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KOI TŪ:
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'The Future is Now'
Conversation
Series

THE FUTURE IS NOW: EXPLORING THE POST-PANDEMIC DIRECTION FOR AOTEAROA NEW ZEALAND

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EXECUTIVE SUMMARY

In April 2020, Koi Tū released its first extensive commentary, *The future is now: Implications of COVID-19 for New Zealand*. The paper's primary proposition was that no matter how well we initially coped with the pandemic hitting our shores, its impacts on society were likely to be so wide-ranging and profound as to trigger a 'reset' – necessitating careful consideration of our national aspirations and direction as we look beyond the current crisis into our medium- and long-term future. Koi Tū proceeded with a series of discussion papers that reflected on New Zealand's geostrategic positioning in a post-COVID world, and on domestic issues of social cohesion, mental health, the environment, and the primary production and food sectors. Work is ongoing on economic, educational and 'digital world' aspects of our recovery and long-term strategy as a nation.

When these conversations began, New Zealand was in the early stages of handling the pandemic, and the elimination strategy was still emerging. We were in Level 4 lockdown and the borders were shut to non-New Zealanders, with all returnees being subject to quarantine. By mid-June, community spread of the virus had been eliminated, so that new cases arose only from entry at the border, and quarantining and testing were largely in place to manage and then eliminate any spread into the community. Since then, we have had one community event of a magnitude requiring Auckland to be placed into another lockdown. Although restrictions subsequently eased and life is largely normal for many, the country remains on edge, with our borders still closed. Many businesses and individuals have been left vulnerable and uncertain as to their future.

Difficulties remain in predicting what will happen with the pandemic both locally and globally; for example, over the timing of vaccine availability and whether long-term immunity will be conferred. It is unclear how ongoing and inevitable recurrences will be managed both here and in other jurisdictions over the longer term. Eventually, the border will be reopened, and the decisions around that will be complex, as vaccine coverage will never be complete.

Yet despite these uncertainties, in this time of profound change, we have an opportunity not to be squandered. It is time for extensive conversation about our aspirations for Aotearoa New Zealand as we look to build a better future. Indeed, in her recent election-night speech, the Prime Minister, Jacinda Ardern, pointed to the need for inclusive and diverse conversation. Although we are still dealing with issues of immediate hardship, the conversation needs to focus on a longer-term horizon, and as much as possible be removed from the short-term, reactive nature of most partisan politics.

The outcome we assume that most New Zealanders seek, albeit looked at through different lenses, is a nation with high levels of social, environmental and economic wellbeing, combined with resilience to unexpected changes in their circumstances in the future. Enhanced resilience for individuals, whānau, society, and our institutions will enable us to cope with, and even take advantage of such challenges to improve the prospects of current and future generations. New Zealand can set an example as a unique global experiment in how a cohesive but diverse society can set goals for itself and work to deliver them for the benefit of everyone. Turning a difficult situation into an opportunity for positive transformation – in areas of social justice, environmental sustainability and economic prosperity – is the essence of a resilient society.

This paper builds off our previous papers and is intended to help further frame conversation around the needed transformations by highlighting the issues and beginning to think through the potential paths ahead. Our previous papers have extensively discussed the environmental challenges we face and the need for a collective view of a sustainability agenda. This paper should be read in conjunction with those past commentaries.

First, we need to consider how decisions made in response to the COVID-19 disruption will play out in the long term, as many will have lasting consequences. We have a chance now to reset some policies and practices that had been leading us down an unsustainable path. The choices aren't easy, but nor is returning to 'business as usual' – and in many cases this is no longer even possible.

A RESET WITH A SENSE OF PURPOSE

We will need to build on the strong social cohesion that was evident during the first lockdown, when we had a clear sense of purpose in defeating the novel coronavirus, and use that to collectively agree on a vision for New Zealand's future. Can we come together and not only agree on the sort of society we wish to be, but also initiate the actions that will get us there?

Will we work towards reducing inequalities and start tackling the entrenched cycles of disadvantage experienced by some communities and whānau? Now more than ever, we need to support society's vulnerable sectors, not just those suffering economically, but also the many for whom mental health and wellbeing have become even more fragile. How can we help build resilience, not only to the current crisis but also to the rapidly changing world around us?

EDUCATING OUR BIGGEST ASSET

Overhauling our education system will be key to addressing some of our most fundamental needs, which have been amplified by the pandemic. Education that supports all children to have equal opportunity to succeed will begin to address entrenched disadvantage, build resilience, and ultimately ensure that skills and capacity match the needs of the future workforce. This will require a greater focus on psychological development, critical thinking and the broad range of non-cognitive skills needed to survive in a dynamic and increasingly technological world.

ENHANCING OUR DEMOCRATIC DECISION MAKING

We have a chance to start more inclusive discussions about how our bicultural and multi-ethnic society should evolve, and how we want to govern ourselves as we look towards the bicentennial of the Treaty of Waitangi. Around the world there are many new experiments in participatory and deliberative democracy. Can we learn from these to improve our public decision making in ways that will start to break down structural biases that prevent equal access to power and influence for all societal groups? Can we build on our social cohesion to develop ways to find common ground and move forward on our most difficult and complex issues?

REIMAGINING OUR ECONOMIC FUTURE FOR SUSTAINABILITY AND RESILIENCE

The pandemic's disruption has provided cause to reassess our current economic model, which has been underpinned by a few dominant industries, including agriculture and tourism, that were already under pressure to reduce their environmental impacts. All business decisions need to consider such impacts, not as an afterthought but in the very design of business models if they are to be sustainable both environmentally and socially, and indeed economically over the long term. Threats such as future pandemics and climate change pose significant risks to our economy unless we diversify into more weightless exports, utilising our assets of knowledge and technological capability. Growing an innovation economy will require ingenuity both in business and in how we develop our cities into knowledge hubs that will attract investment and talent.

COVID travel restrictions have highlighted issues of labour supply in, for example, the horticulture and construction industries and in the technology sector. As we face significant demographic change that will affect the workforce, we will need to think about our migration policies if we are to maintain labour supply and productivity.

ROLE OF RESEARCH

Our ability to take up opportunities to advance a knowledge-based economy will require investment in high-calibre strategic research and innovation. However, to date too much research in New Zealand is driven by short-term incentives rather than being linked to a long-term strategy. Remodelling our research and innovation ecosystem will be critical, including restructuring public R&D institutions, ensuring at least one world-class and highly ranked university and enabling tertiary sector specialisation. There is also a

necessity to ensure that our research infrastructure is responsive to and draws on mātauranga Māori and Māori research expertise and leadership. This will require public sector support and funding. The return on research takes time to be realised, and we need to invest now if we are to benefit collectively in the future.

BUILDING ON OUR STRENGTHS AND MOVING FORWARD

New Zealand's current standing as a good global citizen, with demonstrated cohesiveness, integrity, trust, stability and strong environmental values, gives us the basis for a compelling national brand. New Zealanders rightly share a sense of pride in what we've accomplished during the COVID-19 crisis, especially as we watch other countries continue to struggle and be forced to reinstate restrictive measures. We need to build on this social and cultural strength, and come together as a nation with a vision for a strong and sustainable future for all citizens. We must not let the opportunity created by the COVID-19 disruption be drowned out by the acute decisions that must be made as we take steps towards recovery. In fact, the decisions we make during that coming phase will do much to determine the shape of the next several decades. To ensure we make the right decisions, we need conversations that are inclusive and wide-ranging, and we will need to create coalitions of the willing to tackle the hard choices and take our collective vision forward.

INTRODUCTION

When future generations of New Zealanders look back at the year 2020, will it be remembered as a turning point? The effects of the COVID-19 global health crisis are grave and wide-ranging, and will influence many aspects of our society for the foreseeable future. Prior to COVID-19, we were already experiencing a convergence of rapid transformations, and the pandemic has thrown an accelerant in the mix. Will New Zealand use this inflection point as a chance to refocus on long-term sustainability and resilience? Can we come out of this ultimately better off for having grappled with the difficulties and uncertainty, and set a direction that will strengthen our societal resilience for the long term?

