

# Second tier of researchers steps up to the plate

- Jeanette Hacket
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Illustration: Michael Perkins *Source:* The Australian

**THE first Excellence in Research for Australia exercise has been completed, with universities across the country taking stock and examining their research strategies in light of the results.**

As Frank Larkins outlined in his comments in the HES ("Unis must brace for ERA funding consequences", February 16) , the results are much as expected, showing that we have a strong group of research-intensive institutions performing well above world-class level across a broad range of fields.

Following that first band, it is important for Australia that there is a clear strong second band of up-and-coming universities performing in a wide range of disciplines at or well above world-class levels.

This group of market challengers is already demonstrating a significant potential to build the country's world-class research capabilities. Given the median age of universities in this country is only 24 years, this is an important signal to boost confidence that researchers in a broad range of universities can hold their head high in international company. One would not expect these younger market challengers to have grown the same breadth and depth of

research as the older, established institutions, but statements by Larkins that younger universities such as those in the Australian Technology Network of Universities are not increasing research capacity on a rapid growth trajectory are puzzling.

He states that between 1992 and 2008 the Group of Eight increased its share of total research income from 66.9 per cent to 69.8 per cent, while ATN universities increased their share from 7 per cent to 8.4 per cent. So while the Go8 has increased its research performance by 4.3 per cent across this period, the ATN has increased its 20 per cent.

For an analogy using the same proportional improvement, take two 100m sprinters. The first is a man in his mid-20s at the prime of his physical condition. He improves a running time of 10 seconds to 9.57sec. At that level, he is clearly a world-class competitor.

The second is a teenager who starts with a time of 15sec and improves that to 12sec. He's not going to win Olympic medals but we clearly know who we would like to be investing in during the next five to 10 years.

Of course, the big questions are what we now do with the ERA results, how they will affect research funding priorities and what the future of Australia's research and innovation sector will look like.

For younger institutions, ERA may not show their latest achievements but it does help inform whether the trajectory is in the right direction.

The fact is world-leading research takes time to grow. A 1970 ERA evaluation of the 21-year-old University of NSW, when compared with its 119-year-old University of Sydney counterpart, might not have resulted in the emergence of UNSW as the powerhouse of research and innovation it is today. In this context it is critical that any funding allocated on the basis of performance in ERA does not result in the flattening of the trajectory of the performance of the next generation of research intensives and result in a decreased research capacity across Australia.

An excellent example of a country that has recognised the importance of investment in the growth of research capacity is China. During the past 11 years, research output from China has increased from just more than 20,000 research papers in 1998 to nearly 112,000 in 2008.

The Shanghai Jiao Tong Academic Ranking of World Universities is often cited as the benchmark for research-intensive universities. Given all that growth, how many universities does China have in the top 100 of those rankings? None. How many in the top 200? Two.

But can anybody argue that with three Australian universities in the top 100 and a further four in the top 200, we can in any way compete with China by maintaining the status quo through the next decade?

A final salutary example is the US, long acknowledged by many to be the world leader in quality research.

The recent Thomson Reuters' Global Research Report: United States, released in November, has found the US is losing share and its relative international research competitiveness is being challenged. Significantly, one of the key suggestions of the report is that this gradual

decline in the US's research position is because of the structure of its research base and evidence of an increasing concentration in research output.

As the study states, the Association of American Universities, representing only 20 per cent of total institutions, is responsible for most research outputs and accounts for 58 per cent of all federal research funds provided to colleges and universities.

Unfortunately, the concentrated apex of the US university system is not pulling the rest of the research base in its wake, and the US is losing position to countries that have less concentrated research systems. The evidence would indicate that an overemphasis on the concentration of research funding support in a relatively small number of institutions leads to stagnation.

So what should Australia's priorities be to build our own competitiveness and international position in the future?

Just as China has, we need to recognise that growth is the key to maintaining and increasing our position in the long term.

Obviously we need to maintain our existing research strengths and concentrations, but growth is going to occur where there exists the capacity and culture for it to happen.

Australia's research funding strategies and ERA should align to support the development of at least 1000 world-class research centres across the country and to build the next generation of such centres with a much stronger link to innovation that will underpin our future prosperity and social cohesion.

This will be critical in ensuring that Australia's international research engagement is not carried by relatively few groups or organisations with a limited age or geographic distribution, and will ensure the sustainable growth required to maintain Australia's international reputation and profile into the future.

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