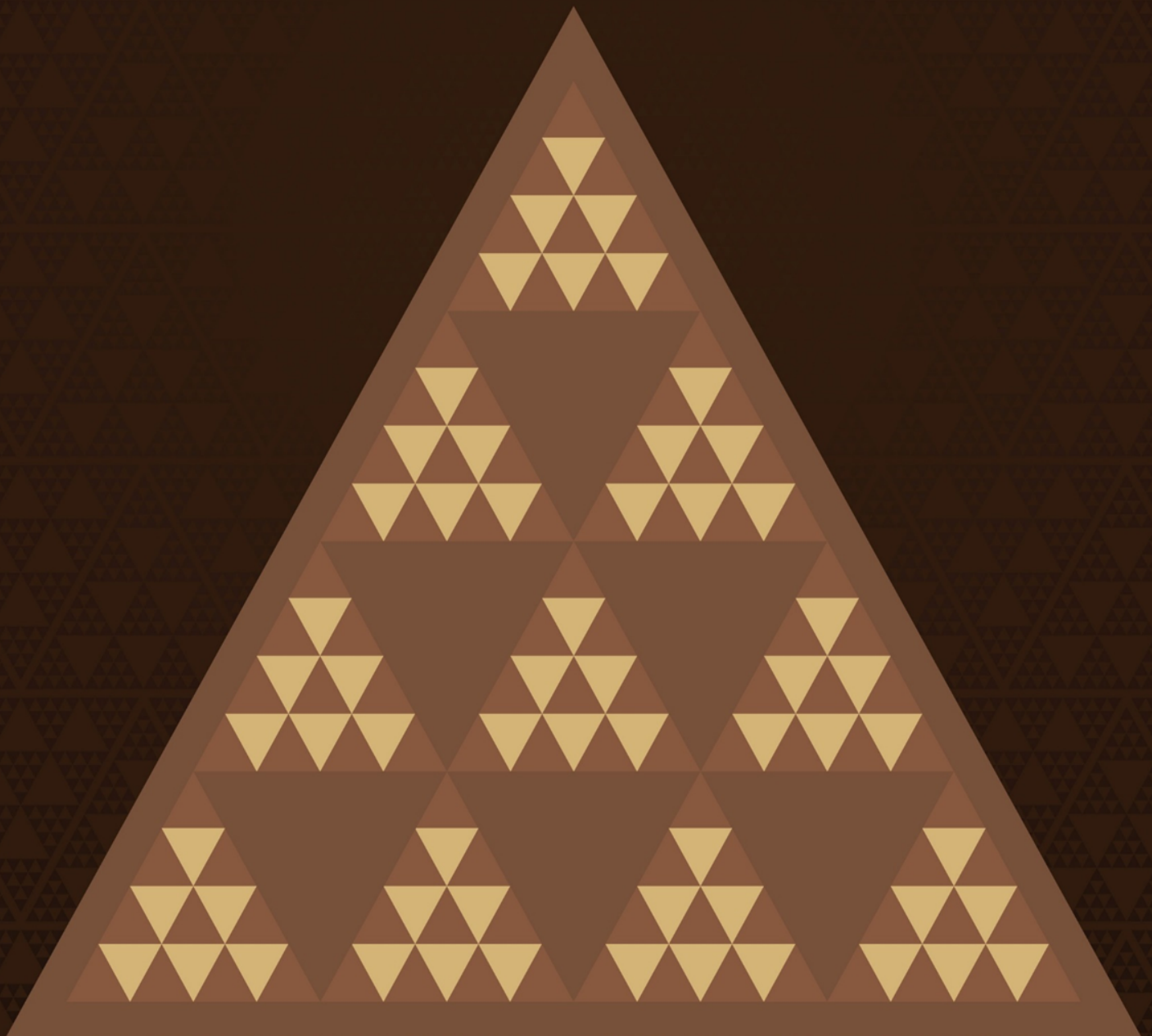# TE NIHO O TE TANIWHA

Teeth of the Taniwha

Exploring present-future pathways for whānau and hapū in

Māori economies of wellbeing

30 June 2022

Matthew Rout, Chellie Spiller, John Reid, Jason Mika, Jarrod Haar

Contents

Comments on style

Citations of quotes from texts that use Māori words receive a macron, whether the original text featured a macron or not. The practice of putting a macron on all Māori words enables readers of te reo to see how these words ought to be presented. Footnotes have been used throughout for ease of reading. Where websites are sourced, we simply provide the link, for all other sources such as journal articles and books we provide the full reference at the first mention in the footnote, and abbreviated thereafter. We have only indented long verbatim quotes for emphasis, otherwise quotes, regardless of word count, remain in text for fluidity of reading.

To cite this report

Rout, M., Spiller, C., Reid, J., Mika, J. and Haar, J. (2022, 30 June). Te Niho o te Taniwha: The teeth of the Taniwha. Exploring present-future pathways for whānau and hapū in Māori economies of wellbeing. Ngā Pae o te Māramatanga: Auckland.

INTRODUCTION

Purpose and scope

This report outlines the scope of the project *He oranga whānau: mahi ngātahi Whānau livelihoods within the context of work and Māori economies of wellbeing*, which has been funded by Ngā Pae o te Māramatanga—the New Zealand Māori Centre of Research Excellence. Its purpose is to set the direction and design for the research project. To say the creation of such economies will be a complex task is an understatement. Three factors make this task a 'wicked problem'.[1] First, the ongoing material, socio-cultural, and psychological impacts of colonisation. Second, the entwined nature of the 'Māori economy' within the wider settler economy, and the settler economy's enmeshment within the global economy. Third, future uncertainty at the regional, national, and international levels in which such an economy must operate.[2]

Present-future pathways

The Ngā Pae o te Māramatanga Māori Wellbeing Economies team have created a *Present-Future-Pathway* framework to help guide our mahi rangahau: *Present* provides a stocktake of the current situation, mapping the Māori economy as it stands; *Future* details a fully realised vision of a functioning wellbeing economy, outlining the practical parameters in which an achievable wellbeing economy would operate; while *Pathway* provides the strategies, policies, and actions needed across the Māori economy to transition from the *Present* to the *Future*, as well as to determine the nature and timing of each phase and the necessary indicators for measuring progress.

The report has three main sections. In the first section, the report maps out the future landscape, identifying some key trends over the next 30 years across environmental, economic, political, demographic, employment, and business domains. The purpose is to ascertain the broader context in which a future Māori wellbeing economy will have to function and the opportunities and challenges it will face.

The second section of this report does a deep historical dive to build a background for the axioms developed in the third section, examining four time periods from a wellbeing economy perspective. The first time period, the Hawaiikians, refers to the time period prior to the formation of a Māori identity that emerged on European contact. The second time period examines the time often referred to as the 'classic Māori' period, but which is here called the Whānau-Hapū period, where the core institutions of te ao Māori solidified. The third time period, the Māori, refers to the time

period before the present, in which Māori adapted, adjusted, and fought for their right to an ongoing independent identity and the maintenance of economic lifeways. The fourth time period, the Aotearoan, reflects the present day and the struggles and opportunities Aotearoans face.

The third section of the report aims to explore relevant theoretical perspectives pertaining to the Māori wellbeing economy. Within this section, core Māori principles, concepts, values, and symbols are explored and how they pertain to economic thinking. It includes an analysis of whānau, whakapapa, kaupapa, tikanga, mana, mauri, tapu, hau and wairua. This analysis is combined with an exploration of general economic literature that intersects and aligns with Māori approaches to wellbeing economics, which includes human needs theory and institutional economics. Through this analysis, a series of crucial definitions and axioms are detailed from various pieces of literature related to economics and social wellbeing.

The authors, however, wish to position the historical, present, and future-oriented analysis in this report within the symbol of the taniwha in mind, which is why this is discussed first in this report. Representing the active and energetic guardian spirits of nature, we can view the lifeways of the Hawaiikians as the vital and authentic expression of taniwha, while the life ways of Māori as the struggle to express the ngā taniwha, while the Aotearoans as the future in which the relationship with taniwha are reclaimed. It is in this vein that the authors, as Aotearoans, seek to bring forward the symbol of the taniwha so that the reader may use it in the interpretation of the past, the present, and the future.

Taniwha as a tohu

As part of our exploration, we have chosen the taniwha as our tohu. Taniwha, in this sense, may be a guide to a hopeful future or a symbol of destructive force. Dame Naida Glavish cites a whakataukī from the visionary leader Aperahama Taonui on taniwha:

> He taniwha kei te haere mai, ona niho he hiriwa he kōura ko tona kai he whenua.
> Kaua e mataku i te hiriwa me te kōura, engari kaua e tukua ite hiriwa me te kōura hei atuatanga mou.
>
> There is a Taniwha on its way with teeth of silver and gold.
>
> Do not fear the teeth of silver and gold; just do not allow it to become your GOD.[3]

Joseph and Benton say that a taniwha, "as well as denoting a guardian being or an idea whose time has come, the term is also applied to a person of great eminence".[4] Māori business graduates of

the University of Auckland are called ngā taniwha.[5] Foreign Affairs Minister the Hon. Nanaia Mahuta describes bilateral relations between China and Māori as a meeting of the Dragon and the Taniwha:

> Taniwha are endemic to Aotearoa but can trace their whakapapa across the vast expanse of the Pacific Ocean – Te Moana nui a Kiwa. Taniwha are protectors or guardians, often of water, and hold dominion over rivers, seas, lands and territories.
>
> Deeply steeped in culture, they are spiritual and one with nature. They symbolise a sense of guardianship for our people and our land and a strong belief in self. [6]

And like the Dragon, they are powerful, auspicious, and embedded in our epistemology. They have many forms, symbolising leadership, prestige and strength, and are to be revered. In the context of Māori governance, Joseph and Benton edited a significant volume of works described as 'Waking the Taniwha', which they describe:

> As an idea, the taniwha has undergone several transformations during the course of its migration from the Molucca Sea to Aotearoa, transforming itself in turn from a snake or small fish to a tiger shark, a dangerous water creature, and a guardian being capable of manifesting itself physically, and taking direct and effective action; in Aotearoa today, as investigative journalist Michael Field points out: "Politically taniwha are not to be taken lightly."
>
> One such taniwha is Māori consciousness of the implications of the notion of governance as this affects Māori people and their institutions… it has been an uphill struggle, but the notions of tino rangatiratanga and mana motuhake, the right and ability to act autonomously in the interests of the collective, have combined to wake the taniwha…[7]

Thus, taniwha are a force and people to be reckoned with. Cautionary tales of taniwha abound as entities found in deep caves and dangerous currents. For, as well as representing a guardian, they also stand as a warning sign. "Written records reveal an assortment of stories that tell of the impacts from great waves caused by storms, inundation caused by incantations, and water beings or giant lizards known as 'taniwha' causing destructive surges to imperil the lives of people near the water. It is likely that these events were recorded to give explanation to the causes of natural

hazards, and to help to record the loss of life and serve as warnings about the nature of certain places."[8] Thus, taniwha stand as a complex symbol of a somewhat capricious power that can be of good or ill outcome. Is Taonui's taniwha with teeth of silver and gold lurking out there in the Crown policies, neoliberal capitalism, geopolitical forces, and climate change? Or is the taniwha much closer to home? And will the power of this taniwha propel Māori into a beneficent future, or will the lashing of its tail cause destructive surges?

The Māori economy is described as a once sleeping and now waking taniwha.[9] Much is made of this 'taniwha economy', yet for all the power and dynamism this catchy name infers, the economic taniwha remains very much leashed by colonial shackles. Whilst not to downplay the very real and impressive economic growth made by the many Māori collective and private businesses, questions arise whether an economy embedded in and restrained by an institutional framework so different from te ao Māori can be framed in such a positive way. Ellis notes, "Glittering valuations position a strong Māori economy as a significant and growing contributor to New Zealand's economic worth…. Yet behind the celebrated statistics and headlines, the disparities remain."[10] As iwi assets grow amid proclamations of impressive economic growth, poverty amongst Māori remains unacceptably high, wealth and health disparities continue. Housing shortages hit Māori hard.[11] Hence this report seeks to place the current economic situation in both a historical context and a broader theoretical framework to help decision-makers ensure these tangible economic gains are transformed into more far-ranging social, cultural, and psychological benefits for whānau-hapū. How can the taniwha economy become a force for good?