In the short term, we have naturally focused on urgent decisions to protect public health and wellbeing. As an island nation remote from the pandemic's source, we had the benefit of delayed arrival and relatively straightforward border control, and these were used to our advantage in the critical decision to shift early from a strategy of 'flattening the curve' to 'elimination' of the virus from our communities. That strategy has served us well, albeit at the same time the Government has had to make extraordinary decisions to expand national debt to support industries, businesses and individuals. These were largely made reflexively to focus on the acute damage.

We have now entered a more chronic phase in the pandemic. As predicted, the virus managed to beat our defences in the small but concerning second and third incursions into the community, and this is likely to happen again. This phase presents some real strategic dilemmas. The economic safety net is being used liberally, but the full impact of the pandemic locally and globally is hidden from many in the community. The economic forecast, while contested in detail, points to a relatively bleak picture in coming years. There is a growing cost associated with border closure that is keeping non-New Zealanders out, straining business relationships and impeding workforce and skills acquisition. We are losing the opportunity to attract talent, and much more.

Even with continued border closure, we will likely see occasional resurgences. In each case the decision on how to handle it will be hard. Our mental health and our businesses will not tolerate yo-yoing in and out of lockdown – indeed, having been sensitised by the first lockdown, the second will have had stress effects on many people that may be even more severe and long-lasting. Clearly, the more effective and efficient testing and contact tracing and community surveillance we have, the less likely further lockdowns will be.

We are not, however, using all the tools being used by other countries. Policies such as pre-arrival and on-arrival testing, monitored self-isolation, risk assessment and triage, and even population-wide surveillance testing have been used in other countries that have done as well in managing the virus. Taiwan, for example, is showing that clusters can be managed at lower levels of constraint, provided there is high community compliance.[1] At some point in the (still fluid) evolution of the pandemic, New Zealand will have to think about some of these alternative or supplementary approaches.

We still understand relatively little about the virus; for example, why its impact is so variable, and the nature of immunity that can be gained, either from recovered infection or a vaccine. There are more than 150 vaccines in development and more than 40 in clinical trials, including some exciting and novel approaches, but we are still some way from knowing how safe, effective, and targeted they will be. And given some inevitable vaccine resistance and uncertainties around universal access, we can be sure no vaccine will give a society complete protection.

New Zealand's approach will therefore need to continue to evolve. Having chosen an elimination strategy that requires tight border control, we must consider how and when to re-engage with the world. Realistically, even with all going well, there is at least 12–18 months of uncertainty and viral risk ahead. At some point, decisions will have to be made about full freedoms of movement in which it is accepted that those who choose not to be vaccinated incur the risk, and that it is not a matter for the state to continue providing protection by tight and expensive border closure. On what basis will decisions be made

1 Lin, C.F. et al. 2020. Reimagining the administrative state in times of global health crisis: Anatomy of Taiwan's regulatory actions in response to COVID-19. *European Journal of Risk Regulation* 11(2): 256–72.

about border reopening? Will biological passports eventually become the norm? Which issues may need multilateral agreement – for example, over validation of vaccines and testing for immune status? These are hard questions with both scientific and policy dimensions, but need not be a matter for partisan politics.

With electoral considerations now out of the way, a more strategic approach to economic and other interventions is now becoming urgent. The presumption is that for at least a year we will need to face some border constraints and interruptions to normal ways of doing business, although frequent, rapid testing and other measures could allow some change. The implications for mental health, social cohesion and business viability will continue to grow. To enhance our resilience through the evolution of the crisis and recovery, decisions in response to these pressures must be linked to longer-term considerations.

The phrase 'build back better' was adopted in 2015 by the UN system to refer to post-disaster recovery,[2] but has now become a widely adopted meme to refer to the potential post-COVID reset. It refers to an opportunity to improve, and to avoid the reconstruction of vulnerabilities that turn challenges into disasters. The acceleration of issues caused by COVID-19 led Koi Tū to the phrase 'the future is now', indicating this is the time to start with a refresh of our long-term thinking to enhance resilience and build a better future for New Zealand.

TOWARDS A RESET OR A RETURN TO BUSINESS-AS-USUAL?

New Zealand is not known for long-term, strategic thinking. We tend to cope reasonably well with issues as they arise, and are nimble enough to pivot at times of challenge. However, this leaves some simmering issues unattended, slowly evolving into major problems that are ultimately very costly and damaging to society. COVID-19 has brought an appreciation of things we have long taken for granted, and jolted our consciousness around what we need and want as a country. Yet as we look towards recovery, beyond attending to short-term needs, relatively little forward planning seems to be going on. There has not been deep discussion over what kind of society and nation we want to be in 10 to 20 years – important questions that transcend the cyclic pattern of our politics.

The world has recently taken notice of this small southern nation, but can we live up to our current glowing external reputation over the long term? Can we be an 'experimental' or example society committed to environmentalism, social justice and fairness, but also committed to individual freedoms and a market economy?

THE COVID-19 INFLECTION

In itself, the pandemic does not substantively change the range of issues New Zealand must consider over the longer term, but it exposes a number of challenges and brings to the fore matters that do not get sufficient attention. For example, the realities of long-term underinvestment in tertiary education, previously hidden by an over-reliance on overseas student income, have been laid bare, as have the economic consequences (and yet the environmental benefits) of the loss of high-volume tourism. The tenuousness of our education, migration and population policies has been revealed as industries such as horticulture and the technology sectors struggle to find workers. Global instabilities, heightened by the pandemic, are creating conditions for unemployment and economic recession in major markets at a scale not seen in decades. The ways business is conducted, the nature of work and the shape of supply chains are likely to change significantly for the long term.

Similarly scaled global events have previously led to major economic and political resets. We have relied on the economic and multilateral structures created as a result of the resets that followed the Great Depression and the Second World War, and continue to depend on that creaking multilateral, rules-based system. But COVID-19 has ushered in a significant historical moment that is occurring in the context of a much less stable and multipolar world. So, the potential for resetting – even if unavoidable – may be harder to achieve, or may be only local.

2 *Sendai Framework for Disaster Risk Reduction* https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030

Some people are still clinging to a pre-COVID business-as-usual mindset and are hopeful of its return, but the opportunity and need for significant reflection and strategic change are clear, and wanted by many. The crisis appears to be a sufficient inflection point to shake many sectors into new ways of operating, rather than trying to scramble back to business as usual. The business community in general desires a more structured conversation about our long-term future.

We are now facing an opportunity, indeed an imperative, to make collective decisions that will improve the future prospects for all New Zealanders. Difficult, frank and civil discourse is needed, encompassing a broad range of issues and world views. The following sections highlight some of those key issues and suggest possible directions in which we need to travel to ensure our long-term resilience as a nation.

SEIZING AN OPPORTUNITY – CREATING A SENSE OF PURPOSE

New Zealand may previously have lacked a common sense of purpose as a nation, but recent events have offered an opportunity to create one, and to harness the positivity of our national culture to inspire transformative action. However, the 2020 election, with its inevitable focus on short-term political concerns, has undoubtedly affected our ability to collectively advance more aspirational goals. The most important issues we face require a long-term and decidedly non-partisan approach if true progress is to be made. National conversations, though difficult, are needed to agree on common goals and pathways to achieve them. This is the time for deep and genuinely inclusive deliberation, seeking a form of consensus to drive the country forward. New ways of engagement are required to overcome the zig-zag of partisan politics and our perpetual failure to address the big issues that vex society.

TESTING NEW ZEALAND'S COHESION AND RESILIENCE

TRUST AND SOCIAL COHESION

COVID-19 has altered social and political dynamics around the world. But before the pandemic, there was evidence of declining trust in institutions and increasing scepticism around the quality of public governance in high-income societies. Interestingly, however, the Edelman Trust Barometer recorded an all-time high in trust in government globally during the early stages of the pandemic.[3] Nonetheless, as the pandemic has progressed, increasingly polarised discourse and the spreading of misinformation have been weakening trust and social cohesion in many countries.

