Positioning New Zealand's Research and Education Resources A perspective on New Zealand universities

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The trouble with change is that it always annoys the heck out of someone. As President Obama has found recently, change in the education or health systems is towards the more challenging end of the spectrum.

Let me start by asserting that: the future is bright if we can grasp it; money is short and we need to do a better job of earning it; and the pathway to success is about focused excellence because as a small country we will simply never be world-class at everything. So, as with all things in life, it's about the choices we make and our determination to succeed.

The good news is that New Zealand is well positioned as a safe and productive food producer sitting at the bottom of Asia. Global trends will work in our favour. With changing demographics in almost all of our key markets, we are seeing two key developments – ageing populations and increasing wealth. Of course, China is a star performer from a growth perspective, with massive numbers of people there becoming wealthier, but we should not forget that the USA is still the world's largest market and will be for some years to come. As people become older and wealthier they respond more strongly to health-related messages and take care when choosing what they put into their bodies. They also have the means to buy quality produce and they care about how and where it was made. Richer people spend more on food in absolute dollars.

Globally, economic power is shifting from the West to the East, and we are well placed with our trade relationships and supply chains to leverage this. Meanwhile on a global scale there are increasing scarcities of natural resources. Agricultural inputs are growing scarcer – productive land is in short supply, aquifers are becoming depleted, desertification is occurring, and rural labour is becoming relatively scarcer as populations move to the cities.

A combination of rising agricultural input costs and increasing relative scarcity will see food inflation rise ahead of general inflation over the next two decades. It is critical that we in New Zealand understand the implications of the shift from one of relevant abundance of natural resources to one of increasing relative scarcity as the human population continues to grow and consume more in the face of finite natural resources.

In a capitalist world the action will be on the supply side as companies and nations take positions on commodities to secure their future. We see it today – in the size and value of global resource companies, the transport of food, oil, and minerals globally, and the aggressive cross-border purchase of agricultural land by both companies and nations. While the future for New Zealand as a food exporting nation sitting at the bottom of Asia is bright, we must, however, acknowledge that New Zealand will never be the lowest-cost producer. We have relatively high land and labour costs and, with increasing fuel costs, our distance to market compared with our competitors requires us to differentiate through new product development and quality.

The fact is that we are very good at producing food: dairy, meat, wine, apples, seafood, and of course, kiwifruit, are some great examples (Figure 1). As a net surplus food producer and exporter, our competitiveness will be defined by:

- the quality of our offering, whether it's wine, beef, sheep or kiwifruit;
- our productivity while we are not the lowest-cost producer, in most primary industries our yields are relatively strong;
- our reputation as a producer of safe food;
- our reputation as a reliable and consistent supplier of food; and
- our relative rate of innovation.



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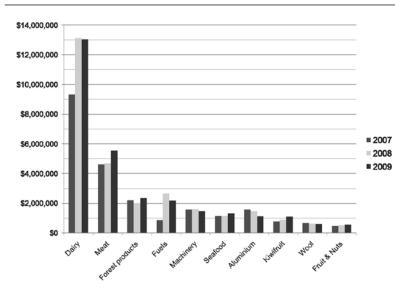


Figure 1. New Zealand's main export earners, 2007–2009.

We are competitive in food today, but remaining competitive will be a function of our relative rate of innovation. This is about productivity, but importantly it's also about:

- bringing new products to market to earn shelf space;
- flavour and quality;
- functional food with demonstrable nutritional and medicinal properties; and
- other product attributes depending on the sector such as size, storage and traceability.

So, we are good at producing food in a world market which will demand it. It is not difficult to make the case that New Zealand should aim to be world-class in food production. Nor is it such a big leap to conclude that in order to be that, we also need to be world-class in food research and education.

Before focusing on the subject of universities I would like to touch on New Zealand's profit and loss and balance sheet. Today New Zealand owes \$10,950 for each man, woman and child in the country. In five years time this figure is forecast to have grown to \$18,300. On top of this, our private debt amounts to \$50,650 for each man, woman and child today. In the past five years we have exported \$249.7 billion of goods and services (excluding profits flowing to offshore companies), but have imported \$258.6 billion worth. Very simply, our national account is in the red and our balance sheet is deteriorating. As a nation we need to address this urgently, and we will only do so by lifting our savings rates, increasing productive investment, and lifting the performance of our export sector. The performance and capability of our universities have a critical role to play in this regard.

