university sectors.

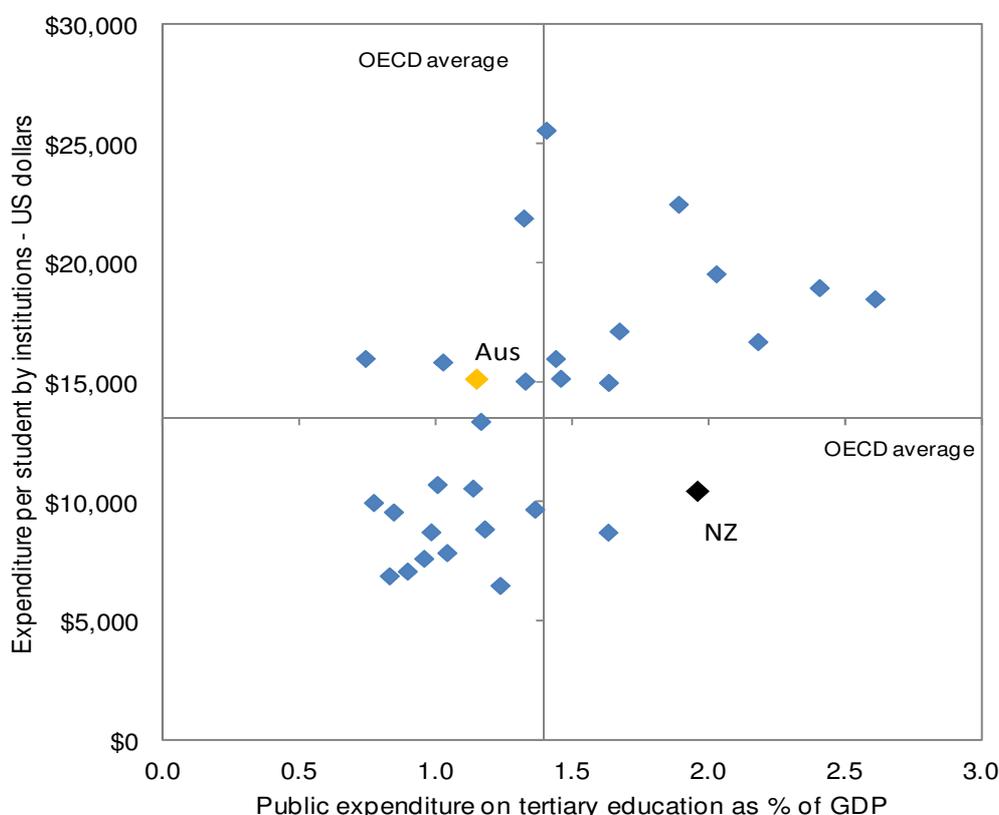
28. The problem of the relative international competitiveness of New Zealand universities is evidenced by recent changes in international university rankings. International university rankings are a public measure of the reputation and quality of universities. New Zealand universities are generally improving their scores in the research citation components of the main rankings. However, the improvement in this area has not been enough to keep up with improvements by universities in other countries, or to

address the decline in other areas such as in academic reputation and international outlook.

29. Many New Zealand universities therefore dropped in rank across a number of the rankings. Improving rankings is not an important goal in itself. However, high quality universities are more likely to be able to compete for high-quality researchers, and make linkages with leading overseas research systems, which assists our institutions to increase research depth, intensity and quality generally. For example, research by the Higher Education Funding Council of England (HEFCE) from 2008 suggests that international-quality researchers are unlikely to come to low-ranked institutions, although this research is sceptical about the value of rankings as measures of quality overall. But New Zealand can leverage off improved quality and depth of our higher education system as we seek to improve business performance and innovation.
30. In addition, higher levels of international students provide income to New Zealand providers and the New Zealand economy and linkages with students' countries of origin. Perceptions about the quality of the New Zealand system are important for our ability to compete for these students.
31. Beyond the fees paid by international and domestic students, we have relatively low levels of private investment in higher education institutions compared with other countries. This is partly due to our size and geographic location, which affects the number and character of large private enterprises in New Zealand. The size of the larger economies means that their top universities will receive a large concentration of income from private sector research contracts, as well as endowments. This can be seen from the relatively high levels of government expenditure against OECD averages in New Zealand, but relatively low levels of expenditure by institutions per equivalent full-time students (EFTS) – see Figure 7. As a proportion of gross domestic product (GDP), New Zealand has one of the lowest levels of business investment in research and development in the OECD¹.