In relative terms, New Zealand is much better placed than other countries, and our reputation as a cohesive society has in fact been enhanced in recent times. We have endured a series of tragic events over the past 18 months that have unified us with a greater sense of common purpose and desire to support each other. Our responses first to the Christchurch mosque shootings, then to the Whakaari tragedy, and most recently to COVID-19 have shown our cooperative capacity, and the Prime Minister has led from the front with extraordinary communication skills.

As a whole, New Zealand has performed well because of our implicit social contract, our community bonds, and our relatively high levels of trust in each other and in our institutions. Nevertheless, we should not be complacent; already we are seeing signs of fatigue. The Government has enjoyed a high level of trust and confidence from New Zealanders, but this will wane over time. The public were quick to blame government failures in border control and in the quarantine system for the re-emergence of the virus, and the social cohesion shown during the first lockdown was far less evident during the second wave. In the wake of the pandemic, we saw some politics of grievance, with a number of new political parties emerging, and some mobilising specifically in opposition to the way the pandemic was being handled. The disempowered and marginalised were more likely to agree with and support some of these fringe parties.

3 2020 Edelman Trust Barometer Spring Update: Trust and the Coronavirus, https://www.edelman.com/research/trust-2020-spring-update

In the context of this ongoing uncertainty and declining trust, the cracks are starting to show for the many people who have become extraordinarily vulnerable as a result of the crisis. The end of wage subsidies and the ongoing business failures, especially in areas hit by the external economy and travel, could threaten confidence in those affected. The election season brought a range of selected fiscal promises at a time when national debt is already rising to unprecedented levels. Standard macroeconomic, fiscal and monetary policy seems ill-equipped to provide solutions in the context of the current fractured geopolitical environment.

Against this backdrop, the likelihood of emerging anger, chronic stress, and mental vulnerability over the coming years should not be underestimated.[4] We need to look seriously at how we can improve the quality and structure of social relations in society and maintain social cohesion, because our ability to work together towards common goals will be critical as we deal with the ongoing crisis, its aftermath, and other crises that we will inevitably face.

INDIVIDUAL AND COMMUNITY WELLBEING

Mental health needs that were poorly met before the pandemic have escalated significantly since its onset, and continue to challenge broad sectors of society, including those not previously considered at risk. The recent Koi Tū discussion papers on mental wellbeing,[5] especially in young people,[6] highlighted the need to empower communities to respond to issues that are multifactorial and require on-the-ground knowledge and cultural sensitivity, as these dominate over singular classic mental health disorders.

With an approximate doubling in symptoms of distress among young people in the last decade across the developed world, and perhaps even more so in New Zealand,[7] the crisis in youth mental health cannot be ignored. This is not simply a matter of needing more or better treatment services; rather it is a reflection of numerous complex issues related to emotional development and resilience in a rapidly changing world. While the digital milieu may be an important proximal factor, some potential solutions lie within the education system. Unfortunately, that system is neither equipped nor responsive to the changed nature of educational needs, including a greater focus on psychological development, critical thinking and the broad range of non-cognitive skills needed to survive in a dynamic technological world (see Education for the future below).

Employment, housing, and welfare support are critical elements that require government intervention, but community-centric mental health support is also critical. Iwi in particular have shown their ability to take the lead in supporting their whānau and hapū, and NGOs and community groups have also made significant contributions. Yet there is concern that the crisis may lead the government to return to a highly controlled and centralised model rather than exploit what we have learned from these groups' activities during the pandemic. The issues are clear – now real action is needed. This will start with an honest and holistic conversation about identity and sense of purpose, one that embraces issues of spirituality and what wellness and resilience really mean for our different communities.

LIVING IN A DIGITAL WORLD

Well before COVID-19 forced most of our communication on to online formats, connectivity to the digital world has been increasingly critical for society's functioning. Yet digital divides – in both access to and ability to use digital technology – affect a sizeable proportion of the population.

The pandemic exposed and amplified these divides, affecting in particular the ability of many students to participate in remote learning. Many children and indeed university students were faced with limited access or other difficulties in the digital space, with spillover effects on their overall motivational status and mental

4 Spoonley, P. et al. 2020. *He oranga hou: Social wohesion in a post-COVID world.* https://informedfutures.org/social-cohesion-in-a-post-covid-world/

5 Poulton, R. et al. 2020. *Protecting and promoting mental wellbeing: Beyond COVID-19.* https://informedfutures.org/protecting-and-promoting-mental-wellbeing-beyond-covid-19/

6 Menzies, R. et al. 2020. *Youth mental health in Aotearoa New Zealand – Greater urgency required.* https://informedfutures.org/youth-mental-health-in-aotearoa-nz/

7 WHO. 2019. *Adolescent Mental Health: Time for Action.* https://www.who.int/pmnch/knowledge/publications/AMH.pdf?ua=1%202

wellbeing. Our partnership research with Ngāti Whātua ki Ōrākei[8] showed that nearly 50% of rangatahi did not have access to adequate devices and connectivity. Further, the educational content available, especially for online Māori immersion learning, was grossly inadequate.

Many others, especially in the older community or in areas of socioeconomic deprivation, are also constrained from effectively using digital technologies, including for managing their finances, online shopping, and communicating with family and friends. The latter can lead to social isolation, particularly as we face intermittent lockdowns.

There is a serious conversation to be had about how a future digital society should operate, and the many issues we have failed to address in New Zealand, not only in regard to digital divides, but also over digital governance, ethics and oversight (see Technological transformation – Our digital future, below).

Compared with many countries, we are behind in thinking through the issues that are beginning to emerge and will further intensify as artificial intelligence (AI) develops.[9] Too often we have focused solely on the productivity side and the excitement of innovation, instead of considering the full range of consequences. And we should not be passive – studies increasingly suggest the digital age has a role in affecting our wellbeing in multiple, often detrimental ways.

COMBATTING MISINFORMATION

One of the consequences of the digital transformation is the speed and extent to which misinformation now spreads. Misinformation, disinformation and targeted, biased messaging have become the tools of interest groups, state and non-state actors. They threaten democracy and its institutions in many ways[10] and indeed the health of institutions, communities and individuals.

Misinformation is not new, but has been particularly rife in the COVID era, as complex and nonsensical conspiracy theories[11] and hyperbolic claims of novel treatments arise and spread far more quickly than facts via the internet and social media, reinforcing cognitive biases across the political spectrum. There is generally an inverse relationship between trust in government and a willingness to engage in conspiracy theories. The resulting 'infodemic' of pandemic-related misinformation undermines trust in science.

Retaining trust is therefore critical – as UN Secretary-General António Guterres has said with regard to the COVID infodemic, "The vaccine is trust. First, trust in science ... Second, trust in institutions ... And trust in each other."[12]

> *The vaccine is trust. First, trust in science ... Second, trust in institutions ... And trust in each other.*
>
> – UN Secretary General António Guterres

Given that misinformation spreads more effectively and faster than attempts at correction, the issues of how to respond are complex. However, regulation of misinformation and disinformation seems difficult. A 2018 European Commission report[13] recommended against attempts to do so, in the name of upholding guarantees of free speech, and instead suggested a framework of longer-term responses aimed at building societal resilience to misinformation. The recommendations include increasing the transparency of online information sources, promoting media and information literacy, and developing tools that empower users,

8 Hunia, R. et al. 2020. *Addressing rangatahi education: Challenges after COVID-19.* https://informedfutures.org/addressing-rangatahi-education-challenges-after-covid-19/

9 Gluckman, P. and Allen, K. 2018. *Understanding wellbeing in the context of rapid digital and associated transformations Implications for research, policy and measurement*. INGSA. https://www.ingsa.org/wp-content/uploads/2018/10/INGSA-Digital-Wellbeing-Sept18.pdf

10 Hollyer, JR. et al 2020. Fake news is bad news for democracy, *Washington Post*. https://www.washingtonpost.com/politics/2019/04/05/fake-news-is-bad-news-democracy/

11 Levine Einstein, K. and D.M. Glick. 2015. Do I Think BLS Data are BS? The Consequences of Conspiracy Theories. *Political Behavior*. 37: 679–701.

