

## 2019 PBRF Review

### Universities New Zealand's submission

This submission reflects the views of the Vice-Chancellors and the Deputy Vice-Chancellors of Research of all eight universities.

For further information, please contact Bronwen Kelly, Deputy Chief Executive of Universities New Zealand—Te Pōkai Tara, [bronwen.kelly@universitiesnz.ac.nz](mailto:bronwen.kelly@universitiesnz.ac.nz)

#### Executive summary

Universities are unanimous in their view that the PBRF has had a positive influence on the research and education system within the New Zealand university system. In this submission, Universities New Zealand (UNZ) will provide evidence of that positive influence as well as evidence against claims that there have been major downsides to the PBRF.

Universities support only minor changes to the PBRF<sup>1</sup> and caution against major changes that may have unintended consequences or might lead to significant transitional costs with uncertain commensurate benefits.

The minor changes we recommend include:

1. broader representation of subject matter expertise on some assessment panels
2. minor changes to enable a more equitable assessment of those working part-time
3. supplementary funding to specifically support Māori and Pasifika students and staff
4. removing the Average Quality Score.

We wish to emphasise that it is also important that the PBRF is not used as a mechanism to achieve all current objectives of government-funded research. The PBRF is primarily a capability fund for institutions of higher learning and we recommend the preservation of the PBRF's core objectives

Universities are strong advocates for research that has an impact on society, the environment, and economy, but further weighting for impact is, in our view, unnecessary.<sup>2</sup> The PBRF already provides the opportunity for impact to be articulated and rewarded. Furthermore, given the many government funds that focus heavily on impact, introducing additional impact metrics risks further restricting the little freedom researchers have to push knowledge frontiers without fearing they may fail to deliver on impact measures. It is also important to note that no consistently used, valid and reliable way of measuring impact exists that is not fraught with unintended consequences—such as a highly selective representation of research being considered for assessment and high costs associated with preparing case studies.

Finally, although it is not in the scope of the review terms of reference, we would like to take the opportunity to make a case to the Government to substantially increase the PBRF fund to meet rising research costs, account for the increasing participation in the PBRF and recognise the increased quality of research delivered by the tertiary education sector.

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<sup>1</sup> UNZ letter to Minister Salesa, 20 February 2019.

<sup>2</sup> UNZ letter to Minister Salesa, 6 November 2018.

## Introduction and revisiting the objectives of the PBRF

**Since it was introduced, the PBRF has made a positive impact in several ways.**

The PBRF has been a useful mechanism for helping universities develop and embed the systems and pipelines that have seen continual improvement in overall research quality since it was introduced in 2002.<sup>3</sup> This improvement is evidenced by the increasing proportion of 'A'-rated academics in each quality evaluation (QE) since 2003,<sup>4</sup> broadly across all subject areas.<sup>5</sup>

The PBRF provides researchers with clear signals in terms of managing their own career advancement. It is an objective, independent assessment of performance and aligns well with measures typically used as part of the promotion process and the management of poor performance.

Because universities are motivated to maximise their PBRF income, they now place greater emphasis on supporting and mentoring staff to perform at their best. This is particularly the case for new and emerging researchers for whom support and mentoring is primarily to help them build their careers and succeed in the PBRF.

The focus on overall quality has directly and significantly contributed to supporting the reputation and international rankings of New Zealand universities internationally. In turn, this has (a) helped recruit world-class teachers and researchers, (b) created opportunities for research collaborations with the best researchers and universities internationally, while (c) attracting excellent international students to this country.

**There have been several unsubstantiated claims that the PBRF has major downsides, so we have provided evidence to challenge these claims.**

### **Claim 1**

The first claim is that the PBRF has focused the university sector on research at the expense of teaching. However, since 2001, average student surveys of satisfaction with teaching and/or courses have risen from 78% to 83%, reflecting the increased emphasis institutions themselves are placing on this aspect of academic performance (Graph 1, below).