¹ Statistics New Zealand (2013): Research and Development Survey 2012

Figure 7: Public expenditure on tertiary education as a percentage of GDP and expenditure per student by institutions 2010



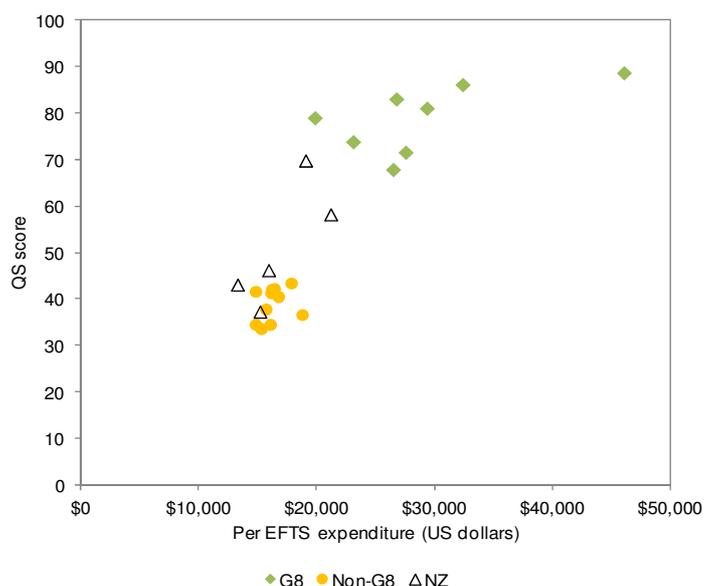
Note that overall government expenditure includes expenditure on students via the student support system. When this is removed, government expenditure per student to institutions moves to around the OECD average, but is still above what is spent in Australia. The countries that sit below New Zealand in terms of public expenditure on tertiary education as a proportion of GDP and with a lower expenditure by institution per student are Korea; Slovak Republic; Italy; Chile; Czech Republic; Hungary; Mexico; Poland; Estonia; Slovenia and Iceland.

How can we do more?

32. Our relatively high level of public investment goes some way to compensating for the comparatively low private investment in research. As a result, it is important that the investment we make incentivises technology and research transfer so that the knowledge and innovations produced by research institutions are utilised by firms. Callaghan Innovation, for example, was introduced to provide a way to make the connection between the research system and firms.
33. At the same time, we need the skills produced at high levels to meet the requirements of our firms. To do more, the system needs researchers with high-level skills and to produce research and research-led teaching that is relevant to firms alongside the more general research that underpins our long term human capital development. However, firms in turn need to actively participate and invest more in skills, knowledge and technology transfer.
34. Achieving higher value from the research-led tertiary system is likely to involve increasing the depth and concentration of research resources in New Zealand, particularly in already high-performing areas. It is also likely to involve improving the exchange between the system and industries and businesses to bring innovations more effectively to market.

35. Boosting the average funding per EFTS at higher education institutions will provide more resources to institutions to invest in these desirable activities. Analysis shows an association between the level of institutional investment per EFTS and performance of institutions on the indicators that underpin reputation (and feed into the rankings), particularly citations per faculty member. The higher average funding per EFTS Australian universities invest, particularly their group of eight top universities, correlates to higher scores in the QS ranking system (see Figure 8 below). Institutions are able to hire more staff, lowering student-staff ratios and increasing research activity.

Figure 8: EFTS expenditure vs QS overall score for Australasian universities 2013



Note the Australian university group of 8 comprises the eight most research-intensive universities

36. However, boosting funding per EFTS and, through it, research intensity in higher education institutions, in itself, does not increase the exchange between research institutions and the wider economy that we need for innovation to lead to higher levels of growth. I am addressing how to improve the contribution of research to growth as part of my Vote Science and Innovation package.

