

# Performance-Based Funding for the Commonwealth Grant Scheme

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## Executive Summary

James Cook University (JCU) shares many of the concerns raised in the IRU submission. JCU has prepared a further submission specific to its own context. In response to the government's discussion paper on Performance-Based Funding for the Commonwealth Grant Scheme, JCU recommends:

1. That any changes to the scheme should align closely to the *Higher Education Support Act 2003* (HESA) objectives, specifically that funding is appropriate to meet Australia's social and economic needs for a highly educated and skilled population and that the government continues to recognise and respect universities as autonomous institutions;
2. Recognising the importance of place and acknowledging inequities of employment opportunities and educational attainment between regions;
3. That international models offered as exemplars are thoroughly assessed by the review panel to reduce the likelihood of introducing incentives contrary to the objectives outlined in HESA;
4. Retaining the cost indexation of funding per student to account for cost increases over time;
5. Avoiding a standardised model of performance measurement as it may disadvantage universities delivering against their unique missions;
6. Avoiding measures that are biased in favour of larger metropolitan universities;
7. Implementing measures that are within a university's capacity to control;
8. Using benchmarks targeted to an individual university's performance;

## Background

JCU is distinctive in that one of its statutory functions is to provide education in subjects of special importance to the people of the tropics. JCU's strategic intent is unique among Australian universities: *JCU aims to create a brighter future for life in the tropics world-wide through graduates and discoveries that make a difference*. This intent is delivered through comprehensive teaching and research, focusing on four themes:

- Tropical Ecosystems and Environment
- Industries and Economies in the Tropics
- Peoples and Societies in the Tropics
- Tropical Health, Medicine and Biosecurity

JCU's Academic Plan focuses on developing graduates who will succeed in a global workforce. We achieve this by offering a distinctive course portfolio, with learning enriched by research aligned to the UN Sustainable Development Goals, of which JCU was the first Australian university signatory.

JCU has a higher proportion of regional and remote students than any other university and its catchment areas have lower than average levels of educational attainment.

Universities are crucial in developing human capital. The presence of graduates in regional areas demonstrably contributes higher wages, lower unemployment rates and higher levels of economic activity. Bachelor level graduates working in Queensland with a JCU qualification earned \$400 more per week than those without a university level qualification, at Master level this rises to \$602 per week and at Doctorate level, \$937 per week. Each year JCU graduates generate an estimated additional \$1.75 billion to the economy over the course of their working lives, some of which returns to government revenues via taxation (James Cook University, 2018). Restricting growth in undergraduate enrolments by limiting access to university risks constraining future economic activity.

## Issues

The rationale outlined in the Discussion Paper raises two issues that should be examined further by the review panel to avoid designing a scheme that introduces more problems than it solves.

**1. The discussion paper suggests “a performance-based funding scheme will ensure universities’ objectives align with those of their students, the Government and the public.”**

The proportion of the population with a bachelor’s degree or above was estimated by the 2016 Census at 22.0% nationally. In JCU’s main catchment areas of Townsville and Cairns this is much lower, at 14.2% and 14.3% respectively (ABS Census 2016).

JCU’s objectives are aligned with the functions outlined in the *James Cook University Act 1997 (Qld)*. JCU’s unique mission helps formulate expectations in the communities it serves that are place-specific and relate to its strengths in environmental and health sciences. JCU’s commitment to serving regional and remote communities sets it apart from universities with campuses in metropolitan areas. JCU also creates impact globally through its research and intellectual leadership on critical issues facing the Tropics.

If JCU is to meet the expectations of the communities it serves it should be encouraged to raise educational attainment in northern Australia towards Queensland or national levels. Limiting undergraduate places through funding caps is inconsistent with these expectations.

**2. The discussion paper cites examples of performance-based funding from the UK, New Zealand and USA but does not clarify how they relate to the design of the Australian model.**

Each jurisdiction cited has implemented performance based funding according to its own priorities. This can be observed in the variability between the schemes.

Two reviews are underway in the United Kingdom; an Independent Review of the Teaching Excellence and Student Outcomes Framework, the voluntary system used to rank English higher education providers, and; a Review of Post-18 Education and Funding. The latter includes in its Terms of Reference an investigation into value for money for graduates and taxpayers, and a commitment to “*place no cap on the number of students who can benefit from post-18 education*” (UK Department for Education, 2018). The discussion paper is unclear how the UK system, which applies to English universities’ funding rather than the UK as a whole, provides insight to the design of the proposed Australian model. It would not be prudent to use it to model the Australian system in any way until the reviews commissioned by the UK government have reported their recommendations and the similarities or differences in the challenges each jurisdiction faces have been thoroughly analysed and understood.