"The world is becoming ever more complex and volatile. The only certainty about the future is its inherent uncertainty, yet we must prepare." UK Ministry of Defence, *Global Strategic Trends Volume 6.*

"During the past year, the Covid-19 pandemic has reminded the world of its fragility and demonstrated the inherent risks of high levels of interdependence. In coming years and decades, the world will face more intense and cascading global challenges ranging from disease to climate change to the disruptions from new technologies and financial crises." US National Intelligence Council, *Global Trends 2040.*
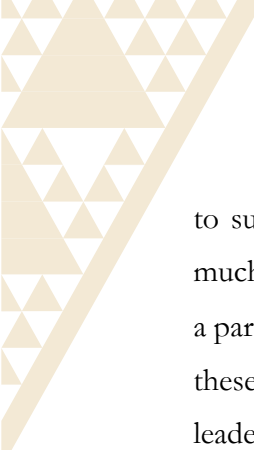
Conceptualising wellbeing economies

An economy – whether focused on broader wellbeing outcomes or narrow financial accumulation – is dependent on a vast array of 'inputs', the so-called natural, financial, built, human, social, and cultural 'capitals', whilst generating a multitude of outcomes – intended and unintended, direct and indirect, positive and negative – across the capitals. Any consideration on changing an economic system needs to consider the mechanics of the system itself and the wider context of flows across and within capitals that the system perpetuates. In many ways, this broader, circular understanding is what a wellbeing economy is built on. The neoliberal system within which we currently operate has a linear understanding of these flows and a singular focus on converting other forms of capital to financial and, to a lesser degree, built capital and 'externalises' many of the outcomes. However, understanding the stocks and flows is vital for understanding and facilitating the transition from neoliberalism to a wellbeing economy.

It is essential for the wider context in which economic activity takes place to consider what the current 'capital stocks' are, how they are trending, and how these trends might interact. This report seeks to map these out. Future forecasting is a field littered with failures – where are our flying cars?! – so, rather than outline a singular scenario, we will set out several critical trends across the capitals that, in their collective, will lead humanity towards a future that lies somewhere between a techno-utopian idyll of post-scarcity wellbeing for all and a dystopic hellscape born of ecological, economic, political, and societal collapse.

Where exactly we will end up along this spectrum is anyone's guess. Suffice to say, achieving wellbeing requires urgent, significant, and widespread changes, and for virtually all of these changes

to succeed, the latter dystopic hellscape scenario only need things to continue going wrong in much the same way as they are already. This report focuses on the next 20-30 years, though when a particular trend has a critical data point that lies just outside this band, it will be referenced. After these trends have been outlined, the current capital stocks across the Māori economy, businesses, leaders, and people, will be examined regarding how this positions Māori for the future and what might need to be done to facilitate the creation of a wellbeing economy.

ENVIRONMENTAL TRENDS

Driven by the capitalist growth imperative that demands ever-expanding resource use, the consequent explosion in negative outputs by post-industrial, industrialised, and industrialising societies are causing a raft of environmental catastrophes, including climate change; mass extinctions, biodiversity loss, and ecosystem collapse; pollution; and resource scarcity. At the same time, we are also running out of a number of natural resources vital to maintaining current technological standards and usage rates. Alarmingly, the trend lines for many of these looming catastrophes all point to critical thresholds being reached around the same time – within the next 20-30 years. Given that the Māori economy has a strong focus on the Primary sector (e.g., farming, fisheries, and forestry), it is pertinent to examine environmental trends.

Climate change

As of 2021, average global temperatures had risen 1.2°C above pre-industrial levels.[12] The oceans alone are currently absorbing the heat equivalent of *five Hiroshima atomic bombs being dropped into the water every second*.[13] 1.5°C has long been considered a critical threshold humanity should not to cross. In 2022, the IPCC issued a warning that unless greenhouse gases peaked in 2025, there was no chance of restricting warming to 1.5°C.[14] **Realistically, by 2035, the world will be at least 1.5°C warmer, reaching 2°C before 2050** – and these are conservative estimates produced by scientists facing intense scrutiny and criticism.[15] Of course, aside from the intense debate over what climate change will mean, the very nature of predicting a problem that increases uncertainty means that the following can only be a rough guide. While climate trends and predictions should be viewed with some caution and scepticism, the reality is that these are the most rigorously tested and certain of all the predictions made in this report. Even if not everything outlined below comes to pass, as will become clear, we only need one or two of the following predictions to come true to create a future that will make the present look benign, bucolic, and bountiful.

Sea level rise

Experts have warned oceans are likely to rise by a metre on average by 2100 even with the 1.5°C threshold maintained, with the average rise likely to be around 0.3m by 2050 at a minimum.[16] By 2050, seas will be high enough to consign land currently home to a total of 150 million people to a future permanently below the high tide line.[17] Even a third of a metre will have massive consequences globally and across Aotearoa New Zealand. Alarmingly, recent research suggests

Aotearoa New Zealand will experience a 0.3m sea level rise in just 10-20 years due to the country's position astride two tectonic plates – essentially, large segments of the country are sinking at the same time as the sea is rising.[18] **By 2032-2042, large swathes of the Aotearoa New Zealand coastline could either be underwater or below the high tide line**:
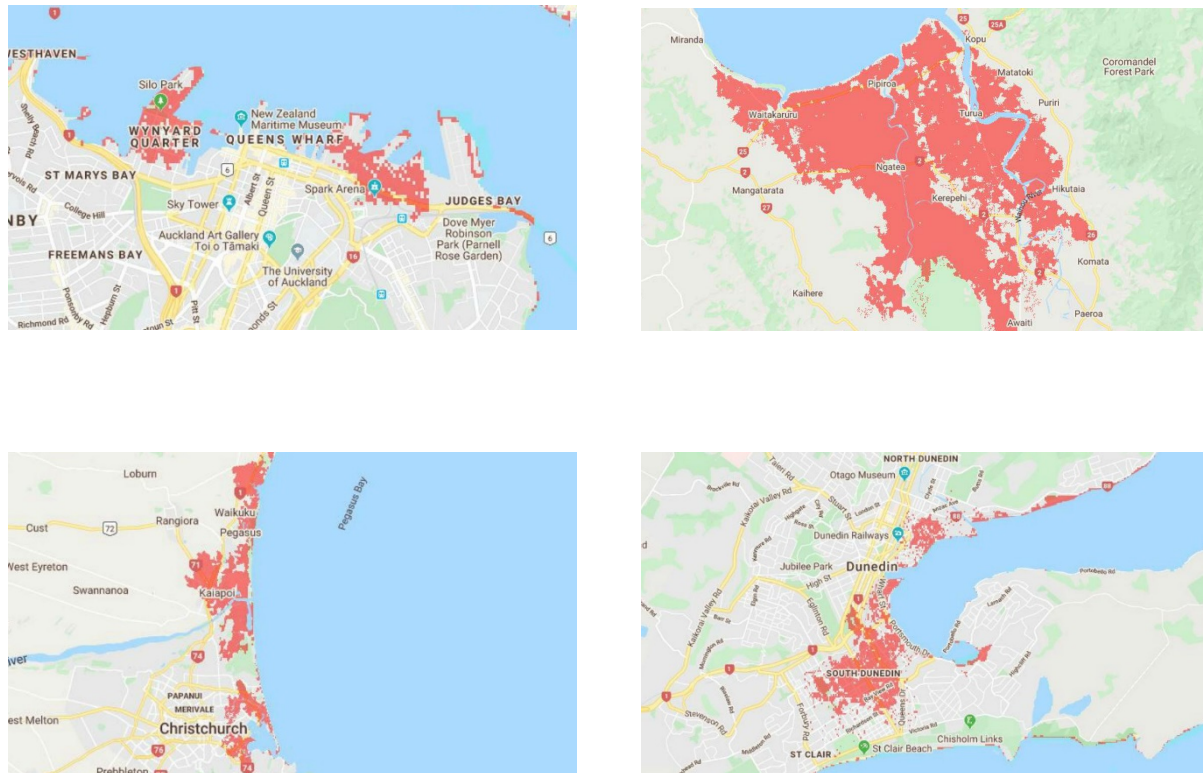
Figure 1 – projected 0.3m sea level rise (in red).

From top left clockwise, the entirety of Auckland's Wynyard Quarter could succumb to the sea, as would areas of Parnell and Point Chevalier; the largest swathe of land lost in the North Island is between Waitakaruru and Paeroa, near Thames; Dunedin Airport could be underwater while areas of South Dunedin face flood risk; Christchurch is at risk with great swathes of land from Ferrymead to Waimairi Beach prone to flooding.[19] Treasury's Long-term Fiscal Statement provides estimates of sea level rise impact for 0.2 and 0.5m[20]:

	0.2m rise, increase from now	0.5m rise, increase from now
People	16,935	48,917
Buildings	12,618	36,085
Roads	266.6km	711.1km
Railways	16.9km	45.3km
Electricity transmission lines	15.1km	36.3km
Electricity structures, e.g. pylons	34	85
Three-waters pipelines	720.5km	1972.4km
Built-up land	11km²	31.4km²
Production land	103.5km²	257.4km²
Natural/undeveloped land	25.3km²	64.1km²

Figure 2 additional population and assets exposed to a large coastal flooding event at sea level rise of 0.2m and 0.5m

Ocean acidification

Ocean acidification is sometimes called 'climate change's evil twin' as it is another significant and harmful consequence of excess carbon dioxide in the atmosphere. At least one-quarter of the carbon dioxide (CO_2) released by burning coal, oil and gas dissolves into the ocean. CO_2 dissolves in the water, making it more acidic. Since the industrial revolution, the pH of surface ocean waters has dropped by 0.1 pH units. The pH scale is logarithmic, meaning that this represents a 30% increase in acidity.[21] Numerous ocean species, especially organisms like oysters and corals that use calcium and carbonate from seawater to make their shells and skeletons, have already been impacted by ocean acidification.[22] At present, only about 10% of the world's oceans are under stress caused by acidification, **by 2050 around four-fifths of the ocean surface will be affected by an increase of up to 150% in acidity**.[23] This has catastrophic consequences for coral reefs (discussed further below), but it could also have a range of harder to predict systemic impacts, affecting food chains and carbon cycling.[24]

Wildfires

Increasing heat and drought create the perfect conditions for wildfires. Under even moderate climate change predictions, the likelihood of extreme, **catastrophic fires could increase by up to a third by 2050**.[25] Climate change has already doubled the number of large fires between 1984 and 2015 in the western United States.[26] Closer to home, the magnitude of the disastrous 'Black Summer' bushfire season in Australia in 2019-20 is around four times more likely to occur at 2°C of heating.[27]

Crop failure

Almost three-quarters of staple crops – maize, wheat, soybeans, and rice – are grown in just five countries.[28] By 2030, crop yield failures in these five countries will be 4.5 times higher than current rates. By 2050 the likelihood is up to 25 times.[29] By mid-century, there could be rice or wheat failure every other year, while soybean and maize failures rates are even higher. A synchronised failure across all four crops becomes a possibility every 11 years by 2050.[30] Globally, once-a-decade crop drought events will occur twice as often at 1.5°C and 2.7 times as often at 2°C.[31] However, albeit the general trend is for crop failures, climate change does open new productive areas, particularly for wheat, which could potentially see a growth of about 17% by 2050 as its growing range expands.[32]

Extreme weather

Torrential typhoons, hurricanes, and cyclones, devastating droughts and floods, and raging heat waves will all become more common and more devastating.[33] Typhoon, hurricanes, and cyclones will become more frequent, intense, slower, and wetter, they will batter communities already struggling with sea level rise.[34] **By 2050, about 22% of all major cities are at serious risk of floods and droughts**.[35] Rainfall is predicted to be up to 7% more voluminous for each 1°C increase across the planet.[36] **Extreme heat events that occur once per decade would happen 4.1 times a decade by 2035, and 5.6 times by 2050**.[37] A 'heat dome' in the US Pacific North West in 2021 broke all records, killing hundreds of people as well as around a billion sea creatures.[38] Climate change also increases the likelihood of so-called 'wet bulb' events, where temperatures exceed human limits to self-regulate, causing death. Areas in South Asia, the Persian Gulf, and the Red Sea are particularly prone to these events.[39] If warming reaches 2°C, **Bangladesh, India and Pakistan could expect 7.89 billion (measured in 'person-days') wet bulb days by 2050.**[40]

Tipping points

Along with the intensification in size and frequency of storms, droughts and floods, and heat waves, climate change threatens to manifest in more abrupt and fundamental weather and climate shifts. The IPCC frames these 'large-scale discontinuities' in the climate system as tipping points.[41] These shifts come from sudden changes in either dominant climate dynamos or dramatic state changes. Some of the most concerning are:

- **Greenland ice sheet:** The sheet contains enough water to raise global sea levels by over 10 metres. Between 1992 and 2018, it lost close to almost four trillion tons of ice, and the

melting is accelerating.[42] In recent research, scientists calculated that the critical temperature at which the Greenland ice sheet could go into an irreversible and total disintegration lies between 0.8°C and 3.2°C.