12 Guterres, A. *This is a time for science and solidarity.* United Nations COVID-19 Response. https://op.europa.eu/en/publication-detail/-/publication/6ef4df8b-4cea-11e8-be1d-01aa75ed71a1

13 European Commission .2018. *A multi-dimensional approach to disinformation: Report of the independent High Level Expert Group on Fake News and Online Disinformation*. https://op.europa.eu/en/publication-detail/-/publication/6ef4df8b-4cea-11e8-be1d-01aa75ed71a1

including journalists, to explicitly counter disinformation (e.g., online reporting portals) and promote positive engagement with digital media. Several countries have set up misinformation task forces and media literacy campaigns.[14]

New Zealand is not immune to misinformation and conspiracy theories, which have been amplified here as elsewhere during the pandemic. Rather than focusing on short-term combat of each false claim, we too need to consider longer-term responses to increase the resilience of citizens of all ages and backgrounds to misinformation and its wide-ranging societal harms. As recommended in the European Commission report, this needs to include sustaining a diversity of legitimate news media sources. Education is also key – critical-thinking and media-literacy teaching should be incorporated into the standard curriculum from a young age (see Education for the future, below)

THE 'TOO-HARD' BASKET – ADDRESSING CYCLES OF DISADVANTAGE

We continue to face a set of issues that remain perpetually in the 'too hard' basket, many of which have been exacerbated by COVID-19. Perhaps the most critical is the persistent and entrenched transgenerational disadvantage faced especially by Māori, leading to repeating cycles of poverty. This in turn manifests detrimentally in educational outcomes, and in subsequent impact on the emotional, spiritual and identity dimensions of the lives of individuals, whānau, and their wider communities. When such deprivation crosses generations, the issues are compounded for both developmental (biological) and contextual reasons.[15] The number of children born into economic poverty in New Zealand has more than doubled since 1980,[16,17] leaving thousands of individuals, and generations that follow, facing such additional risks. We need to explore much more aggressively how to break these cycles of disadvantage.

Equally, we must look at issues of empowerment and engagement and understand how different concepts of identity across cultures and traditions in New Zealand may influence these processes. All people have a right to assert their identity and take pride in their heritage, which is critical in ensuring successful and emotionally healthy lives. The right of Māori to live as Māori should not be compromised through discriminatory practices, structural violence, and poor and exclusionary decision-making. Until we recognise and understand this, progress on the many issues that affect Māori disproportionately (e.g., higher prison rates, poorer school achievement, inequitable provision of healthcare, higher rates of poverty) will not be adequately addressed.

DEMOCRACY: GOVERNANCE AND MANAGEMENT

CONSTITUTIONAL ISSUES

The next two decades will bring to the surface sensitive but unavoidable discussions that are somewhat interrelated: our relationship to the monarchy and our status as a dominion, and the further evolution of the partnership as understood in the Treaty of Waitangi. The relationship between government and Māori as tangata whenua continues to evolve, with very diverse views of what may or should happen in the future.

We will need to engage in a truly inclusive and considered dialogue about how we want to govern ourselves into the future, how we understand and evolve our bicultural and multi-ethnic society, and how we can address structural biases, which have to date prevented equal access to power and influence for all societal groups. Punctuated dialogue continues on issues of sovereignty and intergenerational planning to reduce inequity and inequality, but as this occurs repetitively in three-year cycles, it doesn't translate into significant action.

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14 Poynter. 2020. A guide to anti-misinformation actions around the world. https://www.poynter.org/ifcn/anti-misinformation-actions/

15 Scorza P, et al. 2019. Research Review: Intergenerational transmission of disadvantage: Epigenetics and parents' childhoods as the first exposure. *Journal of Child Psychology and Psychiatry*, 60(2): 119–32.

16 Boston, J. 2014. Child Poverty in New Zealand: Why it matters and how it can be reduced, *Educational Philosophy and Theory*, 46(9): 962–988.

17 Stats NZ. 2019. Child poverty statistics: Year ended June 2019. https://www.stats.govt.nz/information-releases/child-poverty-statistics-year-ended-june-2019

Our constitution is piecemeal and unorthodox – we achieve constitutional change via the enactment of statutes or by holding a referendum. But we are facing calls for a 'democratic renewal' – finding ways to improve public decision making, and indeed how we make laws, so that we can ultimately make better laws.[18] Will this involve giving Māori a greater voice and autonomy in the process? And if so, over what domains, and how? We are only 20 years from the bicentennial of the Treaty. If we are to preserve a robust democracy that is just, fair and inclusive, based upon a truthful version of our history and a shared vision for our future, then it is time to make progress on the many embedded issues. The initial work of the 'Matike Mai Aotearoa' working group presented some possible pathways for constitutional transformation that are strongly supported by Māori.[19]

There is a growing consensus that a three-year political cycle reinforces short-termism in policy development. While it may create the mirage of accountability, it does so at the cost of serious policy development that will lead to long-term, sustainable change. The New Zealand governance arrangements are unusual for an advanced economy, with little structural capacity for the type of deliberate reflection that would be provided by a strong select committee structure and/or an upper house. Our select committee system has the characteristics one might anticipate in a small, unicameral parliament with a strong executive, itself comprised of parliamentarians, which is generally reduced to detailed legislative review with minimal public service oversight. Even when (on the very rare occasion) detailed and bipartisan reports are written, they are largely ignored by the executive.[20] The early stages of the Epidemic Response Committee[21] showed the power of a strong, public-facing select committee system. Where upper-house systems exist largely for such purposes, rather than for legislative review, they can add depth to a vibrant democracy.

Around the world there are important experiments underway in strengthening democracy through tools such as citizens' juries and other related deliberative processes. Such approaches can serve important, non-partisan roles by facilitating inclusive dialogue on complex and values-laden matters. They require real commitment and investment to be effective, but they can provide means to increase the likelihood of achieving societal agreement on complex matters involving trade-offs and differing values. We can expect other experiments in both representative and participatory democracy to evolve in the digital age.

THE PUBLIC SECTOR

New Zealand must continue to celebrate its proudly non-partisan public sector, but the sector must also evolve and reflect on its state and contributions if we are to successfully navigate the rocky road ahead. Decision-making in government requires policy framing supported by deep analysis of the issues, the options and the consequences of each option chosen. But increasingly around the world, public sectors have become more focused on management than on analysis, and this is particularly so in New Zealand following both the neoliberal frameshift of the 1980s and the Public Sector Act (2009, 2020). This has resulted in a public service that lacks sufficient tools of anticipation, futures literacy, horizon scanning, technology assessment and foresight.

Part of the reason is the belief that most public policy analysis can be conducted by generalists, and in the higher echelons of New Zealand's public service, deep domain expertise is rare. Further, with the exception of those ministries with science advisors, technical advisory groups, or technical roles, such as the Ministry for Primary Industries, the link to the expert community is largely absent. Unlike many other democracies, there is little churn between academia, the private sector and the public service, and the tendency has been for the public service to reach to the beltway consultancies, themselves filled with ex-public servants. Given most of the issues that need to be confronted are transversal in nature,

18 Rashbrooke, M. 2020. The seven key challenges facing Jacinda Ardern. *The Spinoff*. https://thespinoff.co.nz/featured/19-10-2020/the-seven-key-challenges-facing-jacinda-ardern/

19 Mutu, M. and Jackson, M. 2016. *Matike mai! Māori-led constitutional transformation in Aotearoa/New Zealand*. https://nwo.org.nz/wp-content/uploads/2018/06/MatikeMaiAotearoa25Jan16.pdf

20 For example, see NZ Parliament. 2013. *Inquiry into improving child health outcomes and preventing child abuse, with a focus from preconception until three years of age*. https://www.parliament.nz/en/pb/sc/reports/document/50DBSCH_SCR6007_1/inquiry-into-improving-child-health-outcomes-and-preventing

21 Epidemic Response Committee: Covid-19. 2020. https://www.parliament.nz/en/visit-and-learn/history-and-buildings/special-topics/epidemic-response-committee-covid-19-2020/

systems need to be developed that support *ab initio* transversal policy development, and this may require significant enhancement of central agencies and/or further development of entities such as the Productivity Commission and think tanks.