Universities and research

In addressing this topic I make one disclaimer and a number of assumptions. I am not an academic, public servant, or a politician and there will be many who have far greater depth of understanding in this space than I. New Zealand is small with limited human capability and limited financial resources. We cannot be, and should not seek to be, world-class in every business sector or area of research or academic endeavour. Instead we must make choices about where we seek to be world-class, and these choices should be driven in the first instance by the national interest.

I consider that the area of agribusiness and therefore food research and education is one area where New Zealand should seek to be genuinely world-class. Of course there will be other areas, and identifying those areas is largely in the hands of our industries' and political leaders and lies outside the scope of this address. I would note that focusing on current and future export industries would be a good start. In New Zealand we need to be clear about where we are going to be world-class, and the corollary of this is that we need to be clear about where we are not going to be world-class. In my view, given our relatively small size, we should be seeking to build world-class capability in a smaller, rather than greater, number of areas.

Research is not the sole or even the main province of the universities. In fact other research organisations such as the Crown research institutes (CRIs), focused as they are on applied business and national outcomes, should be at least as important as universities in the research space.

Scale is critical in building world-class capability. Building virtual networks of experts across disciplines focused on those areas where we seek to build world-class capability will be critical – the Riddet model is an excellent example of this.

With these assumptions as a background, subject though they may be to challenge and dispute, I make the following proposals. I am not critical of New Zealand universities. In fact I believe we are well served by some excellent universities. However, there is a fundamental difference between running the best universities we can with the available resources, and configuring universities to support New Zealand's drive for international competitiveness.

I am sure I am not alone in the opinion that the Course Category funding model¹ requires some review. In particular, some of the important but expensive disciplines are being underfunded, for example, in the science and engineering disciplines.

Perhaps more controversially, we should differentiate even more sharply, in my opinion, in our approach to funding undergraduate and postgraduate courses. It is important that there is adequate funding and capacity in place to provide good undergraduate degrees across the broad spectrum of academic subjects. The funding for this necessary activity should be stable and adequate to ensure a good quality of education, and the focus of the academic staff in this area could and should be on teaching outcomes rather than on research. Conversely, I would argue that funding for postgraduate education and university research should be related to those areas where New Zealand seeks to be world-class.

¹ The classification system that allocates tertiary courses with a classification according to the broad, narrow and detailed subject fields into which they fall for the purpose of funding. Funding categories are also prescribed levels that correspond to levels of the tertiary qualification. (See: http://www.tec.govt.nz/)

Even within the current model I think there is potentially an opportunity to broaden the assessment criteria of the panels subtly and carefully to enable better funding of applied research activity through the performance-based research funding model². Of course the implication of this, which will be anathema to many academics, is that New Zealand may not be able to provide postgraduate qualifications in all disciplines. However, I argue that in reality we do not deliver world-class postgraduate qualifications in all disciplines today and that we live in a global market place where New Zealanders can and should travel offshore to gain postgraduate qualifications in those areas where New Zealand is not and does not aim to be world-class. This approach would allow us to increase resources in those areas where we have identified we need to be world-class.

On a related matter I take this opportunity to note that New Zealand is too small to support competition between universities in those areas where we aspire to be global leaders. Historic funding models and structures that seem to drive CRIs and universities to compete against each other, rather than to play to their respective strengths and collaborate, need to be reviewed. I know it may seem to some of you that I am a radical emissary of the far right and that this address amounts to an attack on academic diversity. Let me assure you that this is far from the case. My views are informed by the belief that the boundaries of education are and should be infinite, limited only by human insight and capability, but that the reality is that, as with health, the future constraint will be financial resources rather than technology or imagination.

Conclusions

I argue that our overriding priority must be to lift our national competitiveness. In the absence of scale, tight focus on a small number of national capabilities is a potential pathway to prosperity. In reality this proposal is too pure for implementation, but there are three ideas that may have some merit:

- (1) Let us be clear about where New Zealand as a nation should be world-class and focus our investment there.
- (2) Let us embrace capability-focused networks to leverage up our scale.
- (3) Let us think carefully about our university funding models, because inevitably money will drive our focus and behaviour.

² Performance-Based Research Fund (PBRF) is a contestable fund that rewards and encourages research excellence at New Zealand universities. (See http://www.tec.govt.nz/)