A New Zealand tertiary education system review found performance-based funding “ensures minimum acceptable standards are met, but does not reward quality or responsiveness to students” and that it “pushes tertiary education institutions towards homogeneity in what and how they deliver” (NZ Productivity Commission, 2017). The scheme has subsequently been discontinued (Tertiary Education Commission, 2018).

The USA has experienced mixed results with significant variability in the design of funding schemes between states (Snyder & Boelscher, 2018). Some states, such as Tennessee and Ohio, have seen funding per student for institutions that serve minority students decrease (Hillman & Corral, 2017). In Indiana, where funding per student has decreased, selectivity on admissions has increased, with the proportion of underrepresented minority and low-income applicants falling compared to neighbouring states (Umbricht et al., 2017).

Attempting to pick the successful components of each scheme without understanding how they could alter incentives and affect recruitment strategies in Australian universities, risks progress towards more equitable levels of higher education attainment.

## 1. How should the PBF scheme be implemented?

### Consideration 1: How to grow a university's PBF amount from 2021

It is important not to confound cost indexation with growth. Cost indexation is required to counter rises in costs and will be needed regardless of whether there is any growth in enrolments. In order for universities to plan effectively indexation increases should not be linked to performance but linked to increasing input costs, ie. consumer prices and salary increases. Indexation of subject cluster funding and student contributions should be calculated using a predictable formula and included in the increase to the baseline of the Maximum Benefit Grant Amount (MBGA) prior to any performance funding being applied to the MBGA.

JCU recently participated in the teaching and scholarship benchmarking study which resulted in the Cost of delivery of higher education report (Deloitte Access Economics, 2017). The study showed that a university's proportion of regional EFTSL and its concentration of enrolments in certain fields of education were significant drivers to teaching and scholarship costs. Some observations relating to JCU's submission to the study were:

- JCU's teaching and scholarship costs are approximately 30% higher than average for the sector, partly due to scale effects and partly due to its course portfolio.
- The proportion of JCU's Bachelor-level teaching costs covered by base funding (combined government and student contributions) decreased from 2015 – 2017.
- In 2017, Bachelor-level teaching cost around 6% more to deliver than the base funding earned via the CGS. Data is not available for 2018 yet, but this position is unlikely to have improved since the current indexation on subject cluster funding does not fully cover increases in teaching costs.

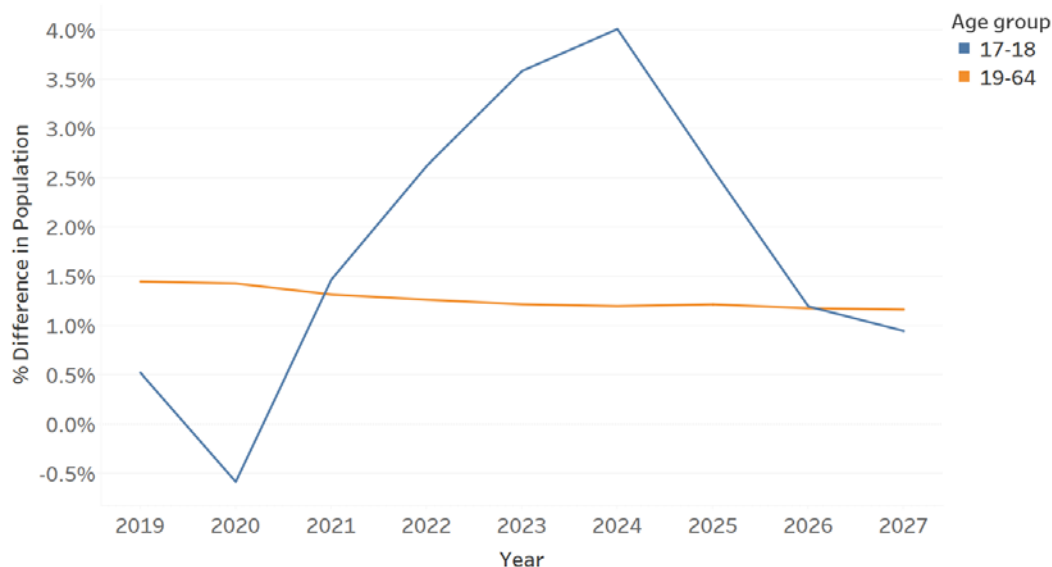
Applying constraints on base funding indexation will penalise universities whose teaching and scholarship costs are not fully covered by base funding due to their course portfolio, scale or regional location. In these circumstances constraints on growth may contribute to less spending per EFTSL, leading to unintended impacts on teaching quality and student outcomes.

Linking base funding for CSP enrolments to population growth risks disadvantaging regions such as northern Queensland with lower than average population growth and lower than average levels of educational attainment. Such an approach is likely to disadvantage smaller universities in regional locations and may incentivise larger, metropolitan-based universities to recruit more students from JCU's catchment areas. This would intensify the current trend for increasing numbers of commencing students to migrate from regional locations to larger cities to attend university (Cardak et al., 2017). Migration of students to capital cities from regional areas harms regional economies by lowering the education and skill level of the regional workforce, forgoing economic activity that students generate locally and reducing the future pool of human capital.