REGIONAL AND LOCAL GOVERNMENT

New Zealand has a broad range of regional and local bodies and other forms of partial devolution (e.g., School Boards of Trustees and partially elected District Health Boards). The difference in scale and resources available to the regional and local bodies varies enormously, yet they all have the same range of devolved responsibilities. Auckland City, for example, has to manage services for 1.5 million people, whereas the average territorial council does the same for only 85,000 people, and some for much smaller populations. Yet the technical and infrastructural responsibilities are similar, and the many challenges ahead may require more decision making at regional and local levels. Disparate perspectives on resource and environmental management between central and local government are one of the core considerations behind the review of the Resource Management Act (RMA), and are reflected in some of the complexities around housing needs and prices, water quality, land use, and related issues. Issues have emerged when local bodies have struggled with the capacity to make decisions of this type. Single-issue local body politicians, elected from a very small proportion of electorate, have affected decisions of a highly technical nature.

To develop urban areas and regions that are fit for a more technology-based economy (see Considerations for our economic future, below) local body amalgamation may be critical to optimising not only economic growth but urbanised living in domains such as transport, housing, recreation and environmental quality. This will require consideration of complex technical, economic and values-based trade-offs. Finding ways to engage citizens with local body decision-making will be critical; this again points to the need for experimentation with more deliberative and participatory democracy approaches to expand citizen partnership with local bodies.

THINK SUSTAINABILITY – TOWARDS A HOLISTIC RESET

Around the world, many calls for a post-COVID reset have focused on the green economy, climate change and environmental degradation. Koi Tū released a report in June that canvassed many of those issues in a New Zealand context,[22] and a companion report that looked at the related subject of sustainability in food production and the primary sector.[23] Central to the formative discussion was the conviction expressed from a wide range of stakeholder groups that we need an overarching vision and strategy for New Zealand's future – one that puts all aspects of sustainability (encompassing the natural, social and economic environment) at top of mind. It is part of our culture as New Zealanders to prize our landscapes, waterways and natural resources as taonga, but we face a number of pressing environmental challenges that need to be considered in any kind of reset of our economy and ways of working and living.

It is noteworthy that in establishing the Sustainable Development Goals (SDGs), the United Nations did not focus solely on the natural environment but rather used the language of sustainability to illustrate the connections between environmental, economic, institutional and social sustainability. New Zealand is a signatory to these goals, but they are not reflected overtly in our policy processes. Treasury's Living Standards Framework and the 'wellbeing budgets' have some elements of integrated thinking, but these have a largely short-term transactional focus rather than establishing the basis of New Zealand moving forward on an agreed set of long-term goals.

There are abundant activities and ongoing discussions about how to achieve sustainability in different sectors, but they are not joined up under a common framework that would allow for leveraging synergies and maximising gains. *The environment is now* report[24] raised the concept of a Sustainability Commission,

22 Bardsley, A. et al. 2020. *The environment is now*. https://informedfutures.org/the-environment-is-now/

23 Bardsley, A. et al. 2020. *The future of food & the primary sector: The journey to sustainability*. https://informedfutures.org/the-future-of-food-the-primary-sector/

24 Bardsley, A. et al. 2020. *The environment is now*. https://informedfutures.org/the-environment-is-now/

in the same vein as the Climate Change Commission, which functions to set a direction and clear goals that override the short-termism of partisan politics. This type of independent body, empowered by engagement with the public, scientists, policy experts, the business community, NGOs and others, could help drive New Zealand towards agreed common goals.

Any strategy needs to take a holistic view. Although climate change raises the most obvious existential threat, it is only a part of the sustainability equation. Biodiversity, water quality, the built environment and the marine environment are all obvious and critical components of the environmental domain, and are intertwined with economic, social and cultural factors, and indeed with our ability to mitigate and adapt to climate change. In the New Zealand context, for example, the interface between primary production, economic growth, social sustainability and environmental sustainability is obvious. A Sustainability Commission could help set some long-term goals for different sectors across the economy in ways that addressed trade-offs and leveraged synergies, to help all parties identify which road to follow.

The stated broad political consensus to finally address long-standing issues created by the Resource Management Act is welcome.[25] Environmental management requires far better alignment between local and central government and an efficiency that clearly does not exist and drives up cost without necessarily enhancing environmental quality. Our discussions continually returned to the lack of adequate and joined-up environmental data and support for long-term research, much of which may not be seen as transformational, but is absolutely critical to good decision making.

CONSIDERATIONS FOR OUR ECONOMIC FUTURE

Prior to the pandemic, geostrategic trends and monopolistic digital-platform companies were already starting to disrupt the way economies operate, and will continue to do so. The concentration of extreme wealth in a few hands, especially internationally, has generated rising concerns about inequality, inequity and fairness, and there are growing calls for a rethink of the neoliberal model. Inevitably, any such discussions are confounded by different world views, special interests, politics and ideology, including in New Zealand – indeed this emerged as an issue in the recent election. There are very deeply divided views over the balance between sustaining the social safety net, incentivising people to be in the workforce, and promoting and rewarding economic innovation. In New Zealand, this debate takes place against a background of a relatively inefficient economy (in productivity terms), a low/stagnant wage economy, and a relatively broad social safety net – albeit one in which too many families and whānau remain trapped, with little ability to move forward. The tension in perspectives around these issues is at the heart of polarised politics. We need to get beyond simplistic solutions that ignore the drivers that keep us in these twin traps of low economic growth and high social dependencies. A mutually agreed direction needs to be found so that businesses, entrepreneurs and, importantly, young people can see the path ahead.

The COVID-19 disruption has provided further cause and opportunity to reassess business models, including here in New Zealand, where our agriculture and tourism economies were already under pressure to reduce their environmental impacts. Demographic changes have also put these industries under growing pressure to source skilled labour. Threats including future pandemics and climate change pose significant risks to our current economic model. While we face ethical imperatives to act now to mitigate climate change, we are already seeing a global shift against the consumption of carbon-intensive goods and services, which will heavily affect our tourism and agriculture-based economy.

COVID has also laid bare the vulnerability of supply chains and hazards of our highly connected world. In this context, many sectors have had to revisit how they do business and, indeed, what types of businesses we should be encouraging. Our current over-reliance on a small number of industries increases our vulnerability in the face of global shocks. These issues were considered in a recent Koi Tū discussion paper entitled *New Zealand's economic future: COVID-19 as a catalyst for innovation*,[26] which addresses many

25 Harman, R. 2019. Cross party consensus to rewrite the Resource Management Act. https://www.eds.org.nz/keep-in-touch/blog/2019/cross-party-consensus-to-rewrite-the-resource/

26 Greenaway-McGrevy, R. et al. 2020. *New Zealand's economic future: COVID-19 as a catalyst for innovation*. https://informedfutures.org/nzs-economic-future/

aspects of our future economic sustainability and indicates where further conversations are planned or under way.

Given the need to reduce the impact of extractive industries and the realities of our geographical location, it is prudent to consider how we can leverage our most important asset: people and knowledge. Building this asset will require fresh thinking and innovative strategies.

Remodelling our research and innovation ecosystem will be critical, including restructuring public R&D institutions, building at least one world-class university and enabling tertiary-sector specialisation, and growing a globally competitive innovation hub that attracts multinational corporations and foreign direct investment. Creation of industry clusters that are focused on the production of knowledge can bring many benefits, including driving productivity, adding value to current areas of strength, reducing risk through diversification of the economy, and lessening environmental impacts as a result of a greater focus on relatively weightless exports. Agglomeration and concentration effects are important. Urban policies and governance need to evolve to support that strategy. Ultimately, we also need to find ways to improve and increase the interactions between the international community and local New Zealand firms.