- **Atlantic meridional overturning circulation (AMOC):** Climate scientists recently detected warning signs that the Gulf Stream or AMOC, one of the many predominant 'rivers' that run through the world's oceans, is about to collapse.[43] The researchers found "an almost complete loss of stability over the last century" of the AMOC, noting that the currents are already at their slowest in over 1,500 years and are showing signs they may be nearing a complete shutdown.[44] Shutdown would be catastrophic, significantly disrupting rain across India, South America and West Africa; drastically lowering temperatures in Europe while increasing storm intensity and frequency; forcing sea levels up along the eastern seaboard of North America, and furthering endangering the Amazon rainforest and Antarctic ice sheets.[45]

- **The West Antarctic Ice Sheet (WAIS):** A 2018 study found the WAIS had gone from ice loss of around 58.5 billion tons a year between 1992 and 1997 to 175 billion tons a year between 2012 and 2017, with a total collapse adding around 0.6m to sea rise. Current estimates put the tipping point for the WAIS at between 1.5°C and 2.0°C of warming.[46]

- **Amazon rainforest:** As the world's largest tropical rainforest, the Amazon stores 200 billion tons of carbon and is one of the few megadiverse areas in the world, with around a million species. Currently, the rainforest has experienced 17% of deforestation, and recent studies believe that between 20-25% deforestation would trigger a total ecosystem collapse across the entire rainforest. The "consequences for biodiversity and climate change would be devastating, extinguishing thousands of species and releasing such a colossal quantity of carbon dioxide into the atmosphere that it would sabotage attempts to limit global climate change."[47]

- **Thawing permafrost:** Fourteen hundred billion tons of carbon are believed to be locked in the Arctic permafrost – twice as much as is currently in the atmosphere. The Arctic is warming twice as fast as the global average, already sitting 2°C above pre-industrial levels. As the permafrost thaws, it will vastly accelerate climate change.

- **The El Niño-Southern Oscillation (ENSO):** El Niño and La Niña, collectively known as ENSO, are the warm and cool weather patterns across the tropical Pacific. Described as "the strongest natural interannual climate signal and has widespread effects on the global climate system and the ecology of the Tropical Pacific", ENSO affects not only regional but also global climate.[48] During El Niño, drought likelihood increases across India,

Indonesia and Australia and the Amazon, while southern U.S. experiences more rain. During La Niña, the pattern is reversed, with wetter conditions for Indonesia, Australia and parts of the Amazon, and drier conditions in the southern U.S. Both El Niño and La Niña will increase in intensity due to climate change. There is a risk, however, that conditions shift the current dynamics of the ENSO into a permanent El Niño. If this occurs, some regions may shift into more arid biomes: Central America, the Amazon rainforest, south-eastern Africa, and Australia, while parts of North America and Eurasia could become more productive. There is also the possibility that a permanent El Niño could trigger tipping cascades, seeing other tipping points activated.[49]

Mass extinctions, biodiversity loss, and ecosystem collapse

Climate change along with other pressures such as pollution, deforestation, ocean acidification, agriculture, urbanisation, and industrial fishing will force **1 in 10 animals and plants into extinction by 2050**, incorporating a projected loss of around 1 million species.[50] The average abundance of native species across most major land-based habitats has already fallen by at least 20% with most of the decline occurring after 1900.[51] Human activities have resulted in an 83% reduction in wild mammal biomass and a 50% reduction in the biomass of plants, compared to pre-human levels.[52] Humans and livestock currently account for around 96% of the total mammal biomass.[53] Pressures on land are intense and growing, three-quarters of the land-based environment has already been significantly altered by human actions, a third of the world's land surface and nearly 75% of freshwater resources are now devoted to crop or livestock production, over 85% of global wetland areas have been lost, and land degradation has reduced the productivity of 23% of the global land surface.[54]

While impacts are serious on land, the oceans are under even greater threat. In 2006 scientists examining overfishing predicted **the global collapse of all taxa currently fished by 2048, seeing the end of fishing as a sector and threatening the entire life system of Earth**.[55] Currently, around 33% of marine fish stocks are being harvested at unsustainable levels, while 60% are maximally sustainably fished and only 7% harvested at levels lower than what can be sustainably fished.[56] While recent reports regarding the impacts of overfishing have questioned the findings of the 2006 work, wider work considering the impacts of climate change, ocean acidification, pollution, and other factors suggest that while 2048 may not mark such a terminal watershed, the extinction rate, biodiversity loss, and ecosystem collapse is severe.[57] Coral reefs act as the 'canary' for wider ocean mass extinction. They are often referred to as the 'rainforests' of the ocean because they support such a richness of life; while making up only 1% of the surface of the oceans, as many

as 25% of marine species depend on them.[58] **Estimates predict that 70% of coral reefs will die at 1.5°C in 2035 and 99% at 2°C in 2050**, with serious bleaching events already occurring.[59] Around two-thirds of the marine environment has been significantly altered by human actions.[60]

Pollution

Pollution is a broad scope issue, with numerous causes that cascade across organisms and ecosystems. Generally classified in terms of water, soil, and air pollution, often separating these is difficult as the pollutants will flow through all of these mediums, impacting every form of life. DDT and PCBs are the two best-known POPs, or persistent organic pollutants, though there are 28 POPs banned or restricted under the Stockholm Convention.[61] These toxic chemicals adversely affect human health and the ecosystems globally. POPs are incredibly pervasive and persistent as they infest water, soil, and air and can be transported by wind and water, accumulating in the body fat of organisms when ingested and getting passed up the food chain.[62] Studies have connected POPs exposure to declines, diseases, or abnormalities in many wildlife species while in people they cause reproductive, developmental, behavioural, neurologic, endocrine, and immunologic adverse health effects.[63]

Water pollution

There are numerous sources of water pollution: waste, marine dumping, sewage and wastewater, oil spills, and agriculture. Between these sources, a range of harmful toxic materials ends up in freshwater and oceans. Plastic pollution has increased ten times since 1980.[64] Half of all plastics ever manufactured have been made in the last 15 years.[65] Plastic production has been forecast to grow by 60% by 2030 and to treble by 2050.[66] 12 million tonnes of plastic enter the ocean every year, around 5.25 trillion macro and microplastic pieces floating in the open ocean, weighing up to 269,000 tonnes.[67] Much of this plastic has accumulated in the Great Pacific Garbage Patch, which contains roughly 79,000 tonnes of ocean plastic, made up of around a trillion pieces including 9% microplastics, floating inside an area of 1.6 million km^2.[68] **By 2050, there will probably be more plastic in the oceans than fish**.[69] Microplastics are a globally pervasive contaminant, presenting a significant risk to marine life, food webs, and ecosystems.[70] 300-400 million tons of heavy metals, solvents, toxic sludge and other wastes from industrial facilities are dumped annually into the world's waters, and fertilizers entering coastal ecosystems have produced more than 400 ocean 'dead zones', totalling more than 245,000 km2 (591-595) – a combined area greater than that of the United Kingdom.[71]

Soil pollution

Soil pollution is caused by, in order of importance, industrial activities, mining, waste treatment, agriculture, fossil fuels extraction and processing, and transport emissions.[72] Soil is a finite resource; its loss and degradation is not able to be recovered within a reasonable period.[73] Soil quality is critical for the food we eat, the water we drink, the air we breathe, our health and the health of all organisms. Soil pollution causes a chain reaction, altering soils' biodiversity, and reduces soil organic matter and soils' capacity to act as a filter.[74] Since the start of the 21st century, the global annual production of industrial chemicals has doubled to approximately 2.3 billion tonnes. It is projected to increase by 85% by 2030.[75] Roughly 3.5 million tonnes of pesticides are used annually.[76] The UN issued a warning that the world's soils are "under great pressure". As the UN report notes, some 80,000 sites are now estimated to suffer from soil contamination in Australia. China has categorised 16% of all its soils – and 19% of its agricultural soils – as polluted. There are approximately 3 million potentially polluted sites in the European Economic Area.[77] The UN also warned that human damage to the planet's land is accelerating, with up to 40% now classed as degraded, with half of the world's population suffering the impacts of this degradation.[78]

Air pollution

Air pollution is caused by fossil fuel combustion, industrial processes, agricultural processes and a range of other human activities. The key air pollutants are carbon monoxide, lead, nitrogen oxides, ground-level ozone, particle pollution, and sulfur oxides.[79] The annual global emissions of carbon monoxide into the atmosphere is estimated at 2600 million tonnes, with around 60% due to human activities and the other 40% from natural processes.[80] Air pollution, in the form of carbon dioxide and methane, of course, is also responsible for climate change. From 1850 to 2019, 2,400 gigatons of CO_2 were emitted by human activity, with roughly 950 gigatons going into the atmosphere.[81] In 2019, humans emitted more than 35 billion tons of CO_2 into the atmosphere by burning fossil fuels.[82] Globally, air pollution contributes to around 12% of deaths.[83] **By 2050, outdoor air pollution is projected to become the top cause of environmentally related deaths worldwide**.[84]

Resource scarcity

The rapacious appetite of the global economy has seen significant depletion of natural capital, with a number of critical stocks close to running out. The concept of 'Earth Overshoot Day' provides a useful metric for understanding the imbalance between the supply and demand of resources. It

marks the date when humanity's demand for ecological resources and services in a given year exceeds what Earth can regenerate in that year. In 2021, it fell on July 29, meaning for over five months of the year, resource use was 'borrowed' from the future and marked a 4.6% increase in the global Ecological Footprint compared to 2020.[85] As a counter, the ecologist and economist Matt Ridley argues:

> How many times have you heard that we humans are 'using up' the world's resources, 'running out' of oil, 'reaching the limits' of the atmosphere's capacity to cope with pollution or 'approaching the carrying capacity' of the land's ability to support a greater population? The assumption behind all such statements is that there is a fixed amount of stuff—metals, oil, clean air, land—and that we risk exhausting it through our consumption… But here's a peculiar feature of human history: We burst through such limits again and again… What frustrates [economists] about ecologists is the latter's tendency to think in terms of static limits. Ecologists can't seem to see that when whale oil starts to run out, petroleum is discovered, or that when farm yields flatten, fertilizer comes along, or that when glass fiber is invented, demand for copper falls.[86]

While Ridley is right that we have been able to blow past these 'limits' to date successfully, there have to be some hard limits as the Earth is finite, and while not everything may come to pass, even the total depletion of at least one of the following resources will place humanity in a critical situation.

Oil

Oil is the driving force of the modern world and the key driver of climate change. While the COVID pandemic saw oil use drop in 2020, by 2021, the IEA noted that global demand 'defied expectations', rising by 1.1 million barrels per day to 99 million barrels per day by the fourth quarter, surpassing pre-pandemic levels.[87] Peak oil has been a hot topic for decades, and many predictions have been proven wrong or at least made wrong through new technology and the unrelenting desire for oil. Still, it is a finite resource and the **common scope of predictions for when it will 'run out' go from 2050 through to 2070**.[88] 'Run out' here does not mean that there is no oil left but rather that the energy return on investment (EROI), which is the ratio of the amount of usable energy (the exergy) delivered from a particular energy resource to the amount of exergy used to obtain that energy resource, will be so costly as not to be economically worth extraction. Historically, the EROI was 1:100, or one barrel of oil produced 100 barrels. Now, it is

anywhere between 1:10 – 1:45.[89] In essence, oil will price itself out of the market before the world indeed runs out.