37. In making further investments in Vote tertiary Education, it will be important to do so in a way that improves the competitiveness of the New Zealand system and which will contribute to economic growth. The discussion below sets out the choices for how to approach additional investment.

38. The main ways we have to boost funding to the sector are through:

- tuition subsidy changes, either through funding rate increases or increased volume, either broadly or tightly targeted
- purchasing specific inputs and outputs such as a graduate programme for information and communications technology delivered in an innovation precinct or through an innovations fund
- increases in funding for research, either across the board (e.g. through a broad mechanism such as the PBRF) or more targeted (e.g. via CoREs, science and innovation funding).

Boosting funding for teaching and learning

39. One approach is an across-the-board increase to funding rates at degree level and above. Increasing funding at degree-level and above would focus the investment better on higher-end skills and on the institutions facing the greatest pressure internationally. A broad funding rate increase provides more funding into the system and therefore a greater increase in funding per EFTS, but does not directly target improved research intensity, international linkages or better linkages with key industries. Doing so, therefore, is unlikely to change the incentives on providers to contribute more to economic growth. An increase of 2% would require approximately \$27 million per year. Therefore, I do not propose to make an across the board increase in Budget 2014.
40. Instead, I propose to target funding increases for teaching and learning more narrowly to areas of high priority for economic growth, and where evidence indicates institutions are relatively under-funded².
41. Analysis about the average cost and tuition funding relativities of different fields of study at universities shows that science and agriculture disciplines are relatively under-funded at degree level and above as follows:
- Natural and physical sciences had an average cost per EFTS of 2.1 times that of management and commerce while income per EFTS was 1.5 times that of management and commerce.
 - Agriculture, environmental and related studies had an average operating cost per EFTS of 2.5, and average income per EFTS of 1.6 times that of management and commerce.
42. Smaller disciplines that are relatively under-funded include optometry, pharmacy and physiotherapy.
43. To address this, I propose to increase the tertiary education tuition subsidy rates that are most closely aligned with these relatively under-funded fields of study. In doing so, I propose to reduce the level of relative under funding in key disciplines. Fully eliminating such differences would require significantly more funding than the approach I am proposing.
44. This approach will more effectively target funding to higher education and to research-rich disciplines, which in turn will improve quality measures such as citations per faculty member. It will also make a much more significant increase to funding in particular areas for a similar total level of investment to an across-the-board increase. For example, for approximately \$23.5 million per annum funding rates in these fields of study could be increased by between 7% and 9% (and higher for small, specialised areas such as optometry).
45. Alongside this, as part of the normal investment plan processes, the Tertiary Education Commission (TEC), in collaboration with MBIE, will continue to identify

² To identify relative SAC under- or over-funding, the analysis compared New Zealand Benchmarking Tool (NZBT) results across ten New Zealand Standard Classification of Education (NZSCED) broad fields of study, relative to management and commerce. Management and commerce was the field of study with the lowest average direct operating costs. NZSCED fields of studies and SAC funding classifications do not completely align. For example, some NZSCED fields of study are represented across multiple SAC funding classifications. However, the NZBT results give an indication of SAC over- and under-funding. It is possible to address these imbalances by making adjustments to the funding categories or classifications from which significant proportions of EFTS are funded for a particular NZSCED field of study.

areas of skill mismatches, and reprioritise funding towards specific areas if required to address mismatches.

46. Previous targeted funding increases have included increases for priority engineering provision (at Budget 2012 and 2013), which was designed to incentivise an increase in the number of graduate engineers by 2017. To do this, we combined funding rate increases with additional EFTS, funded through reprioritising unutilised funding in Vote Tertiary Education. This has resulted in steady growth in engineering enrolments by suitably prepared students, particularly at degree level in universities.
47. The current proposals are not designed to result in significant increases in student enrolments in science and agriculture, but rather to address relative under funding and encourage providers to invest more in research in these important areas. The recent report from QS on international rankings for different fields of study shows that New Zealand is relatively strong in social sciences but less strong in STEM subjects, and it is important that universities improve their quality in STEM fields.