A top-notch university can serve as an "anchor institution" to seed the innovation ecosystem of industry clusters, providing a skilled workforce and an appropriate knowledge culture.[27] On this, New Zealand has a long way to go. Indicative of a lack of strategic coordination in confronting the tertiary sector's post-pandemic future, New Zealand's eight universities are making individual, and sometimes drastic choices in reaction to plummeting incomes following the loss of foreign student tuition. This is the one sector of the public purse where incomes are largely determined by government policies, yet universities are receiving no government assistance. The long-term costs of such a disinterested approach will be high.

GROWING LIVEABLE CITIES

Globally, cities are the primary units of innovation in a technological age, and successful innovation hubs depend on liveable cities. As our most internationally positioned city, Auckland will require further development to attract and support such knowledge-intensive businesses. This needs to be complemented by industry-specific clusters in other cities. Clear industrial and urban strategies and smart policy development will be needed.

New Zealand's population is already primarily located in urban areas, and the urbanisation trend will accelerate as our economy moves towards technology and innovation as weightless exports. Yet the decisions needed to make cities healthier and more attractive places to live cut across domains that are confounded by a lack of policy coherence between agencies and between local and central government, and face deficiencies in long-term planning over infrastructure, housing, transport, recreation, and schooling.

For cities to succeed, they need to attract and aggregate international businesses as well as be consciously designed to create an appealing place to live for potential workers and their family/whānau. Urban amenities development needs to go hand in hand with housing development. For example, as Auckland moves towards more apartment and high-density housing, issues of transport, schools and recreational facilities become a more central and urgent concern.

Meanwhile, it is well known that Auckland has a shortage of affordable houses and lacks the infrastructure necessary to support densification and growth. Several issues are at the heart of this crisis. There has been persistent discord over urban planning and a long-term infrastructure spending deficit that is caught up in our approach to, or lack of, long-term planning, is finally gaining some attention.[28] Other issues include building standards that support monopolistic materials supply and a failure to invest in low-cost systems, such as modular housing. The result is a much higher build cost per square metre than in other countries.[29]

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27 Mulgan, G. 2020. Innovation districts: How cities speed up the circulation of ideas. Nesta. https://www.nesta.org.uk/blog/innovation-districts/

28 Beca. 2018. *Enabling Growth – Urban Zones Research: Key Observations, Findings and Recommendations*. https://www.mfe.govt.nz/sites/default/files/media/Towns and cities/enabling-growth-urban-zones-research-key-observations-findings-and-recommendations.pdf

29 Steeman, M. 2019. Red tape and high costs are strangling the building industry, new survey reveals, *Stuff*. https://www.stuff.co.nz/business/112347709/red-tape-and-high-costs-are-strangling-the-building-industry-new-survey-reveals

RETHINKING TAXATION

New Zealand's social contract has been predicated on the idea that high-quality healthcare and education should be accessible to all, regardless of socioeconomic status. In the face of increasing education and health costs, it is only prudent to ask where we will find the resources required to maintain this social contract. The economy still follows a productivity trajectory that will ultimately fall short in delivering the increases in income necessary to sustain these commitments. It is time to rethink how we do business.

Related to this is rethinking how we meet the costs of government. The political discourse tends to be largely around income tax rates, and some emergent discussion around various forms of asset or wealth tax, with less thinking about consumption taxes. Naturally, these are contentious issues, reflecting the different world views, perspectives and interests of each potential taxpayer, and the weighting given to spillover effects. However, as our economics paper[30] points out, reliance on income tax as employment patterns change causes problems over the longer term. Further, the digital environment creates new potential for avoidance. Although they all have limitations, we need to consider the value of various forms of consumption or externality taxes (beyond GST) and asset tax. The Emissions Trading Scheme is a limited form of taxing externalities and consumption. But taxing carbon or energy use is critical if we are to reduce the long-term environmental and social costs of emissions. As an asset tax, a land tax is hard to avoid, is easiest to implement and, depending on how it is implemented and what exemptions are in place, it could have some desirable spillover effects. A land tax was favoured by the Tax Working Group, but with rates set according to the ecological impact of activities occurring on the land.[31] All tax systems need to find ways to reward productive effort, not be overly regressive or progressive, and minimise avoidance.

MIGRATION POLICY AND DEMOGRAPHIC CHANGE

Our changing demography, marked by rapidly ageing social structure and declining fertility, has huge implications for the future. What will it mean for dependency or entry:exit ratios in the labour market? It is not only automation that will drive changes in the future of work – demographic change is likely to have an even bigger effect. In advanced economies, changes in demographic structure over the last ~40 years have been shown to be negatively correlated with growth and innovation.[32] Current retirement policies have their origin in a very different age when life expectancy was much lower. Different people approach the seventh decade in different states of health, economic robustness and ambition for what may be another 25 years or more of living. We may need to explore and create more adaptive retirement policies rather than assume a singular approach.

Immigration is also a key factor affecting labour supply and productivity. The COVID travel restrictions have highlighted issues of labour supply in a range of sectors, from those that rely on short-term labour such as horticulture and construction, through to permanent migrant labour for IT, health and eldercare. The opportunity to attract investment and talent in multiple sectors as a result of our reputation and our performance in the COVID crisis has been the subject of much commentary, but this opportunity could be quickly squandered. We are not alone in being attractive – Australia is also now doing well in battling the virus. The need to attract investment, entrepreneurial talent and international connectivity is obvious. Beyond the immediate and transient issues of border barriers, the Overseas Investment Act and its limitations on property ownership are a barrier to the very group of people that would add much to our ability to thrive.

The lack of coherence of our migration and population policies, which have been largely seen through a short-term political lens, will require strategic thinking and serious conversation if we are to be better prepared for the future.

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30 Greenaway-McGrevy, R. et al. 2020. *New Zealand's economic future: COVID-19 as a catalyst for innovation*. https://informedfutures.org/nzs-economic-future/

31 Tax Working Group. 2019. *Future of Tax: Final Report volume 1*. https://taxworkinggroup.govt.nz/sites/default/files/2019-03/twg-final-report-voli-feb19-v1.pdf

32 Aksoy, Y. et al. 2019. Demographic structure and macroeconomic trends. *American Economic Journal: Macroeconomics*, 11(1): 193–222.

SUSTAINABILITY IN THE PRIMARY SECTOR

In the wake of the pandemic, the primary sector has once again reinforced its role as the mainstay of our economy, given the collapse of external tourism and of export education.[33] For years, the sector has been unfairly seen by many as mature, but in fact it is increasingly innovative in finding ways to increase production while limiting environmental damage. However, the sector needs to continue to evolve towards much more accountability in its environmental impact. New technologies will play a role – from precision agriculture using sensors, robotics and big data, to harnessing new knowledge about nutrition and food construction coming from studies elucidating the role of microbiota in the gastrointestinal tract.

There may be a short-term advantage in relying on promoting our current production system globally, but longer term we need to consider the inevitability of moves towards different food production systems that address the challenges of environmental sustainability, food security and health. Many new technologies, including genetically based technologies and synthetic foods, will be part of that transition globally. Recognising that food production systems take time to shift, the question is, where does New Zealand position itself for the future? Diversification will be a key part of protecting our interests over the long term.

We will need to find ways to take advantage of the move towards plant-based diets, which will accelerate as climate change becomes more acute, and the shift from a commodity and hedonistic market to one designed to enhance health. Indeed, there are opportunities in the evolution of precision nutrition that New Zealand could advance to its benefit. Aquaculture and marine farming offer other opportunities.

Our ability to take up these opportunities will require investment in high-calibre strategic research and innovation. Unfortunately, too much of our research is driven by short-term incentives rather than being linked to a long-term strategy. It is also constrained by a high administrative overhead. This hampers the capacity of the sector to evolve a socially and environmentally robust business model that will be resilient to the inevitable changes ahead, including climate change and changing consumer preferences. Opportunities were lost in how the National Science Challenges evolved, and it is time to ensure that taxpayer mission-led research is accountable and meets the needs of the country, not the researcher or research provider.

