Over the last twenty years, the ranking of universities has become big business. Although rankings are only a proxy for quality (and “quality” itself has no universally agreed definition), they are nonetheless important to many groups in the tertiary sector. The decline in the rankings of New Zealand universities must therefore be of real concern.

Although it can be argued that rankings are fundamentally flawed because they attempt to measure something that cannot be measured – the relative quality of universities across the world - they are important to many different groups in the sector:

- International students and their families use rankings, along with other factors such as the costs of tuition and living, to determine the best value for money offered by different universities at which they might study
- Some governments provide scholarships for studies abroad only to students admitted to a highly ranked university
- Anecdotally, New Zealand students look to rankings when deciding whether to study at home or at more highly ranked universities overseas (e.g. on the east coast of Australia)
- Alumni, especially in Asia, take great interest in rankings as a measure of how their alma mater is progressing
- International universities and university networks use rankings to determine which are the leading universities in a particular country that they might wish to collaborate with
- Donors look to rankings as an indicator of quality and prestige when making decisions about gifts (e.g. endowments).

Thus, whether we like it or not, rankings have a real impact on important decisions in the international university sector, decisions that impact significantly on the New Zealand universities.

The drivers of international rankings
Two main ranking systems – the QS World University Rankings (QS) and the Times Higher Education World University Rankings (THE) – are of particular interest to those who might make decisions relevant to New Zealand universities. Others such as the Academic Ranking of World Universities (also known as the Shanghai Rankings) have a more specialised research emphasis and therefore tend to be of more narrow interest.

These ranking systems have largely the same drivers, although the weighting given to each varies. An overview of the parameters that contribute to the QS and THE systems is provided in Table 1. Typically, each university receives a score for the parameters relevant to the particular ranking system, the scores are weighted and summed, and

<table>
<thead>
<tr>
<th>Category</th>
<th>Input parameters</th>
<th>Contribution to overall score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reputation</td>
<td>Surveys of other academics and of employers of graduates</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>33%</td>
</tr>
<tr>
<td>Teaching and learning</td>
<td>Degrees (especially doctorates) awarded per academic; student numbers per academic (inverse)</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12.75%</td>
</tr>
<tr>
<td>International</td>
<td>Proportions of international students, staff and co-authored publications</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.5%</td>
</tr>
<tr>
<td>Research output</td>
<td>Citation impact of research papers; citations and publications per academic</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>36%</td>
</tr>
<tr>
<td>Income</td>
<td>Research income; industry income; total income per academic</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10.75%</td>
</tr>
</tbody>
</table>
then universities are ranked on their overall score. It is important to appreciate that ranking systems measure relative rather than absolute performance. As a result, a university may improve its performance yet simultaneously decline in the rankings if other universities are improving in the ranking parameters more quickly.

**Trends in rankings among New Zealand universities**

Because the ranking systems rely on qualitative (e.g., reputational) as well as quantitative data, and because they from time to time modify the weightings of the various parameters contributing to the overall score, there can be some instability of rankings in the short term. It is therefore important to focus on long-term trends.

Figure 1 shows the rankings of New Zealand universities in the QS system over the last 10 years. Rankings have declined over that period in four of the five top-ranked universities (Auckland from 50 to 82; Otago 114 to 151; Canterbury 188 to 214; Massey 242 to 292) and improved in one (Victoria, 234 to 219). On the other hand, rankings have tended to remain constant or improve in the three lowest-ranked universities, some of which only entered the top 500 in recent years.

In the THE system, only universities ranked in the top 200 are given an individual ranking, while the remainder are placed in bands. As Table 2 shows, the University of Auckland has fallen from 145th to 192nd place since 2010. All bar two of the other New Zealand universities (Otago, AUT) have fallen by at least one 50-rank band during the same period.

**Rankings and funding – how do we compare internationally?**

As Figures 2 and 3 – derived independently using data from different ranking systems – show, high rankings tend to be associated with higher levels of income per student. This is unsurprising – a higher level of investment per student allows universities to have smaller classes, better supported students, a greater value of scholarships to attract top students, more productive and internationally recognised (and expensive) academics, and better quality facilities for teaching and research – all things that will lead to improvements in the indicators on which the rankings are based.

As is evident from the graphs, New Zealand universities (indicated by black diamonds) have some of the lowest incomes per student of the world’s top-ranked universities. However, relative to their low level of resources, they perform creditably...
We can thus conclude that New Zealand has one of the world’s most efficient university systems as measured by quality (ranking) relative to cost. That our university system is efficient and high-performing, but struggling with under-funding, is also supported by the U21 ranking of national higher education systems. In this ranking system, developed by experts at Melbourne University, the performance of a country’s university system as a whole is assessed rather than that of individual universities. In 2017, New Zealand ranked 15th overall, down from 14th the previous year. Worryingly, we fell five places on the resources indicator, which is attributed to a reduction in government funding as a share of GDP. Meanwhile, New Zealand actually improved its performance on the other three indicators that make up the ranking system – environment, output and connectivity.

What New Zealand has not done is to invest actively in its universities to improve their quality and rankings. By contrast, Jamil Salmi, a global tertiary education expert, points to the success of excellence initiatives where governments have invested heavily in support of their top universities with a view to strengthening their contribution to economic and societal development. Universities in China, Saudi Arabia, France and Israel have all climbed significantly in their rankings as a result of additional funding through these excellence initiatives.

The challenge of maintaining a country’s universities amongst the top in the world is sometimes written off as being just a small country problem, but that is not the case. Denmark, Sweden, Finland, Singapore, Switzerland, Ireland, Belgium and Hong Kong, all countries with populations not vastly different to that of New Zealand, each have at least one, and typically several, universities ranked higher than the highest of the New Zealand universities.

Why do our universities spend so little per student?

When the decline in rankings becomes a cause for public comment, governments typically respond, “But we are spending more in the university system”. In New Zealand that has certainly been true, but the expenditure has been primarily through government funding an increased number of students. It has not been through an increased investment per student, which, as we have seen, is what drives rankings.

Given that New Zealand’s universities are not profit-motivated, their expenditure and income are highly correlated (the difference being their required minimum operating surplus, typically around 3% of revenues, which is reinvested into capital development). Thus the reason they spend so little on their students (and other activities) is that their income is so low. In excess of two-thirds of their revenue is controlled by government, which sets the tuition subsidy per student, limits fee increases and controls public investment in research. In short, the public policy environment in New Zealand precludes the universities expending more per student, and thus raising quality because it severely constrains the ability of universities to raise revenues. As Figure 4 shows, New Zealand is amongst the countries with the lowest proportion of public spending going directly to institutions as opposed to student financial aid (loans and grants). This is a situation about to be exacerbated by the new Government’s policy of providing a year of free tertiary education.
Conclusions

The tension between accessibility, quality and cost of a university education is not a new one. In New Zealand, most of the debate about funding of universities and about student finance has focused on how to reduce the cost of education to students rather than on how to give them access to world-class tertiary education. Issues of price (to the student and to the government) have dominated issues of quality.

Universities, through their roles as educators and knowledge creators, play a unique and vital function in supporting knowledge-driven economic growth. If we in New Zealand wish to maintain the quality of our universities and indeed maximise their contribution to society, then we must be prepared to invest more heavily in them. As is demonstrated by the gradual decline in the rankings of our universities, the current situation is unsustainable. We must as a nation come to grips with the fact that the country cannot have, simultaneously, high participation rates, heavily constrained levels of government subsidy, low tuition fees and high quality. Something has to give.