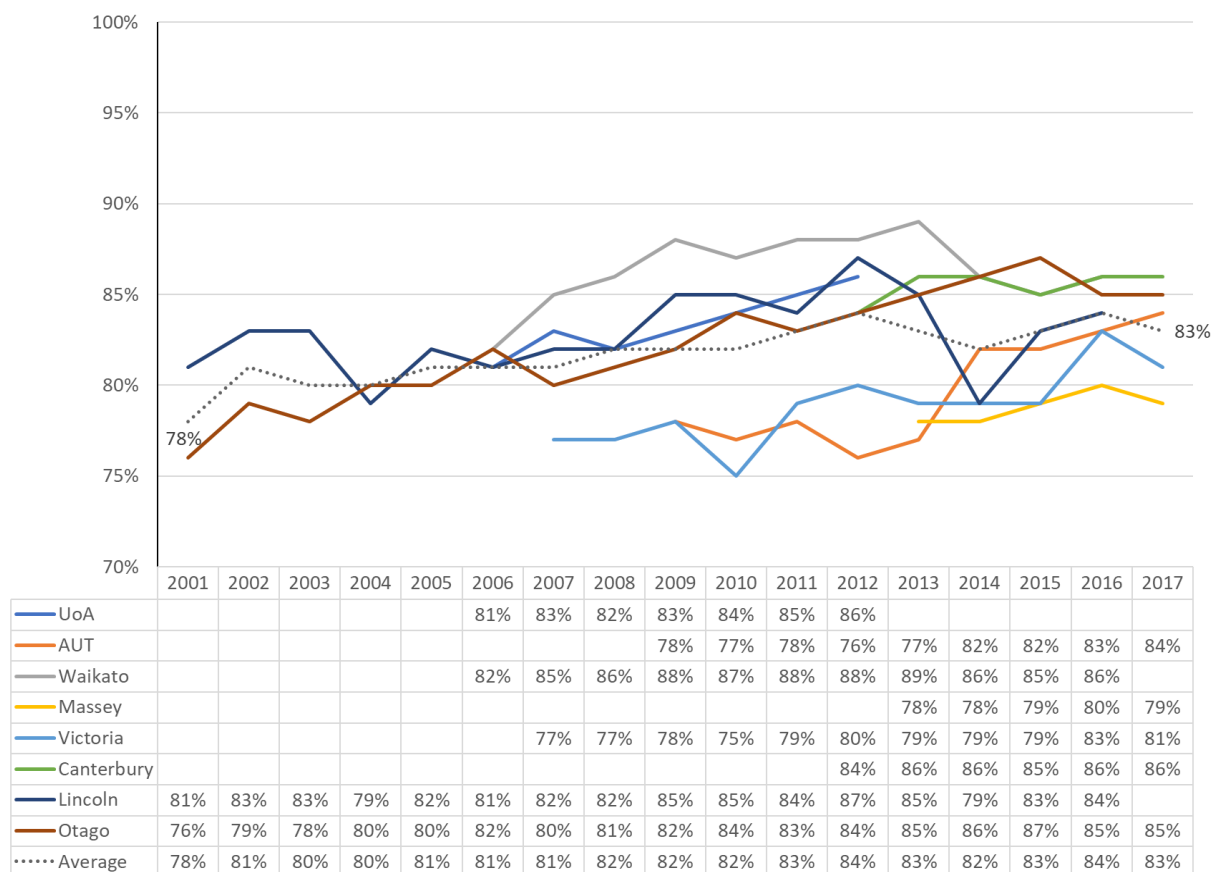
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<sup>3</sup> Smythe, R. (2017) What can we learn from the 2018 PBRF results? Education Central.

<sup>4</sup> Improving Research Quality - The interim results of the PBRF 2018 Quality Evaluation (April 2019) Tertiary Education Commission.

<sup>5</sup> Buckle, R., Creedy, J and Gemmell, N. (May 2019) [Is External Research Assessment Associated with Convergence or Divergence of Research Quality Across Universities and Disciplines: Evidence from the PBRF Process in New Zealand](#), working paper.

Graph 1. Average of the results from all universities' student surveys - 2001 to 2017<sup>6</sup>