Increases in research funding

48. The broadest approach to increasing research funding would be to increase the total pool of funding allocated under the PBRF. This would continue to incentivise high research performance generally and effectively increase funding per EFTS, particularly for universities.
49. We have agreed, subject to consultation, to change the relative weighting of the PBRF components to place greater emphasis on the external research income (ERI) component as part of the PBRF review [SOC Min (14) 2/3 refers]. This will better incentivise relevant research and place additional incentives on providers to generate funding from non-government sources, without requiring additional funding. The Government is currently consulting the sector over the proposed change to relative weightings.
50. In Budget 2012, we invested an additional \$100 million spread over four years to increase the PBRF from \$250 million per annum to \$300 million per annum in 2016. Given this investment, and the change to the relative weightings within the PBRF pool, I do not think an additional investment in the PBRF is a priority at this time.
51. Targeting funding towards research would also incentivise more institutional investment in research activities. I therefore propose we direct additional research funding more tightly via CoREs, and through Vote Science and Innovation contestable funding (to be considered as part of the Vote Science and Innovation package). This will:
 - increase resources and encourage specialisation in the areas of greatest industry investment, to incentivise higher rates of investment
 - encourage connectivity and partnership between the research system and firms. In the shorter term, I would expect to see both greater co-investment in research and more sharing of staff or staff transfers. In the longer term, I would also expect to see innovative developments such as research-degrees earned within industry settings, or increased internships
 - drive the recruitment of more highly-performing international researchers, in order to create visibility for the New Zealand system and thereby positively affect its international reputation to capture the positive spinoffs of a good reputation.

52. CoREs provide research intensity and critical mass by consolidating high-performing researchers across different institutions. They have been successful in generating excellent research and also in transferring the knowledge they have created, and they have proven to be attractive to international quality researchers. The TEC is currently operating a funding round for CoREs, and it appears likely that there will be high quality proposals. Applicant CoREs that are assessed as being sufficiently excellent in the first stage of assessments, are then also considered for funding in light of criteria that strongly link to economic growth and societal needs, including:

- the expected impact on the development of New Zealand's future workforce
- the contribution to the development of a culture of innovation and wealth creation in New Zealand
- the potential for the research to have public good and/or economic impact in New Zealand
- commitment to engagement and exchange with potential stakeholders/ end-users
- strength of intention to drive the connections that lead to research translation.

53. On the basis of an average cost of \$5 million per CoRE, the proposed funding would be sufficient to increase the number of CoREs by at least two, depending on the ongoing funding required for existing CoREs following the current selection round. An increase to one or more of the contestable science or innovation funds through Vote Science and Innovation (e.g. Marsden Fund, Callaghan Innovation, Primary Growth Partnerships, contestable science investment rounds or National Science Challenges) would allow us to target research activity to particular areas or, for particular outcomes, link any increase to national priorities. It can also attract international researchers and increase funding to the tertiary institutions which are successful in the contestable process. Universities currently win just over a quarter of the funding from MBIE contestable funding pools.

54. I have considered establishing a new Vote Tertiary Education funding stream to achieve the outcomes of increased research intensity and connectivity and to attract more private funding for research. I will propose in the related paper on the Vote Science and Innovation Budget 2014 package an increase in science contestable funding for universities to invest in. I propose that Vote Tertiary Education initiatives focus on existing funding streams that improve the international competitiveness of higher education institutions and increase the intensity of research.

A more direct approach to purchase

55. In addition to the need to boost quality and international competitiveness, higher education contributes to the Business Growth Agenda by meeting the skill needs of key industries. To do so, it is an option to purchase teaching and research that directly address specific skills issues, for example, those facing ICT firms. Firms report difficulties in finding the ICT graduates with the skills they need and this is hindering firm growth, productivity and the ability to innovate. Firms are driving innovation and technological change in information technology sectors and it is therefore important that ICT students and academics are closely connected with these firms to ensure:

- graduates have work-relevant, enterprise and business-focussed skills

- there are more direct pathways from education into employment, lowering search costs for graduates and employers
- education and research is industry-focused.