Phosphorous

Phosphorous is a vital mineral for all plant and animal life as it is a fundamental building block of DNA. Phosphate, the naturally occurring form of phosphorus, is not a renewable element, there are no known substitutes, and it is only mined in a few locations. Phosphate use has quadrupled in the last 50 years as the global population has exploded.[90] Humanity would only be able to produce half the food it does without phosphate and nitrogen, though nitrogen is essentially an infinite resource as it makes up almost 80% of the atmosphere.[91] An estimate of the remaining years of rock phosphate supply fell from 300 to 259 between 2016-2019, as demand rose. One report noted that "If the estimated remaining number of years supply continues to decline at this rate, it could be argued that **all supplies will be exhausted by 2040**."[92]

Sand

Sand may not sound particularly important, but it is the world's second most consumed natural resource – only outstripped by water.[93] Sand is the primary raw material that modern cities and infrastructure are made from. Both the concrete and glass used in construction are made from sand, and so are the silicon chips found in our computers, phones, cars and many other electronic devices. We use around 50 billion tonnes of 'aggregate' every year – enough to build a wall of 27 meters high by 27 meters wide that wraps around the planet – an amount that has tripled over the last two decades.[94] The problem is that most of the easily accessible sand in the world was formed by wind, meaning it is too smooth and rounded to lock together to form stable concrete. The sand needed for concrete has been formed by water as this makes it more angular, ensuring it can lock together. This quandary is well embodied by the United Arab Emirates, which has no shortage of sand and yet imports most of its construction aggregate from Australia.[95] Sand mining involves rampant ecological destruction as it is usually extracted from lakes and riverbeds. The sand trade is incredibly lucrative and often requires breaking the law, with the UNEP warning of 'sand mafias' emerging who have threatened and murdered to ensure access to this resource.[96] Dozens of islands have disappeared in Indonesia as a result of unscrupulous mining.[97] A recent article in Nature predicted that **by 2050 demand might outstrip supply effectively meaning the world is out of usable sand**.[98]

Fresh water

Fresh water is the most used resource, but fresh water only makes 2.5% of the total volume of the world's water, which is about 35 million cubic kilometres. However, 70% of that fresh water is locked into ice and permanent snow cover, meaning we only have access to 200,000 cubic kilometres of fresh water available.[99] Climate change is placing even greater stress on the supply of fresh water, as is pollution, deforestation, and urbanisation. Domestic use of water is relatively small, and it is the manufacturing and particularly agricultural sectors that use the lion's share. The latter is responsible for 70% of global freshwater use.[100] It takes 130 litres of water to grow enough coffee to make a single cup, producing 1kg of beef requires 15,000 litres, 10,000 litres of water go in a pair of jeans and almost 80,000 litres are needed to make a car. All of this places enormous stress on water supply. One NASA scientist notes that we are "already past sustainability tipping points" as many major aquifers are being rapidly depleted, in particular the Arabian peninsula, the north China plain, the Ogallala aquifer under the great plains of the US, the Guarani aquifer in South America, the north-west Sahara aquifer system and others. The amount of fresh water available in rivers and lakes could decrease by 9% in the Mediterranean, 10% in Australia, and 7% in north-east Brazil as due to a 1.5°C temperature rise. More than 30% of the world's largest groundwater systems are now in distress, with **many of these aquifers predicted to be empty or near empty by 2040-2050.[101] The number of people exposed to water scarcity for at least one month per year is conservatively predicted to be 57% by 2050.[102] UN Secretary-General Antonio Guterres warned that by 2050, the world would not have enough fresh water for the people who need it.[103]**

Economic trends

Global economy

By 2050, the combined size of the Emerging 7 (E7) economies (Brazil, China, India, Indonesia, Mexico, Russia and Turkey) will probably have surpassed that of the Group of Seven (G7) (Canada, France, Germany, Italy, Japan, the UK and the US).[104] This will see the centre of economic activity shift towards Asia, impacting not just commerce and finance but also accountancy, insurance and commercial law as well as reducing the 'soft power' of the West.[105] Within the E7, and across developing countries, wages will grow, but inequality will probably increase, while in the developed countries the UK MoD predicts that "growth may remain low leading to low wages, resentment, social division and possibly internal conflict."[106]

Autarky

Autarky refers to economic independence or self-sufficiency. Until the COVID pandemic and the Ukraine invasion, most predictions were for increasing economic globalisation. However, this two-punch combo has seen a dramatic shift as lockdowns choke production, supply chains stutter and break, and sanctions reorder economic connections, seeing countries and companies reassess where to source resources, products, and services.[107] The Federal Reserve Chair Jerome Powell has stated that this would "certainly be a different world — it might be a world of perhaps higher inflation, perhaps lower productivity, but more resilient, more robust supply chains."[108] Called 'reshoring', the process of rebuilding national manufacturing capacity is complex and if enacted will take years, if not decades. While it will drive up the price of goods, it does help balance trade and budget deficits, as well as reducing unemployment by creating well-paying jobs, and developing a skilled workforce.[109] The latest data, from 2021, shows that in the US at least there has been no significant trend towards reshoring.[110] However, one statistic shows that multinationals, in particular, seem to be in retreat: recent estimates suggest that, in 2016, multinationals' cross-border investment fell by 10-15%.[111] More probable is what US Treasury Secretary Janet Yellen referred to as 'friendshoring', where she argued for a reorientation of trade connections around "a large group of trusted partners."[112] This principle contrasts strongly with the long-held Western strategy of using globalisation as a means of incorporating marginalised or antagonistic countries into a single stable international order through commercial and financial connections.[113] It is indicative of a more conflicted international order. An example of

friendshoring is China and India capitalising on buying cheap oil from Russia in the wake of sanctions by other nations on Russia for their invasion of Ukraine.[114]

Circular economy

One possible trend is that the global economy, and Aotearoa New Zealand's, will become increasingly circular. A circular economy provides an alternative to the traditional linear economy. In a circular economy, all resources are kept in use for as long as possible, extracting the maximum value from them whilst in use. Then, at the end of their service life, the aim is to recover and regenerate products and materials.[115] The World Economic Forum estimates that 8.6% of the world economy is circular at present.[116] Writing for the Forum, Leanne Kemp believes that "In 2030, nobody talks about the *circular* economy; it's just *the* economy."[117] The Forum estimates that this transition to a circular economy will generate $4.5 trillion in economic benefits to 2030.[118] The Aotearoa New Zealand government is currently developing policies that would encourage the creation of a circular economy.[119]

Artificial intelligence

Artificial intelligence (AI) will play an increasing role in global economics. The UK MoD notes that:

> **By 2050, artificial intelligence is likely to be an integral part of the global economy**. Funding of artificial intelligence startup companies increased from US $0.1 billion in 2009 to US $1.2 billion in 2015, and if the trend continues, **hundreds of billions (perhaps trillions) of US Dollars of funding could be secured by 2050**… **By 2030, artificial intelligence could add almost US $15.7 trillion (14%) to the global economy**, with China (which hopes to be a world leader in the technology) benefiting most significantly.[120]

The Ministry of Business, Innovation and Enterprise (MBIE) also predicts that "AI has the potential to increase New Zealand GDP by up to $54 billion by 2035 across 18 industry classifications."[121] However, these can be read as fairly conservative and mundane forecasts. Predicting exactly what impacts AI will have is extremely difficult, largely because it threatens such a disruptive change – AI will itself become the entity conceiving of the changes – making them harder to predict. This is further exacerbated by the fact that AI development is exponential though the exact trend lines are unclear:
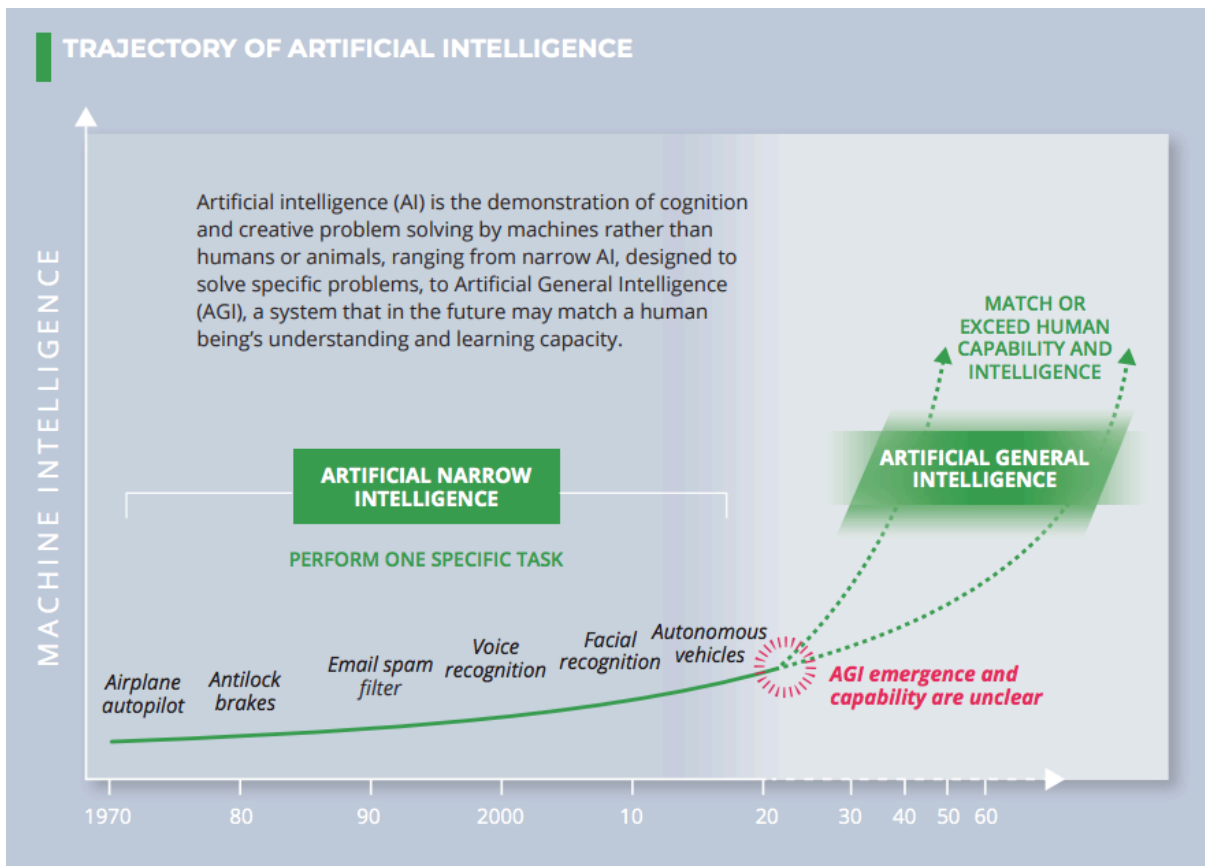
Figure 3 – trajectory of AI

Also, AI will be used in additive ways with other technological developments. As the US National Intelligence Council explains:

> By 2040, the increasing convergence of technologies, such as artificial intelligence (AI), high-speed telecommunications, and biotechnology, will be augmented by increased understanding of the social and behavioral sciences to enable rapid breakthroughs and user customized applications that are far more than the sum of their parts.[122]

It also warns that "the benefits from technology like AI will be unevenly distributed within and between states", explaining:

> [C]ountries that are able to harness productivity boosts from artificial intelligence (AI) will have expanded economic opportunities that could allow governments to deliver more services, reduce national debt, finance some of the costs of an aging population, and help some emerging countries avoid the middle-income trap.[123]

22

Predictions about what AI will be able to do and what impacts it will have had by 2050 range from the end of the human race through to a post-human utopia.[124] Many experts even warn that AI poses a greater existential threat to humanity than climate change[125] Including in employment.[126] Predictions on when an AI will be equal/similar to human intelligence – artificial general intelligence – are less diverse. As the Guardian notes: "If you interview AI researchers about when general AI – a machine that can do everything a human can do – will arrive, they think it's **about 50/50 whether it will be before 2050.**"[127] Suffice to say that **if AI continues to evolve along even the weaker trend lines, by 2050 its impacts on the global economy will be significant, if not severe**. These impacts will be felt beyond the economic sphere.