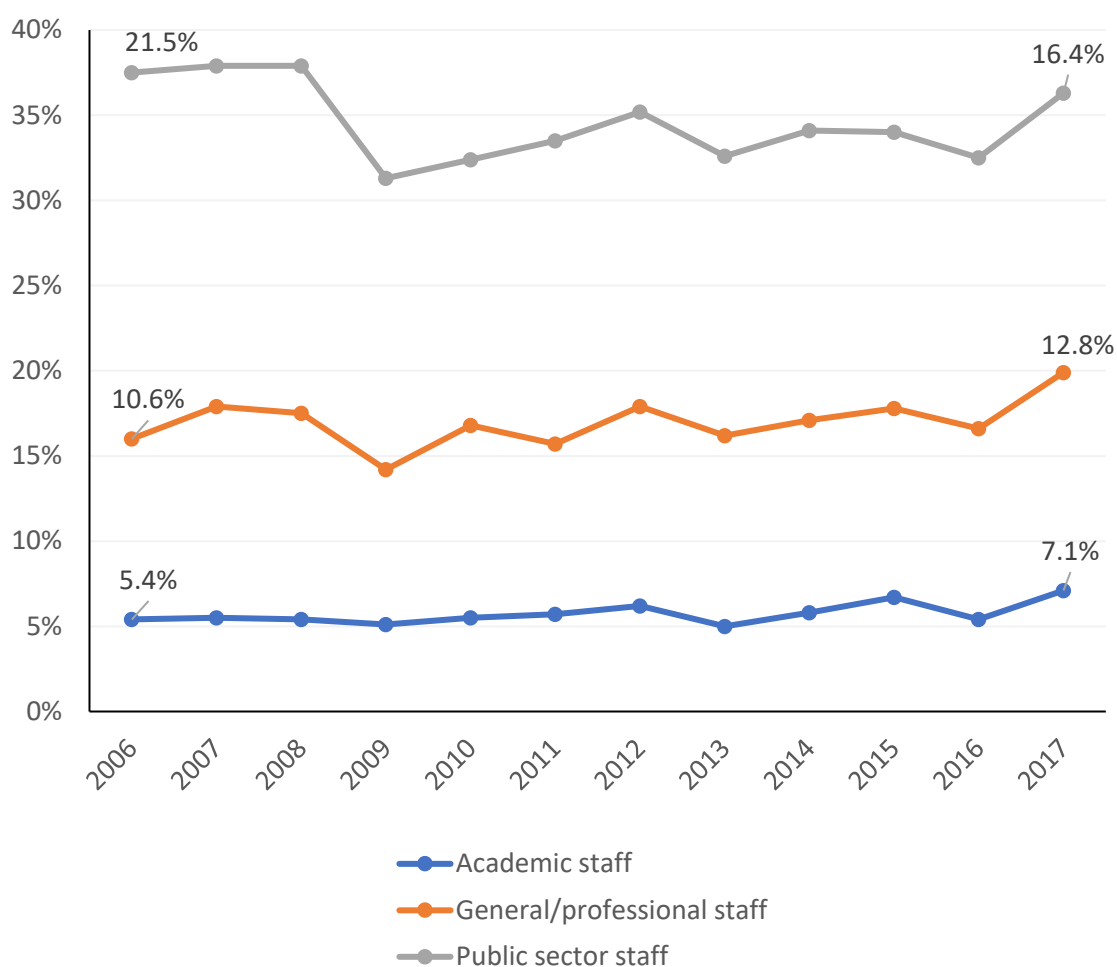


## Claim 2

The second claim is that the PBRF has caused staff to leave the sector due to expectations around performance and/or PBRF-related workload. However, there is no evidence to support this. Academic staff turnover between 2006 and 2017 averaged 5.7% — significantly below general/professional university staff turnover of around 11% and even further below average public sector turnover of 17.6% (Graph 2 below).

<sup>6</sup> The average is derived from data available at the time so not every university is represented in every year. The underlying questions in the surveys differ between universities.

Graph 2. Academic, general/professional university and public sector staff turnover between 2006 and 2017



### Claim 3

The third claim is that the PBRF is expensive for universities and the Government, and these costs are not warranted. The PBRF costs the Crown around \$3.5m every six years at present. The cost to universities has been estimated at \$40m per round. However, all costs should be put in the context of the \$1.7b that universities received through PBRF over the 2013-2018 period. This funding and the PBRF review mechanism are key reasons the sector has reported such a strong increase in the proportion of researchers with a PBRF 'A' or 'B' rating (Table 1 below). Therefore, on balance, the associated costs of implementing PBRF are reasonable.