By definition, all agriculture is ultimately extractive. It is converting solar energy into protein and carbohydrates by extracting carbon and nitrogen and other elements from the soil. The debate is largely over how they are replaced and with what costs if the production system is to be sustainable. While much is written about 'regenerative agriculture', most is based on offshore systems very different to those in New Zealand. We need to be sure that any shifts in farming practice are scientifically sound and will lead to long-term environmental and economic sustainability. There is a danger in language capture: all food is in the end organic, no matter how it is made, but the term has been captured with a specific meaning.

A reorientation strategy needs to be forward looking, involving meaningful conversations about contentious technologies and other approaches that may become increasingly necessary for the primary sector to survive. A precautionary approach to genetic technologies made sense 25 years ago, but the inability to explore how these technologies could advance our primary sector while reducing its environmental footprint is now limiting New Zealand's sustainable future. We currently approach the future of our biological economy with our hands tied firmly behind our backs – the questions of effectiveness and value cannot even be asked. Meanwhile, we are relying on these new technologies to both diagnose and hopefully prevent COVID-19. Any vaccine produced will be heavily dependent on genetic technologies.

COVID-19 has opened a window of opportunity for our food sector to leverage its good reputation, and that of New Zealand, to make important strides towards true sustainability. Our country's behaviour over the past two years, our leadership and our response to the pandemic have all helped increase our international profile. If we add to that a commitment to sustainability, social cohesion and the distinctive New Zealand story of biculturalism and ethnic diversity, we should be able to create a coherent brand to sell to the world. But it has to be a brand that is auditable and credible. Claiming a low environmental footprint is not

33 Bardsley, A. et al. 2020. *The future of food & the primary sector: The journey to sustainability. https://informedfutures.org/the-future-of-food-the-primary-sector/*

enough. It needs to be validated and accredited, and the brand needs to be honest and positive. It needs to encompass what we sell to the world, and hopefully when we are in a position to rebuild tourism. Building the infrastructure for that branding is critical.

THE ROLE OF RESEARCH

New Zealand has never been a substantive investor in research. Yet the global evidence is unequivocal: countries that invest in research have more rapid productivity growth. It is through public sector investments in research that countries will generate the new knowledge that will give them an advantage in the 21st century.[34] As a result of its size, New Zealand will never be among the largest generators of new knowledge in absolute terms. But the investments in public sector research by countries such as Singapore, Korea, Denmark, Austria, Ireland, and Finland highlight how much of an outlier we are for a small population.[35] Our agricultural strength is built largely off the strength of our research in that sector 20–50 years ago and continuing in a less stable way more recently. The nature of the technological revolution and the realities of climate change mean that increasingly our exports will need to be 'weightless' if we are to diversify and grow our economy – this will require ongoing support for public-good research and innovation.

Successive governments keep pointing to the private sector, but the reality is that private sector investment will grow only when public sectors, our universities and research institutes produce knowledge and talent capable of being exploited at scale. Comparative figures need to be interpreted in light of our lack of large companies and multinational corporations, our industry mix, our geographical reality and the compromised state of our universities. The balance between mission-led and investigator-led research needs to be kept in mind. Investment in industry support is not an adequate or appropriate replacement for public sector investment.

We have talent to invest in, spanning the natural sciences, the social sciences, the data sciences and engineering, and the creative sector. There is also a necessity to ensure that our research infrastructure is responsive to and draws on mātauranga Māori and Māori research expertise and leadership. This will require public sector support and funding. There are areas where bringing these together could create strategic advantage and opportunity, but we must be able to sustain these capacities, and to attract the best we have here to train and stay, or to return from overseas. People are at the heart of any innovation system, yet our research system is less sensitive to issues of training and career paths than countries we would see as comparators. Rhetoric over many administrations needs to be matched by performance. The return on upstream research takes time to be realised, but that is a reason to invest now, not to defer.

EDUCATION FOR THE FUTURE

No matter the components of our vision, education will be key. People are our most valuable resource, and we need to start at the base – our children are our opportunity. We will need to build them into a bright, innovative and healthy workforce ready to face the challenges and opportunities ahead. This needs to start from early childhood education (ECE), which helps develop cognitive skills and particularly those emotional regulatory functions that are critical for learning and mental health and for later life. Education focused on executive function development starting in the preschool years is key to developing psychological resilience. This is critical if young people are to grow up resilient to rapid change. However, to use these early years well may require substantive rethinking about the nature of early childhood education.

The compulsory school years are equally critical for developing New Zealand's future, and it could be argued that a review of the compulsory education system is one of the most important and urgent matters needing to be addressed. That system needs to provide *every* student with a high-quality education. All children, no matter their background, ethnicity, family history or community expectations, must know that

34 OECD. 2010. *Innovation to strengthen growth and address global and social challenges: Key findings*. https://www.oecd.org/sti/45326349.pdf

35 OECD. 2017. OECD Science, Technology and Industry Scoreboard. https://search.oecd.org/sti/scoreboard.htm

they have an equal chance to succeed. A renovated education system can help fix many things – indeed it is key to breaking the cycle of transgenerational disadvantage – but support is needed on many levels. Sadly, we still have a high rate of functional illiteracy that is evident when young people leave school. Employers find that many cannot comprehend basic work safety manuals. Even higher education institutions must invest in remedial assistance. The majority of prisoners are functionally illiterate and the causal relationship cannot be ignored.[36]

As the digital transformation continues to accelerate, education will need to change radically and quickly for our young people. Indeed, the digital age will require very fundamental rethinking about what education is, and how it is provided at every age and stage, from early childhood to mature learning and reskilling. We need to consider how best to teach children critical thinking, and how to reinforce psychological resilience. Extending beyond classical numerical and reading literacies, a healthy, future-focused society will also need civic literacy, science literacy, digital literacy,[37] and fiscal literacy. As digital platforms are increasingly intermingled with in-person education, a much more dynamic approach to education will be needed.

The evolution of education extends beyond ECE and the compulsory education sector to tertiary education and vocational training as well as life-long Continuous Education and Training (CET), all of which require additional attention. The importance of technological education is growing, but a healthy society also needs cultural and creative activities. Do we have the right mix of institutions and incentives for the 21st century? Should we seek more differentiation in a tertiary sector that has become increasingly homogenised?

The global competition for talent is real, and if our highest-ranked universities remain uncompetitive with the best in Australia or South East Asia, New Zealand's position as a potential magnet for keeping and attracting talent will be weakened. Export education is one sector that may temporarily flourish if the border is reopened, but in the longer term the advances in e-learning technologies accelerated by COVID-19 make this unlikely to be a sustainable high-value industry in its present form. The university sector will be particularly affected, as New Zealand and Australia are two OECD countries with university systems that have the greatest dependence on offshore students.[38]

As we look to the future, it is clear the nature of work will change substantively, and certainly the skills needed over a working life will change. Some occupations are considered likely to be more affected than others.[39] Much is said about the need for retraining, but little is known about how to train different age groups and industry sectors across the life course. The education sector will also struggle to match education and skills training to the labour market unless employers and policymakers become far more adept at anticipating future workforce demand. A boost in CET is needed to recognise ongoing shifts in employment and the need for reskilling/upskilling on an ongoing basis. To date, there has been insufficient systematic thinking or expertise in New Zealand to address what may be one of the most important determinants of our individual and economic wellbeing over time.

TECHNOLOGICAL TRANSFORMATION – OUR DIGITAL FUTURE

Humans are unique in their cumulative and progressive development of culture and technologies. This may have started simply with the need to create shelter, seek food and provide protection more than 100,000 years ago, but in the 21st century it is something very different. Technology dominates our lives and our futures in ways that are universal, and the pace of technological development is rapid, even in normal times. For example, what has already been produced through technology under the urgency of the

36 PMCSA. 2018. *Using evidence to build a better justice system: The challenge of rising prison costs.* https://www.pmcsa.org.nz/wp-content/uploads/Using-evidence-to-build-a-better-justice-system.pdf

37 Digital literacy encompasses technical and cognitive skills needed to navigate and interpret information in the online environment that help guide decision-making with regard to information, images, videos and social interactions.