International finance institutions

The influence of the World Bank and the International Monetary Fund, both products of the Western-dominated era, is likely to decline in the coming decades with other institutions becoming increasingly important.[128] The UK MoD predicts that "**by 2050, the Asian Infrastructure Investment Bank could become as powerful as the World Bank**" basing this on the potential of the Chinese Belt and Road Initiative amongst other actions.[129]

Global trade

The global trading system will probably become increasingly fragmented in the following decades. Following the creation of the World Trade Organisation (WTO) in 1995, there has been very little progress made on additional global trade agreements. Rather, regional and bilateral trade agreements have proliferated, further fragmenting the global trading environment.[130] As the Atlantic Council writes:

> There is greater uncertainty today about the future of global trade than at any time since the post-World War II trading system was created seven decades ago. This was true before the COVID-19 pandemic froze much of the world economy; the health crisis has added a new layer of uncertainty. We are at an historic inflection point: the global trade regime urgently needs renovation and updating to meet new challenges, yet it is fraying and fragmenting.[131]

There are numerous reasons for this fragmentation, including near and long-term trends which have emphasised the broad diffusion of global wealth and power from the West to the East and South. Key amongst these is the rise of China, the trade battle between China and the US, as well

as the political and economic fallout from the 2008 financial crisis, COVID pandemic, and the Ukraine invasion. These have created an economic landscape characterised by growing populist nationalism, the US retreating from free to managed trade, diminished global capital flows, and slower growth.[132]

Aotearoa New Zealand was one of the first to sign a free trade agreement with China, and in the decade and a half since China has come to dominate Aotearoa New Zealand exports. In the 12 months to April 2021, Shipments to China rose to NZ$17.8 billion, amounting to 30.2% of total exports.[133] Following the growing tensions between the US and China, and then between Australia and China, concerns over Aotearoa New Zealand's overdependence on China were raised. As Foreign Minister Mahuta explained:

> We cannot ignore, obviously, what's happening in Australia with their relationship with China. If they are close to an eye of the storm or in the eye of the storm, we've got to legitimately ask ourselves — it may only be a matter of time before the storm gets closer to us.[134]

Mahuta even warned exporters, telling them they needed to diversify to ensure they could survive deteriorating relations with Beijing.[135]

Reserve currency

Before the US, only five powers have held the powerful 'reserve currency' status. Starting in the mid-1400s with Portugal, followed by Spain, the Netherlands, France and Britain. On average, each of these dominated for 94 years, at the start of 2020, the dollar's run had endured for 100 years.[136] In 2007, 69% of central bank reserves were held in US dollars, which had dropped to 55% in 2022.[137] While the Euro was touted as a replacement previously, the currency has not been able to gain trust internationally due to concerns about the capriciousness of the multi-state government, while China's hopes for the yuan taking the dollar's place have long been dashed for the opposite reason, worries over a one-party state.[138] However, the invasion of Ukraine and consequent sanctions have seen the yuan shoot up to fourth position in the international payments market. In 2010, yuan entered the international financial transaction market it was ranked 35th, making this a significant shift.[139] A 2021 Global Public Investor survey showed 30% of central banks planned to increase yuan holdings in the next one to two years, while 20% of central banks planned to reduce their holdings of the US dollar.[140] When it entered the international financial transaction market, China had indicated that it wanted to make the yuan the global reserve currency and with its growing economic, political, and military might this goal may be achieved in the next

20-30 years. The *South China Morning Post* even noted in 2021 that Export-Import Bank of China chairman Hu Xiaolian predicted that under the so-called dual circulation plan, **the yuan could become the global reserve currency by 2050**.[141] The UK MoD thinks it unlikely that the yuan will replace the dollar by 2050, though their prediction was made before the seismic shifts caused by the Ukraine invasion.[142]

The other possible contender for a new reserve currency are cryptocurrencies, particularly Bitcoin. From its launch in 2009, Bitcoin's creators aimed to establish it as 'digital gold', providing a trusted store of value in chaotic times.[143] While initially downplayed by establishment players, the COVID pandemic and the quantitative easing enacted in response by the Federal Reserve have seen concerns grow about the US dollar and a consequent refocusing on cryptocurrencies. In 2022, a Korean cryptocurrency platform announced its intention to buy US10 billion dollars' worth of Bitcoin to back its own 'stablecoin' – a class of cryptocurrencies that aim to minimise wild price swings and are typically backed by U.S. dollar reserves. According to the owner of the platform, a stablecoin backed by Bitcoin reserves "will open a new monetary era of the Bitcoin standard", in reference to the gold standard that underpinned global finance a century ago.[144]

Government debt

The OECD projects that **gross general government debt will increase from 49% of GDP in 2021 to 140% of GDP in 2060**.[145] The US is on track to hit 100% by 2023 and a colossal 200% debt to GDP ratio by 2050.[146] Aotearoa New Zealand is also at risk of ballooning government debt, as Treasury notes:

> Our projections indicate that the gap between expenditure and revenue will grow significantly as a result of demographic change and historical trends, in the absence of any offsetting action by the Government. This will cause **net debt to increase rapidly as a share of GDP by 2060**.[147]

The major problem here is that growing government debt means that governments in developed countries will run out of options for boosting economic growth, though rising inflation may help temper this by reducing government expenditure.[148] Real interest rate on government borrowing transitions to 2.3% by 2053/54.[149]

Production efficiencies

Improvements in sensors, data analysis/decision-making actuation (mechanical motion), along with AI, will drive the increasing automation of industry, seeing production efficiencies increase.[150]

As the UK MoD notes, "As businesses increasingly use automation (including artificial intelligence), they will become more efficient, driving down costs."[151] Also, an increase in the use of digital technologies and additive manufacturing could reduce the importance of economies of scale and labour as an input.[152] This, along with the autarkic pressures outlined above, could encourage firms to move more production closer to markets.[153]

Agricultural sector

The agricultural sector will likely be under pressure from two directions in the coming decades. The first of these is around environmental and safety, and ethics concerns, with the sector facing increasing pressure on water, regulatory changes, food safety and ethics, and greenhouse gas emissions.[154] The second set of pressures comes from the changing dietary patterns and respondent developments in meat alternatives. There is an intersection between these two sets of pressures. A number of different organisations and experts have predicted that substantial dietary shifts must take place by 2050 to mitigate greenhouse gas emissions.[155] While the first set of pressures is just a continuation of pressures that the sector has been experiencing for decades, the second set mark a more different and disruptive change. The World Economic Forum predicts that:

> We believe around one-third of the global meat supply will be provided by these new technologies within the next 10 years, and in 20 years, only 40% of global meat consumption will come from conventional meat sources… [and] Cultured meat will outgrow novel meat replacements some time between 2025 and 2040 as both technology and consumer preferences develop.

Bruce Friedrich of the Good Food Institute explains: "Our current method of growing crops to feed to animals so we can eat animals is shockingly inefficient. By **2050, [almost] all meat will be plant-based, or cultivated**."[156] This is a bold prediction and one that is hard to quantify. Still, it seems **likely that by 2050 much of the protein consumed across the planet will not be farmed in ways recognisable today**.

Transport

Transport as a whole is predicted to **use 45% more energy by 2040 compared with 2010 figures**, despite improvements in fuel efficiency. While increasing numbers of personal vehicles are expected to be powered by hybrid and electric engines from around 2025 onwards, the majority of commercial vehicles are likely to run on heavy-duty fuel, such as diesel, unless batteries become

significantly cheaper and more powerful.[157] Solely electrically-powered ships or large aircraft may not be in common usage by 2050. It is not currently technologically or economically feasible to store electricity in the quantities such vehicles would need.[158] Thus, **commercial transport will still be a significant environmental burden in 2050.**

Inequality

While economic inequality has been dropping between countries, it is rising within most countries, posing significant risks. About half of all countries globally experienced a growing gap between the rich and the poor between 1990 and 2018, including the world's biggest and most powerful states – China, India, Russia, and the United States.[159] The underlying structural drivers of this growing inequality are "structural causes combined to contribute to this growing inequality, including technological advancements that favored advanced educations and specialized skills while automating low-skill jobs; the outsourcing of many jobs and industries to developing economies; and an ideological shift toward market-driven solutions and away from redistributive, government policies."[160] The UK MoD identifies this as a concern, noting how rising inequality is reducing social cohesion and fragmenting societies.[161] Likewise, the Aotearoa New Zealand public service notes that economic inequality within and between countries will impact stability.[162]

The most-used measures of inequality are incomes and the concentration of wealth. Wealth is usually much more unequally distributed than income. On both these measures, inequality in Aotearoa New Zealand has increased dramatically. Starting in the 1980s the country has become one of the most unequal countries in the developed world.[163] The richest 10% of income earners take 27% of all after-tax income; however, the wealthiest 10% of asset holders hold 59% of all wealth. A recent study found that "**the Gini measure of household market income [the higher the Gini, the more inequal] from 0.504 in 2010 to 0.533 in 2060**; an increase of approximately 6%."[164] The projected growing inequality is moderated by the distributive impacts of superannuation, though the trend remains negative.[165]

Māori have long been statistically poorer both in terms of income and wealth, with the positive trends of the 1970s and early 1980s lost as neoliberalism was implemented.[166] While Māori income increased by 17.3% between 2013 and 2018, Pākehā income increased by 18.8% and Māori incomes were still more than 10% lower in 2018.[167] Thus, while they are trending up in absolute terms, relative to Pākehā they are increasingly unequal. A more recent development has been the growing inequality within and between Māori whānau.[168]

Increased government expenses

Aotearoa New Zealand will face increasing government expenses in the coming decades. Due to demographic change, Aotearoa New Zealand superannuation expenses will increase from **5.0% of GDP in 2021 to 7.6% by 2061**. Health expenditure **increases from 6.9% of GDP in 2021 to 10.5% in 2061**. The ageing population accounts for around 25% of the projected increase, with increasing demand for healthcare, rising prices for health services, and wage growth making up most of the remainder.[169]

	Historical trends scenario			
	2021	2030	2045	2061
Healthcare	6.9	6.8	8.5	10.5
Gross New Zealand Superannuation (NZS)	5.0	5.6	6.5	7.6
Education	4.7	4.9	5.1	5.6
Debt-financing costs	0.6	1.2	3.4	7.6
Other expenses	15.9	12.1	12.1	12.1
Total expenses	33.1	30.6	35.6	43.4
Total revenue	29.3	29.4	29.5	29.6
Operating balance	-2.6	0.2	-4.3	-11.7
Primary balance	-3.5	-0.1	-2.9	-6.5
Net debt	34.0	41.6	77.1	177.3
Net worth	11.7	9.0	-23.4	-117.6
Nominal GDP ($ billion)	334.4	509.6	876.4	1,481.5

Figure 4 – fiscal projections in the historical trends scenario (% of GDP)

Tripe suspects of Aotearoa New Zealand's persistent balance-of-payments deficit that it will "persist in persisting:"

> That deficit is funded by an inflow of investment funds to New Zealand, which is reflected in the sales of assets to foreigners and the inflow of foreign funds to the banking system. That's why we have foreign-owned banks – because we have chosen collectively to invest in housing rather than own businesses. It is all very well bemoaning foreign ownership, but ever-increasing foreign ownership is a necessity to balance the balance of payments.170

Multipolarity

The Cold War era was bipolar, seeing two peer superpowers dominating. The past three decades have seen the USA reigning alone in a unipolar world. This balance of power is shifting, with the long forecast rise of China looking to become a reality, and potential challenges from India and Russia. The US National Intelligence Council outlines that by 2040 it believes:

> Power in the international system will evolve to include a broader set of sources, but no single state is likely to be positioned to dominate across all regions or domains. The United States and China will have the greatest influence on global dynamics, forcing starker choices on other actors, increasing jockeying over global norms, rules, and institutions, and heightening the risk of interstate conflict.[171]

In his meta-study on official perspectives in Europe and North America strategic trend analysis, Jordan found that:

> All the documents predict a greater distribution of relative power among the major powers and, although acknowledging the importance of international organisations and non-state actors, they assume that states will continue to be the main actors in the system [more on sovereignty below].[172]

Many experts see the GDP of China surpassing the USA by 2030, and certainly by 2050.[173] Once China has become the world's leading economy around 2030, the country's leadership will be in a position to turn their economic might into solid military power.[174] The UK Ministry of Defence estimates that **China will be able to match US military spending by 2045, while other state analyses place the tipping point earlier at between 2030-2035**.[175] India is also set to be another major actor, with the UK foresight programme estimating that **India's Defence spending could surpass all of Europe by 2045**.[176] Showing the dangers of prediction, Jordan's review of defence documentation was published in 2017, before the Russian invasion of Ukraine revealed the shortcomings of Russian capability. Defence ministries predicted that **Russia's defence budget could exceed the combined budget of France, Germany and the United Kingdom by 2035** and that "Russia would be more effective than Western European countries in converting its

potential power into military power."[177] Still, it seems inevitable that China at the least will grow in economic and military power.