Table 1. The change in proportional representation of PBRF ratings between 2003 and 2018

Category	2003	2006	2012	2018	Change
					2003—2018
A	423	597	831	1,159	174%
B	1,692	2,012	2,475	2,894	71%
A or B	2,115	2,609	3,306	4053	92%
C	2,173	1,749	1,782	1,833	-16%
C (NE)		700	858	986	n/a
C or C (NE)	2,173	2,449	2,640	2,819	30%
<b>Total FTE</b>	<b>4,288</b>	<b>5,058</b>	<b>5,946</b>	<b>6,872</b>	<b>60%</b>

## Improving research collaboration and engagement with end-users

*“The Review will examine the merits of moving from individual-based assessment to a group-based assessment, in terms of boosting collaboration, supporting workforce development and sustainability, reducing compliance costs and measuring impact of research. If individual is to be retained as the unit of assessment, the Review will identify options within the PBRF settings to improve collaboration and impact assessment via other PBRF settings.”* (PBRF 2019 review terms of reference, page 3).

### **Moving to a group-based assessment approach is likely to result in unintended consequences.**

Though moving to group-based assessment might incentivise more research collaboration, the sector strongly rejects the implied premise that collaboration is a prerequisite for quality research and/or lifting the impact of research.<sup>7</sup> Furthermore, the sector considers that a group-based assessment approach is likely to produce more unintended perverse outcomes than desirable outcomes. A range of factors underpin these assertions:

- Strong incentives for collaboration already exist—particularly where there are practical interdisciplinary problems to be solved that require the linking of disciplines such as design and engineering. Furthermore, in some cases, collaboration is even a requirement of some government funding—for example, the Centres of Research Excellence and National Science Challenges.
- A significant amount of collaboration takes place through academic researchers building on (and citing) research published by their peers and by international collaborations and collaborations with research students under their supervision.
- Disciplines such as the arts and humanities have few mechanisms for capturing common sorts of transient collaborations—for example, musicians working with other musicians in preparing performances, or a historian working on a monograph sharing ideas through more informal peer networks. The same sorts of informal information-sharing and idea-gathering takes place in all disciplines. In all these cases, a large proportion of researchers might therefore be left out of a group-based assessment. Those left out will no longer be incentivised to improve the quality of their research and possibly even withdraw from research altogether.
- The definition of groups, and their stability over the review period, are both major challenges. Consider, for example, a leading researcher contributing to several such groups. The process of rule setting and assembling this information is likely to add significant overheads.
- On a practical note, it’s not clear how collaborative groups involving multiple Tertiary Education Organisations (TEOs) would be scored and how the PBRF funding would be split between participating TEOs in a fair and reasonable way. If not done fairly, then inter-institutional collaboration will be disincentivised.

We see that there is a significant risk of unintended consequences if collaboration is viewed as a proxy measurement of quality.

### **The university sector does not support moving to a model where universities are assessed on a sample of research carried out within each subject area.**

The UK’s Research Excellence Framework and Australia’s Excellence in Research both work along similar lines—with a specified number of examples of research submitted by each university across several subjects. The compliance cost for universities is seen as relatively low and so UK and

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<sup>7</sup> UNZ letter to Minister Salesa, 6 November 2018.

Australian universities generally support their respective systems, but direct feedback from Universities UK and Universities Australia to Universities New Zealand can be summarised as follows:

- The UK and Australian systems allow poor-performing academics to coattail on high-performing academics. One or two excellent academics in a subject area in a university can lift the rating for all academics in that subject.
- The portfolios are forced to focus on examples of research that tell a story around quality and impact. This means only a relatively small proportion of research is reported on, which is not representative of the full range of research being carried out. This can result in misleading claims that most or all research is ‘world-class’, as university systems extrapolate from the strong scores achieved by the selected portfolio case studies and claim that a disproportionately large amount of their research is world-class.<sup>8</sup>
- The use of subjects as a mechanism for classifying and comparing research is increasingly problematic with a significant and rapidly growing proportion of research being inter-disciplinary or multi-disciplinary.
- The claim that an individual researcher cannot link their research work to impacts on economic, social, and environmental outcomes is incorrect<sup>9</sup> and therefore is not a sound reason to shift to a departmental level of assessment.

### **New Zealand universities prefer that PRBF assessment remains at the level of the individual academic.**

This position currently aligns strongly with the university sector’s need to maintain high international rankings in a resource-constrained system. Research-related metrics included in the PBRF (such as publications, citations, income and reputation) make up the largest component in all three of the main ranking systems—comprising 60% of all metrics used in the QS rankings<sup>10</sup>, 76% of Times Higher Education<sup>11</sup> and 90% of Academic Rankings of World Universities.<sup>12</sup> The university sector is therefore keen to ensure that all academic researchers are active in producing high-quality research to an international standard.