If population growth is used to increment performance based funding this should be supplemented by predictable cost indexation and a corresponding funding increase for universities with higher proportions of regional and remote students to address access and participation issues in regions where education levels are below the national average.

Another concern with using population growth to index funding is that age groups grow at different rates. In Queensland, growth projections for school leavers (17 and 18 year olds), show more variability than the projected growth for the broader community. The proposed system may lead to a lack of available places in some years relative to demand, disadvantaging school leavers from 2022 to 2025 compared to other years. Limiting access to university arbitrarily for children currently between the ages of 11 and 15 may be an inequitable yet unintended consequence of the proposed scheme.

Queensland population projections by age group  
(ABS 3222.0 series B)



#### Consideration 2: how to *treat* a university's PBF amount from 2021

Forecasting revenue from the number of student enrolments expected in future years is a fundamental component of every university's financial management. Multiple interacting assumptions are applied under conditions of uncertainty. This means forecasts are not always as accurate as we would like. Adding a component of performance-based funding introduces further uncertainty, making planning decisions more difficult.

It is not hard to imagine such a change may encourage resource-constrained universities to plan as though they will not receive any performance-based funding, cutting funding per student when necessary, and spending performance-based funds as a windfall when available. It is also possible to imagine diversity in the sector declining and some of the different strategic paths universities are currently exploring being closed off due to increased funding uncertainty. These are just two examples of the potential negative impacts that could arise. During the panel review process there should be some exploration of the idea that despite the government's intention to improve teaching quality and student outcomes, funding caps act as an additional planning complexity to manage for all universities, and may limit their capacity to improve quality.

With regards to the two options in the discussion paper,

1. Incrementing the MBGA each year.

Since the level the MBGA can not be less than the amount specified in the preceding year (*Higher Education Support Act, 2003*) it is difficult to understand how the government would be able to add performance-based funding to the MBGA total in one year, then remove it in a subsequent year if a university fails to meet agreed targets.

2. Creating a new fund to administer PBF

The discussion paper is not clear how this new fund would be created or administered, so it is not possible to give feedback on its potential benefits.

## 2. What performance measures should the PBF scheme draw on?

**Table 1 - Proposed performance measures**

Student experience	Graduate outcomes	Equity
<ul style="list-style-type: none"> <li>• First-year student attrition/retention</li> </ul>	<ul style="list-style-type: none"> <li>• Full-time employment rate</li> </ul>	<ul style="list-style-type: none"> <li>• Participation by students from low SES, regional/remote or Indigenous background</li> </ul>
<ul style="list-style-type: none"> <li>• Student completion within six years</li> </ul>	<ul style="list-style-type: none"> <li>• Full-time further study</li> </ul>	
<ul style="list-style-type: none"> <li>• Overall student satisfaction</li> </ul>		
<p><b>JCU response:</b> First year student retention is a strong predictor of success and could be considered an intermediate outcome in the education process.</p> <p>Student completion within 6 years is skewed by the discipline mix in the course portfolio so may not be useful.</p> <p>At JCU, for example the undergraduate medical program is six years in duration, with Dentistry and Veterinary Sciences five years. These programs represent a significant proportion of JCU's student load would skew JCU's completion rates.</p>	<p><b>JCU response:</b> Graduate outcomes are well aligned to HESA objectives and could be used as proxy measures of university performance. However, these vary by field of education which may skew university level results.</p>	<p><b>JCU response:</b> Participation rates are not measures of performance, but of access and participation. JCU has more students from equity groups than the sector average. Since enrolments are inputs rather than outputs or outcomes of the education system it does not seem appropriate to use these as measures of a university's performance.</p> <p>Controlling for equity measures on other performance indicators may help differentiate between universities. Significant work would be required to validate the usefulness of such indicators as their relationships and interactions are inherently complex (Harvey et al., 2018).</p> <p>If equity measures were included as supplementary measures, universities with high levels of equity groups could alleviate some of the disadvantage experienced through bias on other measures.</p>

### Other possible measures include:

- Employer satisfaction. This is a useful measure of the value of the outcome for the student and their employer at the time the survey is completed, although it also varies significantly by Field of Education.
- HELP loan repayment rates. This would not be acceptable to universities as it is outside a university's control and therefore outside the scope of a university's performance.

### 3. How should the PBF scheme be designed?

As universities have their own missions and objectives, it is difficult to see how a one size fits all approach would work, using the same performance measures for each university. Standardised measures may disadvantage universities with a unique mission or geographic factors contributing to the composition of its student cohort. JCU would support options that reward for measures and benchmarks tailored to its location and the composition of its student cohort.