Increased conflict

The coming decades are likely to see increased conflict, both within and between states, as well as with a growing number of non-state actors.[178] As the balance of power shifts from the West to the East, competition and conflict between states are predicted to intensify and become more persistent. While a war between the big powers would inflict massive damage on the parties and is thus considered highly unlikely, the reality is that across history, great systemic transitions of power have been accompanied by armed conflicts on a similar scale. The UK MoD notes:

> As the balance of power shifts, competition between states and other actors is likely to intensify and become ever more persistent. Conflict will be most likely where relative power differentials are greatest or when power is contested or redistributed. The number of intra-state and non-state conflicts is increasing and the boundary between war and peace is becoming increasingly blurred.[179]

Critically, this power shift also marks the end of Western hegemony, which has been a permanent feature of the global system for centuries. The defence reports "analysed coincide to a large degree in signalling a shift in the world's centre from the Euro-Atlantic area to Asia Pacific."[180]

As well as growing multipolarity, the other key drivers of conflict will be climate change and resource shortages, as well as the political, economic, and social instabilities these create. Official defence documents predict that conflicts will be driven by the scramble for resources, particularly energy and water.[181] The US National Intelligence Council writes:

> Climate change and environmental degradation will contribute to and reflect a more contested geopolitical environment. Countries and other actors are likely to compete over food, mineral, water, and energy sources made more accessible, more valuable, or scarcer.[182]

As well as an increase in interstate war, there will also probably be a rise in other forms of conflict, from civil wars through to complex amalgams that mix crime, terrorism, religion, and politics.[183] Nick Nelson foresees a much more complex security environment in 2030, globally and for Aotearoa New Zealand. Globalisation and innovations in science and technology will give al-Qaeda-type groups – so-called 'non-state actors' – and rogue states the means to inflict far greater damage at less effort and expense. [184]

The oceans, polar regions, and space have all seen increased levels of activity and will probably become the focus of increasingly intense competition, and possibly conflict, as states compete for resources and influence.[185] The potential for Antarctica and its surrounding seas are of particular interest to Aotearoa New Zealand, not only as a signatory to the 1959 Antarctic Treaty but also due to the proximity. Another realm that will see increasing conflict is cyberspace, which also holds potential problems for Aotearoa New Zealand, who have enjoyed protection from traditional military threats due to isolation.[186]

The nation state, sovereignty, and citizenship

The nation state has been the dominant political actor for decades. It can be understood to have two key aspects, sovereignty – supreme legitimate authority – and citizenship – the relationship between an individual and a state to which the individual owes allegiance and in turn, is entitled to protection. There have been many predictions of the nation state's demise or at least loss of influence.[187] Often these predictions are based on growing globalisation and the increase in things like 'digital citizenship', driven by technologies like the blockchain, and the rise of pan-state entities like the European Union, as well as from internal forces of disintegration, including polarisation and identity politics.

Events like the election of Trump and the Brexit decision were seen as signs of the decline of the nation state. Brexit, in particular, is interesting as it shows both the failure of the pan-state dream and the growing fracturing of the body politic. However, these are largely symptomatic rather than causational – deeper systemic issues help explain the current dilemma of the nation state. In particular, the decline of the Keynesian system and the move towards neoliberalism saw states pull back on social welfare and regulation which, alongside the state's loss of control over media due to the rise of the internet, has seen a decline in a shared sense of citizenship and 'nationhood' that provided the glue that held what are referred to as 'imagined communities' together.[188] Also adding to this has been the ongoing failure of the international system of states to deal with global problems such as security, finance, and the environment, alongside the failure of many of the post-colonial states despite the efforts of the international community. For most of the 20th century, there was an authentic 'fit' between politics, economy and information, all of which were organised at a national scale. The state has since atrophied, and in its place is not just 'globalisation' but also a countervailing borderlessness anarchy both in the real world and online. As the US National Intelligence Council notes, the "international system is directionless, chaotic, and volatile as international rules and institutions are largely ignored."[189]

Predicting a date by which the nation state will decline, or collapse, is impossible, not just because of the unknowns but also because it is unlikely to be such an absolute or comprehensive event but rather a sporadic and uneven one. A recent Pew survey asking Americans where they saw their country in 2050 found that 65% of adults believe the U.S. will be more politically divided in 2050 than it is today, and this belief is held across partisan lines.[190] The UK MoD was somewhat optimistic about the endurance of the nation state, though even its relatively conservative position did convey the threats the political actor faces:

> The nation state is expected to remain the primary actor in shaping societies and in global politics for at least the next 30 years. However, state authorities may struggle to cope with the rate of change, level of uncertainty and the growing demands of their increasingly diverse populations. States will face increased competition in the provision of public services that have traditionally been the responsibility of governments and will be confronted by emerging non-state actors both domestically and internationally.[191]

Analysts have also noted that the COVID 19 pandemic has further accelerated the nation state's decline. As Bray writes for the Atlantic Council:

> These technological and economic trends linked to COVID-19 may be the collective straw that breaks the proverbial camel's back when it comes to the post-World War II international order. Will nation-states remain relevant in what comes next, or will the tension between globalism—that was present before COVID-19—and the realpolitik that is COVID-19, result in something different than nation-states?[192]

Professor Robert Patman, writing in 2005, argued that "while New Zealand foreign policy has been profoundly affected by the process of globalisation, this has not translated into a substantial erosion of the capacity of the sovereign state to act on the international stage."[193] This sentiment is backed up by then Secretary to the Treasury Gabriel Makhlouf in 2017.[194] Certainly, while Aotearoa New Zealand's sovereignty has endured in ways many other states have not, there are also more recent signs that while the more outward facing aspect of statehood – sovereignty – has fared relatively well, the internal cohesion of the nation – citizenship – has started to show cracks. Part of this loss of cohesion has been driven by the decline in social citizenship, where the state provides welfare, employment, and security. The other reason for this decline has been the influence of the internet, and the rampant disinformation it perpetuates (see below) and the

decisions made by the government during the COVID pandemic, as embodied by the parliament occupation and riots.[195]

Democracy

Tied to the pressures on the nation state are questions over the future viability of democracy. Writing in 2021, Freedom House stated:

> As a lethal pandemic, economic and physical insecurity, and violent conflict ravaged the world, democracy's defenders sustained heavy new losses in their struggle against authoritarian foes, shifting the international balance in favor of tyranny.[196]

In their 2021 report, Freedom House noted that:

> [The] share of countries designated Not Free has reached its highest level since the deterioration of democracy began in 2006, and that countries with declines in political rights and civil liberties outnumbered those with gains by the largest margin recorded during the 15-year period. The report downgraded the freedom scores of 73 countries, representing 75 percent of the global population. Those affected include not just authoritarian states like China, Belarus, and Venezuela, but also troubled democracies like the United States and India.[197]

Similarly, in 2020 for the first time since 2004, the Bertelsmann Transformation Index (BTI) has recorded more autocratic states than democracies globally.[198] Dasgupta notes, after explaining the failings of the nation state, that:

> This is why energetic authoritarian "solutions" are currently so popular: distraction by war (Russia, Turkey); ethno-religious "purification" (India, Hungary, Myanmar); the magnification of presidential powers and the corresponding abandonment of civil rights and the rule of law (China, Rwanda, Venezuela, Thailand, the Philippines and many more).[199]

As with the decline of the nation state, making concrete predictions on the decline of democracy is impossible. Yet as the Freedom House report notes, the metrics are trending negatively for democracy.

Distrust

Underlying many of the woes of the political system is the loss of trust in governments and the rise in disinformation feeding this distrust. As the UN explains:

> Trust…is integral to the functioning of any society. Trust in each other, in our public institutions and in our leaders are all essential ingredients for social and economic progress, allowing people to cooperate with and express solidarity for one another. It allows public bodies to plan and execute policies and deliver services.[200]

However, in recent decades, trust in governments has declined significantly. The US National Intelligence Council's Global Trends notes that "people are pessimistic about the future and growing more distrustful of leaders and institutions that they see as unable or unwilling to deal with disruptive economic, technological, and demographic trends."[201] "In 1964, three-quarters of Americans said they trusted their government; now, only a quarter feel that way. In the European Union, according to the Eurobarometer, trust has almost halved from 53% in 2001 to 27% in 2012."[202] Aotearoa New Zealand is also experiencing declines in trust, with a 2016 study showing that "there may be a crisis of distrust in the country. Not only is trust in our government, politicians and media low, but it has declined over three years."[203] Loss of trust will see societies fracture even further, with loss of both government capacity and social cohesion.

Disinformation

The rise of disinformation is a key trend and has also been identified as a factor in the decline in trust.[204] One of the 'fathers' of the internet, Vint Cerf, declared that:

> The biggest trends right now are disinformation and bad actors — people who want to harm others and interfere with other countries' infrastructure and elections. All these problems that are caused by a global and open Internet are going to shape the Internet over the next decade, as countries try to respond. Some will be responding because they want to protect their citizens, and some will be responding because they want to protect their regimes. So we'll see more things like we've seen with China creating firewalls and blocking and filtering various systems. It's a pity: I think the value of the free flow of information has been enormously demonstrated. But as countries try to respond to these bad

behaviors, the result will be a fragmentation and disruption of Internet global connectivity.[205]

Underpinning the rise of disinformation is the internet, as the UK MoD notes:

> An expanded and unregulated information space. An increasingly expanding, unregulated information space (blurring between fact and opinion, and between real and virtual), where there is little or no quality control, combined with the echo chamber effect, will make individuals more susceptible to misinformation and/or radicalisation. Ultra-high speed, ultra-agile networks of interacting smart devices will present societal, organisational and personal challenges, which could potentially be exploited by malign actors.[206]

However, as well as the internet, more traditional mediums have also been increasingly purveying disinformation. This is largely driven by the increased polarisation and the loss of social cohesion within countries.[207] **The trend toward increasing disinformation is expected to continue.**

Third party social provision

The growth in third party social provision will continue, tied to the decline of nation-states and their interest in and capacity to provide the necessary services to their citizens. The US National Intelligence Council outlines the implications of a growing government-citizen gap:

> A growing gap between public demands and what governments can deliver will raise tensions, increase political volatility, and threaten democracy. The mismatch may also spur new or shifting sources and models of governance.[208]

Government will likely shrink, and a set of not-for-profits will augment traditional city services. These not-for-profits will be better able to adapt to emerging issues residents care about that traditional government organisations are either unaware of or too slow to resolve.[209]

DEMOGRAPHIC TRENDS

Population size and age

The global population stands at ~7.8 billion people. Although the rate of growth is predicted to slow, **estimates are that the global population will be 8.5 billion by 2030 and 9.7 billion by 2050.**[210] This will be an older population as well. The number of people 65 years and over is projected to more than double, while the number under age 25 will reach a peak and then decline. **By 2050, people 65 or over will outnumber those under age 25** in Eastern and South-Eastern Asia, Latin America and the Caribbean, and Europe and Northern America.[211] This global shift will, amongst many things, have a massive impact on both productivity and the social welfare systems, with fewer people of working age supporting far more of retired age.[212]

Aotearoa New Zealand population is projected to be between 5.2 and 5.9 million by 2030 and could reach 7 million by 2050, though StatsNZ gives a one in four chance that by 2050 the population may be either flatlined or declining due to a decrease in births.[213] Demographer Paul Spoonley has noted that previous population projections have under-estimated growth:

> [T]he historical forecasts reflected a conservatism over the attractions of New Zealand for migrants. Today, immigration continues to loom large in any view of New Zealand's future – and in population projections. We have been close to the top of OECD rankings of immigration rates and, unlike some countries, have continued to attract high flows of newcomers since the Global Financial Crisis.[214]

While he wrote this in 2013, long before COVID, the impact of immigration on future general demographic trends should not be discounted, particularly considering the other trends mapped in this report. The decline in Aotearoa New Zealand births is due to the increase in **those 65 years and over, who are projected to more than double by 2031, from 615,000 to 1.2 million, and to 1.5 million by 2061, seeing the proportion of those 65 years and over increase from its present 14% to around 21% by 2031 and 26% by 2061**.[215] **Consequently, Aotearoa New Zealand's working age population, currently 66%, is projected to shrink to 60% by 2031 and 58% by 2061**.[216] Treasury's Long-term Fiscal Statement identifies four economic impacts of an ageing population:

1. Reduction in labour supply growth. As people get older, they are less likely to participate in the labour force, and if they do participate, they generally work fewer

hours. For this reason, the labour force participation rate is projected to fall by around 5 percentage points between 2020 and 2060.