56. We propose to set up tertiary education programmes (for example at post-graduate level) with a specific industry focus to address ICT skills issues and encourage better human capital and knowledge flows between the tertiary sector and industry. These programmes would be delivered by tertiary institutions in partnership with innovative firms including in the ICT innovation precincts developing around the country and/or purchased from wider Student Achievement Component funded providers that meet other specific skills issues identified by the ICT industry.

57. Working closely in partnership with the ICT industry is a significant behaviour change for providers. As a result, I propose to fund new tertiary places, strengthening the incentives on providers to meet the requirements of the funding. Addressing these skill issues is likely to cost \$10 million per annum.

Options for savings

58. I have examined whether there is room within the current tertiary education funding baselines to further reprioritise funding to meet the needs of the investments outlined above. Forecasts suggest demand for tertiary places over the next four years will be lower than it has been in the past. I reported to the Cabinet State Sector Reform and Expenditure Control Committee in September 2012 that forecast demand was easing off, and there was some room below the 5% level of tolerance to achieve additional enrolments if required to meet the Better Public Services targets. The latest forecast is for a reduction that would see enrolments at or very slightly below the funded baseline.

59. While demographic factors and expected economic recovery take pressure off forecast demand, the forecast also takes account of the improvements in school achievement, as reflected in increasing achievement of NCEA level 2, and the improved performance of the tertiary education system. This means that more students are studying at higher levels and for longer. The result is that demand is forecast to be steady, but also to track very closely to the level of funding available.

60. Policy and funding changes from the industry training review will significantly reduce underspends from the industry training fund. Demand is expected to increase in support of the Christchurch rebuild, which is reflected in the TEC's funding allocations for 2014. As a result, there is little scope to generate savings from tuition subsidy funding to tertiary providers or the industry training fund.

61. Over the last four Budgets, we have made significant improvements to the student support system so that we can sustain the level of financial support over the long term, particularly in the context of our commitment to interest-free student loans.

62. The ability to make further changes to student support in order to achieve savings is now limited because:

- additional targeting of student support expenditure risks harming access to tertiary education, particularly for priority groups
- recent changes need time to embed (most will not be fully implemented until 2015) so that we can better identify gaps and improve the targeting of future initiatives.

63. I am considering some further student loan initiatives, which will generate ongoing savings, for example:

[7]

- freeze the student loan repayment threshold for an extra 2 [7] years (i.e. at \$19,084 until 1 April 2017 or [7]), with four year savings of either \$54.9 million or [7] (and a one-off favourable adjustment in value of \$51.6 million or [7])

[7]

Suspending CPI adjustments to the student loan repayment threshold

65. In 2011, Cabinet agreed that the student loan repayment threshold will be held until 1 April 2015. As part of Budget 2014, I am proposing that CPI adjustments to the student loan repayment threshold for New Zealand-based borrowers be suspended for either two [7] more years (i.e. until 1 April 2017 or [7]).

66. Suspending the repayment threshold would increase total repayments, thereby reducing repayment times for borrowers and future lending costs for the Crown. Broadening the base of those required to make repayments may also help change incentives around borrowing decisions.

67. The key trade-off in suspending the CPI adjustment to the student loan repayment threshold is between the potential savings coming from a large number of borrowers with an existing obligation, and the impact of the suspension on low-income earners and a small number of New Zealand superannuitants, veteran pensioners and student allowances recipients. Both the repayment revenue and the potential for hardship would be more marked the longer the repayment threshold is suspended.

68. Income-tested beneficiaries are not currently required to make repayments from their benefits so they would not be affected by this policy change. It may be viewed as inequitable that beneficiaries do not have repayments deducted from their benefit when low income earners are required to make repayments. This may be partly mitigated by Inland Revenue's hardship provisions that ensure that very low income earners not suffer serious hardship as a result of a student loan repayment obligation.