The concept of implementing core and optional measures introduces higher complexity and cost to administering the system however, it may produce better alignment between a university's mission and community expectations.

### 4. How should performance measure benchmarks be set?

If benchmarks take into account the contextual differences universities face, the design of the system will be more complex than if a standard set of measures is introduced. Geography, field of education, study load, age, gender, indigeneity and disability all correlate to proposed measures on attrition, retention and completion (Cardak et al., 2017, Cherastidtham et al., 2018, Department of Education and Training, 2017). QILT indicators on student satisfaction are correlated with a student's field of education and therefore the discipline mix in a university's course portfolio. Non-response bias is also an issue with student satisfaction results in relation to gender and age, with males and under-25s both under-represented in the sample. Graduate outcome measures are also correlated with a student's field of education, and sample sizes for disciplines with low numbers of graduates may be a concern for smaller universities (QILT, 2018, 2019).

Three possible methods are outlined in the discussion paper; 10 year averages, weighted averages and regression analysis.

#### 1. Weighted averages

The Regional Universities Network have proposed a weighted formula for completion and attrition (RUN, 2018). They claim such an approach produces meaningful comparisons for each equity group in the analysis, and that equity cohort levels can be aggregated into a university level measure. While it is important to acknowledge that the proportion of students in some equity groups is correlated with many of the proposed performance indicators, using a weighted average could not be expected to control for differences between universities as the interactions between various equity groups and performance indicators is complex and not fully understood (Harvey et al., 2018).

A weighted measure would not address the issue of larger, resource rich universities being able to be more selective or to recruit target cohorts. Metropolitan universities are enrolling an increasing share of regional students over time. From 2008 to 2014, growth in the number of commencing students moving from regional areas to metropolitan universities was more than twice the growth in commencing student numbers overall (Cardak et al., 2017). Over time, a continuation of the current trend of a growing proportion of students moving away from regional areas to study at metropolitan universities would distort a measure weighted by equity groups. As JCU has the highest proportion of combined regional and remote students in the sector, it would be disproportionately disadvantaged by an approach that incentivises metropolitan universities to recruit students from its local communities.

#### 2. Regression analysis

Constructing a scheme that modifies measures to control for variations in the composition of a university's student cohort, as described in the discussion paper's appendix on Regression Analysis, might be useful, if the model accounted for a large proportion of the variation in the proposed indicators. However, the model proposed in the discussion paper only accounts for 22.55% of the variation in attrition with a large proportion unexplained (Department of Education and Training, 2017). A model with so many unknown confounding variables is not a robust mechanism to measure performance. Also, this approach does not account for the different strategies required to deliver student success programs to target cohorts and may well lead to unintended consequences such as universities gaming the system to improve their performance by altering their cohort composition or course offerings (Hillman et al., 2015, Umbricht et al., 2017).

### 3. 10 year average

It would be unfair to measure universities against the same benchmark when so many of the contributing variables are out of their control, a rolling average is preferable to a ranking system as it goes some way towards reducing differences between metropolitan universities and universities based in regional areas on retention and completion. However, there are issues with its implementation that would require further investigation. While a rolling average is useful in reducing the impact of yearly variation it remains susceptible to outliers. QILT multi-year measures currently reduce variation between years by aggregating two years' worth of data, making yearly trends difficult to observe. A rolling 5 year average may work better at reducing the time lag however this approach would be more susceptible to outliers.

In summary, benchmarking against past performance would probably incentivise continuous improvement more than benchmarking against sector averages, however none of the methods outlined in the discussion paper are suitable. A simpler approach would be to set a minimum standard for all universities.

### 5. Should the PBF funding of unsuccessful universities be redistributed?

Redistribution to successful universities may sound like an attractive idea to incentivise success but is likely to disadvantage smaller universities where the funding at risk makes up a larger proportion of their budget. Redistribution also disadvantages current students at universities who fail to meet their performance targets.

One possibility to make redistribution fairer might be to redistribute funds to address access and participation/equity issues.

### 6. How much "lag" is acceptable between PBF data and the funding year?

Most QILT data have a two year lag. It is difficult to understand how the scheme will incentivise investment or operational improvements with such a lag.

It is also concerning that under the proposed scheme it is conceivable that a university that fails to meet its performance benchmarks two years prior, would operate with more revenue at risk in the third year and may need to lower its planned spending per student in the fourth and subsequent years. While JCU would hope to improve against all of the proposed measures over time there is a component of each of the proposed measures that universities have no effective control over and to be penalised such a long time after the measure is relevant may produce effects in contrary to the stated objectives and principles of the scheme.

### 7. How should the PBF scheme be regulated?

This is a political issue for the government to resolve. It may be assumed that universities would prefer as simple a system as possible that does not require additional cost to implement or maintain and that any changes to legislative instruments undergo appropriate parliamentary scrutiny.

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