2. Changes in labour productivity. The impact of an ageing population on productivity is ambiguous. Hourly earnings tend to decrease as people get older, which suggests that their productivity declines. However, studies on this subject provide ambiguous results, and the declining wages for older workers could be driven by other factors such as prejudice against older workers or older workers stepping out of higher-paying jobs.

3. Shifts in demand for different types of goods and services. Both the level and composition of consumption will look different as New Zealand's population ages. Sectors that might grow their shares of GDP as the population ages include health, old-age care, financial services, and retail trade. On the other hand, there might be a decline in the contributions of education, manufacturing, and primary industries.

4. Changes in savings and investment decisions. As more of the population moves into retirement, this may lower overall savings rates and shift savings towards lower-risk investments. However… there is a high level of uncertainty about what savings and interest rates will be in the long-term.[217]

Treasury also identifies three fiscal impacts of an ageing population:

1. Rising NZ Superannuation expenditure. The number of people eligible to claim NZ Superannuation will increase, and so expenditure will increase.

2. Rising healthcare expenditure. Older individuals will require more healthcare services than younger individuals, on average. Therefore an ageing population will increase the cost of a healthcare system providing an equivalent level of service to today. However, this is only around a quarter of expected growth in healthcare spending in the future, as general increases in demand for, and cost of, healthcare services are also projected to rise.

3. Reduced tax revenue. Lower labour force participation will likely reduce real GDP growth, which will place downward pressure on tax revenues.

The current Māori population of roughly 720,000 will grow significantly – possibly by more than 400,000 – in the next 20 years. **The Māori population will make up 20% of Aotearoa New Zealand's total population and one third of New Zealand's children by 2038.[218]** Between 2013 and 2018, the Māori population grew by 180,000 (29.6%), StatsNZ projections indicated

growth of this size would take until 2038.[219] While future Aotearoa New Zealand populations will increasingly be Māori, the Māori population 65 years and over will also increase, making up 11.9% of the Māori group in 2038 compared with 5.3% in 2013.[220] A TPK report identifies "a potential economic dividend to be gained from the historical coincidence of being a structurally youthful population located alongside a significantly older one. This 'window of opportunity' can be termed a potential 'collateral' demographic dividend."[221]

Large scale immigrant/refugee influx

As the climate crisis, resource scarcity, economic inequality, and conflicts intensify in the coming decades, there will likely be a dramatic increase in immigration and refugees. Already in 2017, there were 68.5 million displaced peoples, with roughly a third of these forced to move by 'sudden onset' extreme weather events.[222] The US National Intelligence Council identifies that:

> Extreme weather events increase the risk of more environmentally-induced migration, which usually occurs within states as affected populations move to nearby communities, often temporarily. Climate change probably will exacerbate this as sea level rise or extreme heat makes certain locales permanently uninhabitable, although mainly after 2040, possibly causing permanent migration and movement to other states.[223]

While the origins of these migrants and refugees ultimately depend on a range of factors, it is likely that many will be from the developing countries in the earth's low latitudinal band.[224] In 2018, the World Bank estimated that three regions – Latin America, sub-Saharan Africa, and Southeast Asia – will generate **143 million more climate migrants by 2050**.[225] The Australian think tank IEP estimates that over **1.2 billion people could be displaced by climate-related events by 2050**.[226] As well as an increase in refugees, there will be growing migration pressures on states perceived to offer a better life.

Aotearoa New Zealand has long been held up as the place to weather out climate change, identified as the top place to survive a global collapse of society in 2021.[227] This is one of the main reasons it has become a 'bolthole for billionaires', who have been buying land and building bunkers here.[228] Since 2011, there have been 11 cases of people claiming protected refugee status in New Zealand, based on climate change.[229] All of these have failed. In 2017, the Aotearoa New Zealand government did consider creating a visa category to help relocate Pacific peoples displaced by climate change; however, there was little support from Pacific Island states. They viewed gaining refugee status as a last resort.[230] Rather, they want the New Zealand government to institute a step-

wise approach: reduce emissions, support adaptation efforts, provide legal migration pathways, and finally, if all fails, grant refugee status. **In the long term, however, the rise in crisis-induced immigrants and refugees is expected to increase dramatically.**

Homeownership

Aggregate homeownership rates have increased significantly across many OECD countries in recent decades.[231] However, in Aotearoa New Zealand, homeownership rates have been declining since peaking in 1991.[232] In 2018, across the whole populace, New Zealand's homeownership rates were at their lowest since the 1950s. Homeownership peaked in the 1990s at 73.8% of households. By 2018, homeownership had fallen to 64.5% of households.[233] At this rate of decline, **by 2050, homeownership will be below 60%.**[234] For Māori, the situation is even more dire. In 1936, 71% of Māori lived in dwellings that the whānau owned. By 1991 the ownership rate had fallen to 56%, by 2013 it was at 43%, and today it is likely to be below 40%. If homeownership continues to decline at the rate it has been falling since 1991 **by 2050 less than 20% of Māori will own their own home, and Māori will almost be entirely renters by 2061**.[235]

Māori language

Te reo Māori is listed by UNESCO as 'vulnerable'. It is only proficiently spoken by around one in 100 New Zealanders, while another 2.7% can hold a basic conversation, according to Census figures. In total, this is around 185,000 people. In 2018, the New Zealand government set two targets: (i) by 2040, 150 000 Māori will speak te reo Māori as a primary language; and (ii) by 2040, 1 million New Zealanders will be able to speak at least basic te reo Māori.[236] A recent study developed a statistical model that uses demographics to predict future trends for te reo Māori. As the researchers note, "the model predicts that the language is currently on a downward trajectory within the Māori population and **will not meet government targets by 2040** without a major increase in learning rates."[237] Critically, the model shows that "if proficient teachers, who are predominantly Māori, are spread across the whole population, this is detrimental to the language trajectory in the population as a whole, because the limited pool of teachers is spread too thinly."[238] This relates directly to New Zealand government policy, which has a dual strategy of a by-Māori, for-Māori language revitalisation strategy and the Crown strategy for revitalisation at a national level.

Urbanisation

Urbanisation is a key ongoing global trend. Globally, the urban population is expected to **grow from 56% in 2020 to nearly two-thirds by 2040**. Most of this growth will occur in the developing world.[239] Cities with more than 1 million residents are growing at twice the rate of the overall population. Nearly 30% of the world's population are predicted to live in one million plus sized cities by 2035.[240] Aotearoa New Zealand will also undergo further urbanisation. However, with 86% of the population already in urban areas this will be moderate.[241] By 2050, 40% of the population will live in Auckland (compared to 30% now). Wellington and Christchurch are also expected to experience growth, with consequent significant population decline projected for mid-sized towns in the regions.[242]

Mega-cities

There are currently 34 mega-cities, metropolitan areas with 10 million people or more. A recent UN World Cities Report found that the number of mega-cities has more than doubled over the past two decades.[243] By 2050, predictions suggest there will be between 50-60 mega-cities.[244] These new mega-cities will be predominantly found in Asia, Africa, and Latin America.[245] The rise of mega-cities will have a wide range of impacts. They mark a potential shift in political power, aligning with the decline in the nation-state. They will also likely be economic powerhouses that hold sway over the economies of the entire nation and surrounding regions.[246] They will also place a massive environmental burden both locally and regionally.

Education

Globally, the proportion of education is likely to increase, with levels of primary school enrolment approaching 95% and secondary school education at 89% by 2050.[247] Generally, Aotearoa New Zealand education levels are trending up. Between the 1980s and 2020, the number of 15- to 24-year-olds nationally with a secondary qualification rose from 55% to 85.8%.[248] However, Māori still lag, with 80.6% of Māori 15- to 24-year-olds holding a secondary qualification in 2018.[249] The number of Māori students gaining post-secondary school qualifications also increased between census years, with 20.7% of Māori aged 15 years and older achieving a level 5 diploma or higher at the time of the 2018 Census, up from 16.3% at the time of the 2013 Census and 13.1% in 2006.[250] Again, however, there is a lag – with 34.6% of the general populace holding a level 5 diploma or higher at the time of the 2018 Census.[251] As the Auditor-General wrote in 2017, "without effective action, increasing numbers of Māori children will finish school worse off than their peers."[252]

EMPLOYMENT TRENDS

Automation

A key trend is the increasing automation of industry. One estimate is that **automation could replace over two billion jobs globally by 2030.**[253] The US National Intelligence Council posits that "automation could eliminate 9% of existing jobs and radically change approximately one-third in the next 15 to 20 years."[254] More than 50% of jobs are at risk of becoming automated in many countries in Asia, Africa and the Middle East, with China likely the hardest hit because of its high proportion of manufacturing jobs. Importantly, whether jobs are lost or not due to automation, the effects can be detrimental to the New Zealand workforce.[255] Across developed countries, the impact will be less though the proportion of jobs that might be automated could still be between 20%-40%.[256] An Infometrics report from 2018, estimated that **31% (747,200) of jobs in Aotearoa New Zealand are at risk of automation by 2036.**[257] This represents a fivefold increase in job loss over the regular 'churn' across shrinking occupations since 2000.[258] The COVID pandemic may accelerate the trend towards automation in Aotearoa New Zealand, with one industry expert noting how it "stifled the flow of labour into New Zealand, as a result most businesses are struggling to get enough talent", with increasing numbers looking at automation.[259] More optimistically, the US National Intelligence Council notes that:

> The number of jobs created by new technologies is likely to surpass those destroyed during the next 20 years, judging from past episodes. One study by the World Economic Forum estimates that by 2025, automation will have created 97 million new jobs and displaced 85 million existing jobs.[260]

However, even if the more optimistic scenario is true the new jobs will be those favouring higher education, which means that Māori may still struggle with these as, relative to the rest of the Aotearoa New Zealand population, they will potentially still have lower educational attainment levels.

Gig economy

The gig economy describes a labour market comprising short-term contracts or freelance work rather than permanent employment. The rise of the gig economy has been primarily facilitated by the internet and smartphones. However, there is a range of other deeper systemic factors such as generational shifts and wider employment trends, as well as the 2008 global financial crisis and the

COVID pandemic.[261] The pandemic, with its long lockdowns, had a massive impact on the gig economy. "Prior to the pandemic, the trend toward freelance work was growing year over year — 23% to 34% and moving into the 40s. The pandemic has accelerated this trend: "It's possible that over 50% of the U.S. workforce will never return to a traditional job."[262] The most obvious examples of the gig economy are companies like Uber. However, the scope is much wider. The gig economy encompasses all sorts of contingent work arrangements, including freelancers, consultants, independent contractors and professionals, temporary contract workers, moonlighters and outsourced teams and networks. In 2019, Mastercard estimated that globally, the gig economy generated $US204 billion in gross volume. They **estimated that it would grow by 17% by 2023**.[263] By 2027, it is predicted that the US will have more people 'gigging' than working in the traditional contracts.[264] In 2018, StatsNZ reported that a third of the working population is self-employed, temporary or part-time, noting that there were major changes in self-employment and temporary employment.[265] However, this is not an accurate measure of the gig economy, which is effectively not surveyed for in Aotearoa New Zealand yet. A recent analysis of this issue was conducted, and while many of the trends were showing that gig work appeared to be increasing, none were definitive or clear.[266] A recent Stuff article noted – without providing any data – that:

> [Aotearoa New Zealand did not experience] the same explosion in contracting – the gig economy – that's been forecast in other countries as a result of the emphasis on flexible working and uncertainty around the future. Rather, things are on much the same gradual growth trajectory they've been for the past 10 years, though some sectors have been affected more than others.[267]

Even though Aotearoa New Zealand data is unclear, the global trend seems likely to be replicated here, with t**he gig economy growing over the coming decades**. There is a risk that employers cynically use the increasing popularity of the gig economy to either reduce remuneration or their responsibilities, including KiwiSaver and leave. This type of 'sham contracting' arrangement happens when an employer disguises an employment relationship as an independent contractor arrangement. From the government's perspective, "there is potential risk for the sustainability and viability of New Zealand's tax revenue collection system and of ACC institutions in the face of increasing gig work."[268] For Māori in particular, another risk is that a "survey of gig workers shows that they are more than likely to be Pākehā, live in Auckland and have a bachelor's degree."[269] There is a **risk that the gig economy creates another inequality within Aotearoa New Zealand**.