PBRF is also a useful mechanism for universities to understand and compare the quality of their research and researchers domestically.

### **Boosting the impact of tertiary education research**

*“The Review will examine options for improving the assessment and rewards for research that has a tangible impact for communities, the environment, businesses or government sectors. The Review will provide advice on the costs and benefits of introducing further measures to assess impact into the PBRF” (PBRF 2019 review terms of reference, page 4).*

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<sup>8</sup> For example; <https://www.universitiesaustralia.edu.au/media-item/australian-unis-score-top-marks-for-world-class-research/>

<sup>9</sup> For example, Professor Richie Poulton’s data from the Dunedin Multidisciplinary Health and Development Study has been used in New Zealand policy-making contexts (e.g. Health Select Committee reports, Law Commission reports and a variety of professional bodies such as the New Zealand Herpes Foundation) as well as overseas (e.g. WHO, UK House of Lords, the US Presidential Office, US Surgeon-General’s reports).

<sup>10</sup> <https://www.topuniversities.com/qs-world-university-rankings/methodology>

<sup>11</sup> <https://www.timeshighereducation.com/world-university-rankings/methodology-world-university-rankings-2019#survey-answer>

<sup>12</sup> <http://www.shanghairanking.com/Shanghairanking-Subject-Rankings/Methodology-for-ShanghaiRanking-Global-Ranking-of-Academic-Subjects-2019.html#3>

We do not support any move to introduce further measures of impact in the PBRF.<sup>13</sup> Several reasons for our position are described below.

### **The PBRF already adequately supports impact assessment, so no additional measures of impact are required.**

Research impact can take many forms and there are several ways in which the PBRF adequately supports impact assessment; some direct and others more indirect:

- Research impact can be, and has been, reported in the existing ‘Research Contributions’ components of the Evidence Portfolios. In the 2018 QE round, the ability to recognise “contributions outside academia” equally alongside “peer esteem” and “contributions to the research environment” was added. This allows researchers who have made strong research contributions that have led to economic, social environmental or other impacts to be recognised.
- The PBRF’s measurement of research degree completions has driven universities to grow their postgraduate student numbers and increase completion rates. As institutions of higher learning, the greatest impact a university can make is through its graduates’ contribution to society.
- Impact is also captured indirectly through the PBRF’s measurement of external research income. This source of funding is secured only if the funders/stakeholders are confident that the research will have the desired impact.

### **Measuring impact is fraught with challenges and is expensive.**

No consistently used, valid and reliable way of measuring impact exists that is not fraught with unintended consequences—such as a highly selective representation of research being considered for assessment and high costs associated with preparing case studies.<sup>14</sup>

There is extensive literature on the challenges of trying to measure impact—particularly for basic research where any impact may not be seen for decades and where predicting likely or potential impact earlier is effectively impossible. Much university research is aimed at developing scholarship and/or the research history that allows more junior researchers to develop the reputation necessary to successfully pursue research relationships and research funding later in their careers.

### **Measuring impact doesn’t significantly alter the overall distribution of funding across institutions.**

The extensive (and expensive) addition of impact case studies to the United Kingdom’s Research Excellence Framework had limited overall effect on distribution of funding. This is, in part, because in most disciplines, there is a strong correlation between impact over time and quality as measured by the current PBRF metrics. Thus, indirectly, the current PBRF already provides some measure of impact.

### **The potential for impact is already a focus of several government research funds.**

Excluding the proportion of university research funding that comes from PBRF and SAC, 74% of university research funding is from the Crown through funds awarded based on an assessment of

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<sup>13</sup> UNZ letter to Minister Salesa, 6 November 2018.

<sup>14</sup> Bornmann, L. (2017), Measuring impact in research evaluations: a thorough discussion of methods for, effects of and problems with impact measurements, *High Educ*, 73 (5), pg 775–787, <https://doi.org/10.1007/s10734-016-9995-x>

both quality and likely impact. We would argue that there is already enough incentive for impact through other Crown funds.

It is also important that the PBRF is not used as a mechanism to achieve all known objectives of government-funded research—to become ‘all things to all people’. This will put the PBRF at risk of not delivering on its core objectives. The PBRF is primarily a capability fund for institutions of higher learning and we recommend the preservation of the PBRF’s core objectives.