69. Table A sets out the financial impact of the options I am proposing:

Table A: Financial impact of suspending CPI adjustments to the repayment threshold

Operating impact (\$m)	2013/14	2014/15	2015/16	2016/17	2017/18 & out-years	Reduces cost of future lending (cents per \$)
1. Suspending the repayment threshold until 1 April 2017	(51.6)	(13.0)	(14.9)	(14.3)	(12.7)	0.66
[7]						

(Source: Ministry of Education)

70. Table B shows that the impact of these options on borrowers is small on a weekly basis.

Table B: Increase in repayments under both options for those earning over \$19,084

	Option 1 Suspend repayment threshold until 1 April 2017		[7]
\$	p.a.	Weekly	
2015/16	43.68	0.84	
2016/17	106.08	2.04	
2017/18	112.32	2.16	

(Source: Ministry of Education)

71. The numbers of borrowers who will be affected by these options are as follows:

Table C: Numbers affected by the repayment threshold options

Options	Total borrowers affected³	Borrowers that only have a repayment obligation as a result of suspending the repayment threshold	Reduces repayment times for future lending by:
1. Suspending the repayment threshold until 1 April 2017	432,800	12,602	11 weeks
[7]			

(Source: Inland Revenue)

72. It is difficult to determine the characteristics of low income borrowers who will be affected by suspending CPI adjustments to the threshold. However, as a proxy, officials have looked at the population of New Zealand-based borrowers who are not students and who have incomes between \$15,000 and \$25,000. This data indicates that those affected are more likely to be women, Māori, and beneficiaries (many of whom will not be affected if their benefit is the sole source of their income).

73. Another group of low income earners who will be affected is those receiving New Zealand Superannuation (NZS)/Veterans Pension (VP) and student allowances payments that exceed the repayment threshold. The Ministry of Social Development makes automatic student loan deductions in these cases. These borrowers will see a small increase in their weekly repayment obligations if no CPI adjustments are made to the repayment threshold (see Table D).

³ These estimates were forecast assuming: all monthly income is from one single 4 weekly pay period, there is no change to wages, the population of borrowers stays the same and all employers are fully compliant.

Table D: Forecast increases in repayment obligations for student allowance and NZS/VP rates if no CPI adjustments are made to the repayment threshold

Payment rate	Current weekly repayment obligation	2015/16	2016/17	2017/18
Student allowances (student with a dependent partner)	\$3.20	\$4.56	\$5.79	\$6.90
NZS/VP (single, living alone)	\$5.19	\$7.37	\$8.65	\$10.18

(Source: Ministry of Education)

74. Table D shows that those receiving NZS/VP rates will be more affected than student allowances recipients because their payment rates are indexed to the average wage. However, the Government gets very little return from people who have not fully repaid their student loan by the time they retire. Therefore suspending the repayment threshold for two [7] more years will help the Government reduce some of this high cost lending.
75. The impact on low income earners may be reduced in particular cases, because the Student Loan Scheme Act 2011 contains hardship provisions to provide relief to borrowers whose repayment obligations are causing them serious hardship. If a repayment obligation will cause serious hardship, borrowers may apply to Inland Revenue to have their repayment deductions lowered for the upcoming or preceding tax year. The Commissioner may also refund repayments made in the previous tax year.

Overseas-Based Borrower Collection Initiative

76. A key priority in the Student Loan Scheme is to ensure that the momentum of the Overseas-Based Borrower Collection Initiative (OBBCI) is maintained and that Inland Revenue has the room to focus on implementing and monitoring these measures. In February 2014, \$100 million is likely to have been collected through the OBBCI. Some of the above measures are currently before the House in the Student Loan Scheme Amendment Bill (No 3).

Consultation

77. The Treasury, the Ministry of Business, Innovation and Employment, the Tertiary Education Commission and the Department of Prime Minister and Cabinet were consulted. The Ministry of Social Development and Inland Revenue were consulted on text relating to potential student support changes.

