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## A Role for Science and Scientists in Economic Stimulus

The thoughts of the New Zealand Association of Scientists' Council are with all affected by the COVID-19 pandemic, and measures being taken to control its spread. We extend heartfelt thanks to all those involved in the response, and commend the Government's [leadership](#) in the application of science and communication. We are cautiously optimistic that the lockdown and other responses have been effective, allowing for some of our focus to move toward maintaining and restoring our economy and overall wellbeing.

Since 2009, academic and political consensus has grown for rapid and more significant stimulus responses to crises, and the current crisis demands an unprecedented response by appearing both larger and sharper than the Global Financial Crisis (GFC). We advocate strongly that now is the time to consider targeting investment in research and technology that can punch above its weight in [economic stimulus funding packages](#).

The first step is to ask, how much? The development of 2009 legislation documents the United States' use of research and technology funding as economic stimulus in response to the GFC. Research and technology received 2% of the \$785 billion [economic recovery package](#), a proportion that happens to coincide with the New Zealand's Government's goal to lift research and development to 2% of GDP.

Perhaps 2% of stimulus could be a minimum target, while damage averted or benefits achieved should also be considered. Top criteria for response packages include being ready to go, priming the economy, and repairing, maintaining or building capability for future needs.

Research funders and institutions already have a long list of fundable projects that have just missed being in the top 10% of proposals typically funded. In 2009, the main approach in the US was to fund such proposals, many of which had [laudable outcomes](#). The approach was criticised for [being slow to spend](#), and adequate consideration of [who it funded](#) only in the trickle of funds allocated to [basic research](#).

New Zealand's researchers face a unique threat due to globally low levels of institutional funding, since the formation of a [highly contestable funding system](#) in the 1990s that originally supported Crown Research Institutes (CRIs) and later expanded to include all institutions. We are hearing of freezes to hiring, capex and operating budgets, and of concerns fixed timeframes or budgets for post-graduate students and funded projects will not easily stretch to accommodate the expected level of disruption.

As the crisis snowballs into tangles of contract accountability and wider challenges felt through the financial fragility of our institutions, we can avert years of lost contributions to knowledge and innovation propelling our society forward by supporting at-risk projects and the generation of researchers who are now finishing degrees, or on fixed-term and entry-level contracts. Doing so is crucial given the profound [gender](#) and [Māori/Pacifika](#) equity issues documented in the research system, that are primed to worsen dramatically in fragile institutions under crisis.

We therefore suggest, in line with a comprehensive [2010 review](#), that the best means to provide and spend additional funding is through existing institutional funding measures to CRIs and universities. Recent reviews of both mechanisms ([SSIF](#) and [PBRF](#)) are nearly complete, and should allow funding to be tied to strategic capability and wellbeing goals. These could subsequently be reported as indicators by the institutions, which are more capable of prioritising and acting quickly in their areas of operation than funding agencies.

Given the scale and timing of disruption, additional support to existing contestable project contracts may be preferable to funding additional new contracts that begin months or years down the track. However, support for people and career development also needs to be a key element of our response. The simplest and most cost-effective new scheme would be large-scale national funding of post-doctoral fellowships, at a time when both stable pathways through early careers, and the opportunities to travel internationally for such positions are likely to be more constrained than ever.

The coronavirus crisis has brought the commitment of science to solving problems of wellbeing and technology to the front of national attention. In the face of unprecedented disruption of the economy and institutions, an economic stimulus response can choose to support and inspire a generation of scientists to work on the greatest problems we face, including health, climate, water, food, and keeping our unique sources of economic productivity competitive in a changing world.

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