
In this issue

The first article in this issue is Adam Jaffe's *Science and innovation policy for New Zealand*. Adam, the new Director of Motu Economic and Public Policy Research, Wellington, and the Fred C Hecht Professor of Economics at Brandeis University in Waltham, Massachusetts, has a long and distinguished research career focused on technological innovation and technology diffusion.

In his paper Adam indicates that New Zealand's rate of public investment in research is only about two-thirds and that of business investment in research about one-third of the OECD average. However, our low business R&D intensity is not unexpected given our market size, firm size, and industrial composition.

Nevertheless, public policy should aim to mitigate barriers to firms' ability to undertake high-return research investments. Adam introduces the interdisciplinary field of study – the science of science policy – that seeks to model, measure, and evaluate the interaction of public policies (including funding) and the performance of the science and innovation system. He believes such study offers insights and findings that can increase the effectiveness of science.

In our second paper, *Why understanding national culture is necessary in order to understand innovation performance*, Tony Smale of Forté Business Group Ltd, Blenheim, points out that our forward economic indicators (those that suggest what should happen) consistently rank New Zealand well for innovativeness and entrepreneurship. Yet our following indicators – those that show what did happen – economic or social – generally rate us very poorly indeed. Economists refer to this as the 'New Zealand paradox'.

Science-wise our outputs approach the global best. However, we spend less on science and innovation than most of the nations to which we compare ourselves. We publish science papers at twice the OECD average, but patent at one-quarter the OECD rate. The net effect is that we do not generate the yield from our investments in innovation that we should expect.

While accepting the rigour of this macro-economic analysis of New Zealand's performance, Tony believes it's incomplete. It ignores the role of national culture and, in turn, its influence on the formation of our mental models of how the world works and images that limit us to familiar ways of thinking and behaving. Such models can overwhelm even the best systemic insights. This is no less true for supposedly 'objective' observers such as scientists.

Tony then, in some detail, explores what is meant by innovation, national culture, the correlation between the two, and what this means for New Zealand.

Also in this issue we highlight the success of Victoria University's engineering students at this year's annual National Instruments Autonomous Robotics Competition Grand Final at Swinburne University in September. Now in its third year, the competition attracted 22 teams, from around Australia and New Zealand, 16 of which made it through to the final day of competition. The knockout final round, this year themed 'Gold Rush' and modelled on a mining task, required robots to identify and handle objects while navigating an obstacle-ridden field in the shortest possible time – and all without external control.

Crowdfunding is a relatively new way of raising capital for a new venture or project. It essentially relies on attracting micro-donations or pledges from large numbers of people online. In their article *Short on grant money? Five tips for crowdfunding success*, Deb Verhoeven and Lee Astheimer tell us about an initiative at Deakin University. Commencing in December 2012, the university, working with *pozible.com* (the world's third largest crowdfunding platform), agreed to create an opportunity for the direct community funding of university-led research. Interestingly, in addition to the successful funding of six of the eight projects put up by the university, the authors indicate that the project funding was only the icing on the cake. There were also huge but unexpected gains in research visibility, connectivity, and global interest.

We have two book reviews in this issue. The first is Mark Roeder's *Unnatural Selection: Why the Geeks will inherit the Earth*, reviewed by Nicola Gaston, and the second is Shaun Hendy's and Paul Callaghan's *Get off the grass: Kickstarting New Zealand's innovation economy*, reviewed by Grant Scobie.

Finally, we have an obituary for Malcolm Leitch Cameron CMG, who was a former Director-General of Agriculture and Fisheries and Chancellor of Lincoln University. In the words of former Lincoln Vice-Chancellor Professor Roger Field, Malcolm Cameron was 'absolutely committed to New Zealand agriculture. He was last of the old style of DGs, very supportive, very focused on outcomes. He had high expectations of people, never suffered fools. He oversaw great change'.

Allen Petrey
Editor