Treasury comment

78. Treasury agrees that further improvements in the tertiary sector can be made to lift performance of providers and improve the quality of research conducted by the tertiary education system.
79. Our first best advice is not to increase investment in tertiary education as part of Budget 2014. Financial and non-financial performance forecasts of the sector indicate no funding pressure for tertiary education institutions.
80. Similarly, there are no immediate quality concerns or cost pressures relating to research produced by the tertiary system. New Zealand universities have fallen in

international rankings, but the rankings are not necessarily a good indicator of the quality of research and they do not necessarily align with the Government's strategic objectives for our tertiary education system. For example, analysis of the international rankings has shown that there is little association between per EFTS expenditure and universities' ability to attract international students and staff.

81. In our view, the value for money from investing in the following initiatives has not been clearly established:

SAC funding increase for Agriculture, Science and selected Health Sciences

82. Investment in Science has been increased as part of Budgets 2012 and 2013. The Ministry of Education has highlighted that there is no current labour market shortage for people with science degrees. Also, evidence of skill shortages in the areas of Agriculture and Health Sciences has not been provided. Therefore, we do not see the need for additional investment in these areas.

Centre(s) of Research Excellence

83. Cabinet increased funding for CoREs as part of Budget 2013 which allows the TEC to fund seven existing and one additional CoRE, subject to the quality of applications in the current selection round. Any additional CoRE would potentially be of lower quality in regard to research excellence and linkages to Government priorities, and therefore provide lower value for money.

ICT graduate programme in an innovation precinct

84. In our view, there are more cost effective ways for businesses to access ICT skills that do not necessarily require a precinct, e.g. internships and increased cooperation between universities and businesses. We suggest that Ministers direct the Tertiary Education Commission to get the tertiary education sector to address the concerns raised by industry around skills development in the next investment round.

85. If Ministers wish to increase investment in Vote Tertiary Education to improve the research capability and provide more funding to research intensive institutions, we recommend considering increasing the amount in the Performance-Based Research Fund (PBRF).

86. Alternatively, we recommend that Ministers consider establishing a separate research fund which directly incentivises the transfer of skills and knowledge, and commercialisation of research. This would address the relatively low levels of collaboration between public research institutions and firms, and potentially increase the leverage of public investment in research activities.

Financial implications

87. This paper proposes that Cabinet consider additional investment in tertiary education in Budget 2014 of approximately \$43 million per year (to be partially offset by savings).

Legislative implications

88. None

Human rights implications

89. None.

Gender implications

90. None

Disability perspective

91. None.

Publicity

92. Final decisions taken as part of Budget 2014 will be publicised through normal Budget announcement processes.

Recommendations

93. The Minister for Tertiary Education, Skills and Employment recommends that the Committee:

Background

1. **note** that we are seeking a greater contribution from the higher education and research system to New Zealand's economic growth agenda
2. **note** that we have improved the value for money of the tertiary education system by reviewing student support settings over the past four years and investing the resulting savings into higher value expenditure
3. **note** that more students are now in the tertiary education system, studying at higher levels, and that the system is delivering more graduates than ever before, without any new investment from the centre
4. **note** that the tertiary education system has returned around \$1 billion to the Crown over the last three years

Savings options

5. **note** that the ability to make further significant savings in student support are now limited without risking access goals for tertiary education in the context of retaining interest-free student loans
6. **note** that extending the period for which the student loans repayment threshold is suspended would increase total repayments made, thereby reducing repayment times for borrowers and future lending costs for the Crown
7. **agree**, subject to final decisions, to suspend CPI adjustments to student loan repayment threshold by:

EITHER

- 7.1. two years (until 1 April 2017), with ongoing savings of \$13 million to \$15 million per year and a one-off positive impact of \$51.6 million

[7]

[7]

Higher education

9. **note** that our universities are operating in an increasingly competitive international environment as the balance of economic power shifts from Europe

and North America to the fast-growing Asian economies who are investing heavily in their university sectors and that this is reflected by recent falls by New Zealand universities in international rankings