Furthermore, given the many government funds that focus heavily on impact, introducing additional impact metrics risks further restricting the little freedom researchers have to push knowledge frontiers without fearing they may fail to deliver on impact measures. Universities have the discretion to invest this bulk, untagged funding in whatever way they think will contribute to the production of quality research. This can include PhD scholarships, research facilities, library resources, and/or funding for research-active teaching staff. It also includes all the things identified as strengths of the bulk-funded system back in 2001—namely the ability to support early-career research, fundamental research in areas that are interesting but where there is significant uncertainty about impact, etc. Together these create eco-systems that foster the production of capable researchers and excellent research as evidenced by the 92% increase in the proportion of PBRF ‘A’ and ‘B’ rated researchers between 2003 and 2018.<sup>15</sup>

The rationale that shaped how PBRF was implemented in 2002 is still fundamentally relevant in 2019. The 2001 Tertiary Education Advisory Commission (TEAC) report that led to the establishment of PBRF<sup>16</sup> noted that it was important that research funding existed over which universities had a high degree of discretion. Discretionary funding would enable universities to easily support:

- (a) new academic staff who were not yet in a position to compete for external funding
- (b) disciplinary areas where little external funding was available
- (c) new areas of research that may have struggled to attract funding
- (d) academic staff in their role of critic and conscience of society.

However, the TEAC also wanted to ensure there were incentives for research excellence and adequate public accountability over how the highly discretionary research funding was spent. PBRF was designed and implemented to balance these factors.

**If impact is given greater weighting in future PBRF rounds, careful consideration should first be given to the definition and measurement of impact.**

If the review panel recommends that research impact receives greater focus in future PBRF QE rounds, we urge that before this is implemented, careful consideration be given to defining both ‘impact’ (in a way that is appropriate for all fields of research including kaupapa Māori research), and what may be required to assess quality. We also urge the panel to consider the way in which the unintended consequences can be minimised, for instance, by recommending a low-cost, low-compliance method of assessment. Assessing the impact of research is possible through the existing ‘Research Contributions’ components of the Evidence Portfolios. In future QE rounds, better guidance and exemplars for appropriate impact statements and supporting evidence could be provided.

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<sup>15</sup> Improving Research Quality - The interim results of the PBRF 2018 Quality Evaluation (April 2019) Tertiary Education Commission.

<sup>16</sup> <https://education.govt.nz/assets/Documents/Further-education/Policies-and-strategies/Performance-based-research-fund/PBRFHistoryAndOverview.pdf> - see tables 1 and 2 on page 3.



## Assessing excellent research with lower transaction costs

*“The Review will identify options for modifying current PBRF settings to reduce transaction costs for research staff, tertiary organisations and government, including changes to the unit of assessment, changes in the time period(s) for quality evaluation, use of new metrics to assess research quality, use of self-assessment and the funding proportions allocated across the current three measures (quality evaluation, research degree completions and external research income)” (PBRF 2019 review terms of reference, page 5).*

**We do not agree with the use of self-assessment *“by education organisations that have a strong research culture embedded”*.**

Self-assessment creates significant risk of gaming that is currently mitigated by the independent assessment process. Self-assessment would also transfer the cost of assessment to the universities. We can see no upside but would be open to discussing options if the PBRF Review Panel have a specific proposal.

**The current weightings on the three performance measures are appropriate.**

At present 55% goes to quality evaluation, 25% to research degree completions, and 20% on external research income. All universities recommend no change to these measures. There doesn't appear to be a problem here that might need fixing. The split is broadly acceptable and gives an appropriate emphasis on quality. While we don't support the introduction of new measures of impact, if they are introduced, the three measures would need to be revised.

In summary, we suggest retaining a 6-yearly QE assessment performed by independent panels and that the proportional allocations made across the three measures (55% for quality evaluation, 25% for research degree completions, and 20% for external research income) are retained.

## Recognising and rewarding all types of research activity

*“The Review will consider how the PBRF can better support the research activity of all types of research, including basic, applied, creative, mātauranga Māori research, and Pacific or other cultural research perspectives. This will include consideration of whether any specific support is required to enable some organisations to effectively participate in the PBRF, or whether a separate funding mechanism may be required to support particular types of research activity or help organisations build their research capacity and capability” (PBRF 2019 review terms of reference, page 6).*

**The flexibility afforded by PBRF funding enables universities to support all types of research and early career researchers**

As previously stated, PBRF funding already allows universities significant flexibility in providing support for early career researchers and for investing in developing key parts of the research system—including mātauranga Māori research, and Pacific or other cultural research perspectives.