38 OECD Data. International student mobility. https://data.oecd.org/students/international-student-mobility.htm#indicator-chart

39 McKinsey Global Institute. 2017. Jobs lost, jobs gained: What the future of work will mean for jobs, skills, and wages. https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gainedwhat-the-future-of-work-will-mean-for-jobs-skills-and-wages

pandemic is extraordinary. But in that broader technological escalation, serious and complex issues are starting to emerge – to the point where we must now critically explore the impact on individuals, on our social lives, on our civic lives and on the institutions that allow us to live relatively cohesively in the large agglomerations called nations.

The development of the internal combustion engine and the discovery of ways to turn fossil fuels into usable energy were momentous discoveries of technology and science in the 19th century, but the unintended and unforeseen consequences are now biting back on us, creating climate change, arguably the most profound existential challenge our species has ever faced. But the digital transformation, the emergence of AI and soon other technologies such as machine-brain interfaces could have profound effects on how humans live their lives. Indeed some see technological challenges to societal wellbeing as an emerging existential threat.[40, 41]

Among the confluent transformations that were already occurring, some have been explicitly accelerated by COVID. The digital transformation in particular has effects that require much greater attention, and the pandemic has made these somewhat more acute. Our choices about technologies are encapsulated in our perceptions of risk, cost and benefit – perceptions that can be manipulated, and that are in any case largely determined by our cognitive biases.

In the case of the internet and social media, we all saw immediate benefit – communication, gossip, games and access to information. Naively, it grew as if it was unequivocally a social and economic benefit. There is no doubt the claims of convenience of digital technology are fair, and some businesses managed to use it, along with automation and machine learning, for productivity enhancement, although sadly many New Zealand firms fall way behind in that regard. But governments and citizens were slow to recognise that, as with other technologies, there were also many downsides. Privacy could be compromised, because both utility and value came from extracting and controlling personal data. The industry naturally favoured aggregation into the large platform companies that are now effectively beyond jurisdictional control. Their products and services, rather than being universally beneficial, have aggravated inequalities, enabled easier manipulation of information and threatened mainstream media with collapse. The result is a flood of deliberate misinformation, much of which is increasingly targeted for maximum persuasion, to the point of threatening democracy as we know it. The anonymity and pervasive access of Twitter, Reddit and other platforms have changed the nature of conversation, undermined civil discourse, and enabled the politicisation of identities and targeting of information, opinion and sales pitches to increasingly polarised segments of the population.

Data is indeed of enormous importance – to platform companies for profit, and to governments for improving delivery of services. But, paradoxically, the public resists the use of personal data by governments, while essentially giving it away to Google, Amazon and Uber on a daily basis. The potential for the government to use data for better decisions on social expenditure – an area where New Zealand could have been a global leader – has been undermined by a resistance to developing the proper independent oversights necessary for the public to have confidence in its use. This is a factor that has played into the unnecessary and now problematic delay in having truly effective digital contact-tracing technologies in place.

Governments need to find ways to be more active, and companies to be more societally responsive. Our current regulatory regimes cannot deal with fast-moving technologies emerging from the private sector and crossing jurisdictional calls. We need to think far beyond the Christchurch Call. New oversight and regulatory regimes and global compacts are needed. The development of electronic currencies on a non-jurisdictionally controlled network could undermine the power of banks and treasuries. Can our current taxation systems survive 20 years of technological progress?

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40 Beckstead, N. 2014. Chapter 10: Managing existential risk from emerging technologies. In *Innovation: Managing risk, not avoiding it*. Government Office for Science, UK. https://www.fhi.ox.ac.uk/wp-content/uploads/Managing-existential-risks-from-Emerging-Technologies.pdf

41 World Economic Forum. 2020. Wild Wide Web: Consequences of Digital Fragmentation. https://reports.weforum.org/global-risks-report-2020/wild-wide-web/

OUR PLACE IN THE WORLD

COVID-19 appeared at the time of very big shifts in the world order, a retrenchment from globalisation and with the international rules-based order and multilateral institutions under threat. Overall, the pandemic has exposed existing inequalities and tensions and deepened international rifts. The economic model may shift from one focused on efficiency to one focused on resilience and equity. Global value chains may shift considerably as a result.

In this context, technology sovereignty is becoming a defining issue. Technology is partly about our capabilities, but partnership strategies at the national level are critical, particularly for a country of our size. However, our ability to collaborate and thrive in a technological world will also hinge on our geostrategic outlook. We are seeing technological development – including technologies that will radically change our lives (AI, quantum computing, blockchain, synthetic biology), and which can be used for good or ill – against a backdrop of growing and erratic tension between China and the USA. To date, New Zealand has successfully navigated its way in these stormy waters, but it creates risk for us in that decisions will be made by others and we have limited or no ability to influence them. We are closer geographically to China, but ideologically closer to the US. Can we be an independent actor in this dance?

Our high standing as a good global citizen with a history of global cooperation, demonstrated cohesiveness, integrity, trust and stability and with an environmental focus carries us in good stead, but with little geostrategic weight.[42] We will need to partner for many reasons, but particularly to protect our interests. We will need to build coalitions of like-minded countries, for example to try to repair and protect the World Trade Organization (WTO). We will have to engage more aggressively in soft diplomacy – that is, science and cultural diplomacy – to build relations with countries who share our interests, but where our footprint has been minimal, as in many other small economies. Positioning well may help us attract the workforce of the future and the investment that goes with it. But we have a dilemma in our closed borders – we have put up literal walls at the very time we will need to be outgoing and engaged. Business knows the importance of vibrant relationships and the effort that must go into sustaining them. Science and the arts know this, too. We need to find ways to support such activity that are compatible with the fortress we have created. The government needs to be an active partner in finding solutions. Again, a clever immigration policy could be to our advantage.

42 Allen, J. et al. 2020. *New Zealand's place in the world: The implications of COVID-19*. https://informedfutures.org/new-zealands-place-in-the-world/

CHALLENGING CONVERSATIONS AHEAD

The COVID-19-induced social and economic recession can be seen as an inflection point, one that provides an incentive to rethink multiple aspects of our path ahead. How can we sustain and transform our economy in ways that allow our social and environmental futures to flourish? How can our distinctive society flourish? Any shift will take time and needs a coordinated strategy agreed across many sectors of government and society.

In many ways it is unfortunate that our electoral cycle has collided with the pandemic, as this has ensured that much of the conversation has understandably been reactive and tactical rather than reflective and strategic. This paper has skimmed over a number of complex dimensions that merit deep discussion, and there are many others it could have focused on. But the point is that whatever we do, everything is linked to everything else, and every decision is linked to many others. We need to find new ways to deliberate on the complex issues, consider the disputed values, and allow an appreciation of the trade-offs involved in any choice as we select the path ahead. But because the journey will be long, it is important a national consensus is reached if possible. Partisan politics has a role to play in a democracy, but discussion over the longer-term shape of New Zealand deserves a more consensual and collective approach as the solutions must span the ebbs and flows of political cycles.

Around the world there are many new experiments in participatory and deliberative democracy, and we are striving to learn from these to develop a bespoke model of deliberation in the New Zealand context. Koi Tū exists to stimulate and facilitate such complex conversations, but it is not for us alone to provide the solutions – they must be collectively owned.

We must not let this opportunity be drowned by the acute decisions that are necessary as the pandemic moves into its next challenging phase. In fact, the decisions we make during that coming phase will do much to determine the shape of the next decade. We need to move beyond an understandable phase of fear and precaution to one of adaptive risk management as we deal with what the virus may throw at us. Harnessing our high social cohesion, we see the opportunity to shape the years leading up to the important milestones of 2030 (the SDG target year) and the bicentenary of the signing of Te Tiriti o Waitangi in 2040.

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We are grateful for the rich discussions and insights provided by our conversation participants:

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