10. **note** that there remains a low level of collaboration between firms and research institutions and that New Zealand has one of the lowest levels of business investment in research and development in the OECD
11. **note** that Treasury does not support an increase in investment in tertiary as part of Budget 2014 because there are no immediate funding pressures and evidence of quality concerns
12. **agree**, subject to final decisions at Budget 2014, to increase investment in higher education, particularly to strengthen research-led institutions, in order to boost its contribution to our wider growth agenda, via:
 - 12.1. increasing funding rates for fields of study that are relatively under-funded in the tertiary education system, such as agriculture and science, at an indicative cost of \$23.5 million per year
 - 12.2. purchasing additional Centres of Research Excellence (CoREs), at an indicative cost of \$10 million per year
 - 12.3. funding graduate programmes to meet information and communications technology industry needs at an indicative cost of \$10 million per year

Next step

13. **note** that I will develop further details of how to most effectively invest for the outcomes proposed in this paper as I develop the tertiary education Budget 2014 package.

Hon Steven Joyce
Minister for Tertiary Education, Skills and Employment

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Appendix one: Initial analysis of investment options

Initiative	Advantages	Disadvantages
Boosting funding for teaching and learning in research-based institutions		
<p>Targeted funding rate increase to priority areas that are relatively under-funded, e.g. science and agriculture</p> <p>Cost: 7%-9% increase (depending on the field of study) would cost \$23.5 million per annum</p>	<ul style="list-style-type: none"> • Analysis of university data shows science and agriculture at degree-level as the areas with significant under-funding. Some particular fields of health sciences are also relatively under-funded • A funding rate rise would better meet costs of such capital-intensive provision, increasing quality, and increasing incentives for future growth in provision • Consistent with other Government initiatives to boost sciences i.e. National Science Challenges and the Science and Society Project • Most of the funding would go to universities, where the volume of science provision is relatively even spread • Science and agriculture are research-rich disciplines so improvements in citations and academic reputation for New Zealand institutions 	<ul style="list-style-type: none"> • Non-university degree providers would receive very little additional revenue per student • No current labour market shortage for people with science degrees • Some impact on improvements to research, but not as direct, or as significant as the options below
Increasing research funding		
<p>Establishing one or more new Centre(s) of Research Excellence</p> <p>Cost: \$5 million per annum per new CoRE</p>	<ul style="list-style-type: none"> • Consolidates research capability across the TEIs and other institutions involved in the CoRE • Attracts high performing researchers to New Zealand • Could be linked to specific development or economic goals • Can build on current funding round for CoREs, where the number of proposals is significantly higher than the ability to fund them – so faster to implement than a new funding pool • Lower cost means could be combined with a tuition subsidy funding increase 	<ul style="list-style-type: none"> • Funding increase limited to fewer institutions • Less direct impact on teaching and learning and general research capacity in universities, therefore less direct impact on factors underlying rankings
Direct purchase options in higher-education		
<p>Graduate programme to meet industry needs (where there have been identified skills issues for the industry), e.g. in ICT precincts</p> <p>Cost: \$10 million to make impact</p>	<ul style="list-style-type: none"> • ICT a key area for economic growth • Direct purchase to address a particular area of concern e.g. ICT graduates lacking non-technical skills that foster innovation • Strengthened links between tertiary providers and employers leading to an increase in relevance and responsiveness • Graduates have work-relevant experience • Promotes industry-focussed education and research 	<ul style="list-style-type: none"> • Very closely targeted to one area • Limited roll out across country i.e., only 2-3 hubs suitable
Student support		
<ul style="list-style-type: none"> • Extend current freeze on CPI adjustments to student loans repayment 	<ul style="list-style-type: none"> • Would increase total payments made on student loans • Reduces repayment times for borrowers and future lending costs to the crown • Does not affect access to student loans or 	<ul style="list-style-type: none"> • Imposes payments on low-income earners (as average earnings increase while the repayment threshold does not)

<p>threshold for two [7 (i.e.] until April 2017 [7] (currently student loans are on earnings above \$19,084 per year i.e. the threshold is currently suspended until 1 April 2015)</p> <p>Savings: Two years: ongoing savings of \$13 million to \$15 million per year and a one-off positive impact of \$51.6 million</p> <p>[7]</p>	tertiary education	
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