**Broader representation is required on assessment panels**

As per our previous communications with government, broader representation is required on the

assessment panels to ensure research outputs in foreign languages<sup>17</sup> and applied and multidisciplinary research are fairly assessed.

### **The PBRF has adequately balanced quantitative and qualitative measures**

Quantitative and qualitative measures of performance in the PBRF are currently suitably balanced. A future shift towards more quantitative metrics will disadvantage disciplines with non-standard outputs such as music, design, applied research, mātauranga Māori and Pacific research. It will also strongly disincentivise research that is close to end users or which has a strong engagement component. It will drive researchers away from research that might benefit NZ, especially if there is a perception that that such research will not be of interest to the international research community and international journals.

### **Sustainable and diverse workforce with investigator-led research capability**

*“The Review will examine the effectiveness of the PBRF on the development of highly-skilled and diverse research workforce for New Zealand in the context of the changing nature of work and workplaces. This will include consideration of whether any adjustments to PBRF settings are required to support a sustainable mix of gender, ethnicity and ages across the tertiary research workforce. The Review will also consider whether the PBRF creates any incentives or disincentives within tertiary education organisations given the changing nature of work and the continued evolution of new types of working arrangements, ways of working and workforce development”.* (PBRF 2019 review terms of reference, page 7).

### **Recognition of part-time researchers**

We see merit in considering changes to the PBRF that would enable a more equitable assessment of those working part-time. We acknowledge, however, that reducing the maximum number of outputs in an evidence portfolio to 16 in the most recent QE round (four nominated research outputs plus up to 12 other research outputs)—thereby emphasising quality over quantity—does go some way to enabling part-time researchers to participate in the PBRF more equitably.

### **Further financial support for Māori and Pasifika students and staff is required.**

Universities endorse the changes made in 2012/14 to provide an increased weighting for new and emerging researchers and research degree completions by Māori and Pasifika students. To drive a real step change in the right direction, universities would like to see additional funds introduced to specifically support these two groups as well as Māori and Pasifika research staff.

### **Other comments**

#### **The Average Quality Score (AQS) should be removed.**

The AQS has always been a contentious parameter; it provides no meaningful commentary on the PBRF outcomes and provides clear incentives to “game the system”. Furthermore, the AQS(E) score, where division by “the number of EFTS at degree level or higher enrolled in qualifications at level seven and above”, means a perfect result can be obtained by having no students at all.

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<sup>17</sup> UNZ letter to the Tertiary Education Commission, 18 Sept 2017.

However, if we are to retain any comparative metric, the university sector would like to see the denominator for the average quality score changed back to the number of research portfolios submitted.<sup>18</sup> This is simple, resistant to manipulation and will allow for comparison with performance in previous assessment rounds.

### **An increase in the PBRF fund is necessary to meet rising costs and increased participation**

If the PBRF is to continue to fulfil its stated purpose, the university sector would like to see an increase in PBRF funding to accommodate:

- rising research costs
- increasing participation in the PBRF (FTE rose by approx. 1,100 between 2012 and 2018 quality evaluation rounds<sup>19</sup> which dilutes the pool of available funding per FTE)
- increased quality of research delivered by the tertiary sector indicating that the PBRF is meeting its objectives (as outlined above, the quality of research has risen with a 92% increase in the proportion of PBRF 'A' and 'B' rated researchers between 2003 and 2018).

The case for a substantial increase in PBRF funding is supported by the Ministry of Education's recent analysis of the PBRF,<sup>20</sup> which showed that "the increased number of staff...and the increased number of research degree completions has outpaced increases in PBRF funding" (p 1).

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<sup>18</sup> UNZ letter to the Tertiary Education Commission, 5 May 2016.

<sup>19</sup> Improving Research Quality - The interim results of the PBRF 2018 Quality evaluation (April 2019) Tertiary Education Commission.

<sup>20</sup> Smart, W. (2019) Government funding for research-led teaching and research performance- an analysis of PBRF and research top-up funding allocations, Ministry of Education, New Zealand.