Flexi-work

Another trend similar to the gig economy is the rise of what might be termed 'flexi-work', which covers several related concepts, including remote work/working from home, flexible work hours, and the four-day working week. While these were all growing in popularity before the COVID pandemic, they exploded in the years of rolling lockdowns. As the World Economic Forum states: "COVID-19 has been a game-changer for offices and the way we work."[270]

Remote work/working from home

According to recent projections, 25% of all professional jobs in North America will be remote by the end of 2022, and remote opportunities will continue to increase through 2023.[271] Kate Lister, president of Global Workplace Analytics, estimates that **by 2025 70% of the US workforce will be working remotely at least five days a month**.[272] Stats NZ research found that while over 40% of the employed population worked from home during the lockdown in April and May of 2020, 83% of people were back at work by Alert Level 1.[273] While the trends are fairly weak in Aotearoa New Zealand, 71% of the workforce want remote work options to continue beyond the pandemic, suggesting that this is not due to employee wishes but employer demands.[274] Still it seems that by 2040 if current trends continue, a large segment of the working populace will be working remotely.

Flexible working hours

The success of working from home prompted many companies to increase flexible working hours.[275] A 2021 survey found that 84% of 18-24-year-olds would rather have flexible working hours over an additional 10% salary.[276] Another survey found that almost 40% of global respondents consider workplace flexibility among the top three factors they consider when looking for a job.[277] In Aotearoa New Zealand over half of employees already had flexible work hours before the pandemic, and those with flexible working hours reported a higher level of work satisfaction.[278] While there is no long term data, it seems that this is another trend that will only increase in the coming decades.

Four-day week

The four-day working week is another pre-pandemic trend that grew in popularity during the pandemic.[279] A number of trials have been run around the world, with most reporting success both in terms of employee satisfaction and output. For example, Microsoft trialled a four-day week with

no loss of pay in Japan office, with the company reporting productivity went up by just under 40%.[280] In 2021, Stuff reported that the "New Zealand businessman who pioneered the four-day work week says the movement has reached a global tipping point."[281] As he explains:

> The social and economic trend was already moving in favour of the four-day week, but the drastic effects of the pandemic mean we are now seeing in real time the importance of government and business collaborating to protect worker pay, while opening us up to the benefits of a productivity-focused, reduced-hour model.[282]

A Stuff survey found that 37% of respondents thought their workplace would perform more effectively on a four-day week regime.[283] Again, while there is not enough data to determine a real trend, it seems this is another possible change that will occur in coming years.

Changing skills and skills shortages

As the global economy changes, there will be both changing skill needs and skills shortages. Some skills that have taken years to build, such as a taxi driver's knowledge of a city, have already been rendered obsolete, and as the rate of technological change increases the rate of obsolescence will as well.[284] A recent global survey found that 40% of employers struggled to find the right skilled talent, while the number of employers re-training and developing people internally to fill these gaps more than doubled since 2015.[285] The increasing role of technology will help remote areas with skill shortages, both through AI as well as other developments like tele-operation.[286] However, for the majority of people in the built-up urban environment, it will place greater emphasis on higher education and new skill development, as old skill sets are made irrelevant, and new ones are required. The World Economic Forum warns that:

> Even among people formerly working good jobs, disruptive technological and socio-economic forces threaten to swiftly outdate the shelf life of people's skillsets and the relevance of what they thought they knew about the path to social mobility and rewarding employment. There is a sense that the rise of artificial intelligence, robotics and other digital developments is upending the primacy of human expertise in the economy.[287]

The UK MoD notes that "technology will change jobs and skills and could even challenge people's sense of human purpose. Education and training will need to change to match these developments."[288] Likewise, the World Economic Forum outlines how:

> Developments in areas such as artificial intelligence, robotics and big data analytics have displaced whole occupations, shifted the tasks and needed skills within some occupations, and created wholly new tasks and occupations.[289]

The World Economic Forum predicts that as jobs are transformed by technology, **more than 1 billion people by 2030 will need to reskill** which fits with predictions that 50% of jobs are at risk of becoming automated and the even larger threat posed by AI.[290] However, as the Forum notes:

> There's a common misconception that we'll all need to develop highly technological or scientific skills to succeed. Yet while it will be necessary for people to work with technology, we're also seeing a growing need for people to develop specialized skills for how they interact with each other. These include creativity, collaboration and interpersonal dynamics, as well as skills related to specialized sales, human resources, care and education roles.[291]

In fact, due to the hard skills of AI and wider technological capacity, it seems likely that soft interpersonal skills will be highly desirable in the future. Deloitte predicts that **soft skill-intensive occupations will account for two-thirds of all jobs by 2030**.[292] While the education trends for Māori are not entirely positive, recent data on Māori in high-skill jobs does show positive trends. Since 2006, the number of Māori in high-skill jobs in Aotearoa increased by 83%, from 47,500 to nearly 87,200 in 2018, meaning over a quarter of employed Māori work in jobs the highest of five skill levels.[293]

AI/human partnership

AI will create increasing employment disruptions. However, in the Harvard Business review Wilson and Daugherty note that "many companies have used AI to automate processes, but those that deploy it mainly to displace employees will see only short-term productivity gains."[294] In their "research involving 1,500 companies, we found that firms achieve the most significant performance improvements when humans and machines work together." A partnership between AI and humans provides 'collaborative intelligence', as they provide complementary strengths: people bring leadership, teamwork, creativity, and social skills, and AI delivers speed, scalability, and quantitative capabilities. While these seem relatively positive, those AI-human partnership jobs could likely require higher education and skill levels. As the UK MoD explains:

The next major development in automation, which is expected in the coming decades, is likely to be 'augmented intelligence', where humans and machines collaborate to make decisions. This will significantly affect how we work in the coming years, favouring those with skills such as emotional intelligence, creativity, persuasion and innovation.[295]

As the World Economic Forum explains that the "individuals who will succeed in the economy of the future will be those who can complement the work done by mechanical or algorithmic technologies, and 'work with the machines.'"[296]

AI/blind hiring

Another area that looks set to be dramatically changed by AI is recruitment and hiring. As diversity and inclusiveness become more important – and the ESGs are increasingly influential – the use of AI to 'blind hire' employees will probably become more common. One firm already has an AI-powered enterprise hiring platform, which has been used by 47 of the Fortune 100 companies, including Amazon, Walmart and CVS Health. [297] One report from 2019 predicted that the growth in AI will replace 16% of recruitment sector jobs before 2029.[298]

Global mega-firms

Technology is transforming some industries' structure, increasing the prevalence of oligopolies and near monopolies and resulting in the rise of global mega-firms. In their report, the generally market-friendly IMF noted that:

> The market power of corporations is becoming more pronounced across a range of industries, with important macro-economic effects. Margins between prices and variable costs - mark-ups - have been rising steadily since the 1980s, and at an accelerated pace since 2010. Measures of industry concentration and profitability mirror this increase in market power. Corporate level data suggest that these trends have been driven by an increase in rents that are accruing to a relatively small, but growing, number of 'superstar' firms.[299]

As the BBC summarises:

> Put simply, mega-firms with mega-profits have such huge amounts of power they are able to charge more for their products and services than would be possible if markets were functioning differently-what is called the economic rent.[300]

The IMF also argue that the increasing dominance of mega-firms could undermine the impact of central bank policies on overall economic activity and prices as these oversized, cash-rich companies are far less sensitive to credit markets and bank lending.[301] The **facilitators of these global mega-firms, including high fixed costs, low marginal costs, network and platform effects, and machine learning, are probably going to persist into 2040**.[302] Much of this market consolidation is driven by technology, as the UK MoD explains:

> As businesses increasingly use automation (including artificial intelligence), they will become more efficient, driving down costs. In time, however, profit margins will also be squeezed, leading to a business model where profit on individual items and services is so small that the only way of generating a meaningful profit will be to sell in very large numbers (as has already happened with many commodities). This would drive companies to grow and absorb rivals, reducing competition and creating the conditions for monopolies, which

could lead to economic stagnation and fewer jobs and increasingly concentrate wealth in the hands of a few.[303]

While the IMF is identifying well-known companies like Apple, Google, and Meta, another type of mega-firm is also emerging – one that works in the shadows yet commands colossal influence. The increasing dominance of fund managers BlackRock, State Street, and Vanguard is "driving a dangerous concentration of economic power."[304] They have several key characteristics: they are 'universal' owners, meaning their holdings are distributed across the entire global economy, every sector, every region, every class of asset; they have strong holdings, giving them influence on the board; and, they operate on a fee-based model, whereby they earn a percentage based on the size of the pool of assets they're managing. As a group they "constitute a new regime of ownership and logic of corporate governance that academic Benjamin Braun calls 'asset manager capitalism'."[305] This small group of mega-firm fund managers control $US34 trillion of assets.[306] BlackRock alone has over $US10 trillion in assets, more than the GDP of every country other than the US and China. It represents a full tenth of the assets of the entire $100 trillion global industry spanning thousands of firms.[307] Even as recently as 2007, these fund managers were insignificant in comparison to their current position. The 'Big Three' of BlackRock, State Street, and Vanguard cast more than 25% of votes at corporate shareholder meetings. This means they can "exercise something akin to state authority over the largest corporations that account for the vast bulk of economic activity in … the world economy."[308] A recent report found that the Big Three collectively own over 27% of shares in oil firms Chevron, ExxonMobil, and ConocoPhillips and over 30% of major agribusiness companies like Archer-Daniels-Midland, making them among the largest shareholders in the two industries most responsible for the majority of greenhouse gas emissions driving the climate crisis. While people like BlackRock CEO Larry Fink talk positively about transitioning to a net-zero economy, and there are examples of them using their power to support environmental activists, these mega-fund managers are still routinely voting against shareholder resolutions aimed at establishing significant climate goals.[309]

Increasing importance of ESGs

ESG, or environment, social and governance factors, are a set of standards for a company's operations that investors use to evaluate potential investments. In recent years they have become increasingly important as investors have grown more environmentally and socially conscious.[310] Recent analysis estimates that **by 2025 33% of all global assets under management will have ESG mandates** and that ESG assets would reach **US$30 trillion by 2030 and US$160 trillion by 2036**.[311]

Product stewardship and regulated lifetime

The current system sees companies hold little responsibility for what happens to their products once they have been sold and, outside consumer protections, little regulation over how long their products should last. These two issues are known respectively as product stewardship and planned obsolescence. Globally, **the product stewardship market is expected to grow by $309.52 million between 2021-2025**.[312] The European Commission recently announced that it has plans aiming at ensuring products will be "recyclable, repairable and designed to last longer" as part of a wider strategy to halve waste across the EU by 2030.[313] There are moves to increase product stewardship in Aotearoa New Zealand; James Griffin, Sustainable Business Network, predicts that:

> In 2030 we will look back and wonder why, as a society, we ever let businesses produce, sell and distribute products without taking any responsibility for the environmental impacts once they left the factory gates… Mandatory product stewardship in New Zealand will have expanded to other sectors beyond the six we have now. Export markets will simply not accept products without evidence of stewardship in place.[314]

These trends fit into the larger movement toward a circular economy, and while hard to predict, the exact shifts and patterns are likely to become increasingly pervasive in coming years.

Virtual retail, 3D printing, bespoke goods

In the coming decades, rather than purchasing finished goods, consumers are more likely to buy a product design or blueprint, particularly if 3D printing becomes widespread. If more customers buy finished products at the source, there could be a reduction in transportation requirements, although high volumes of raw materials and fuels will continue to be moved. Even without a substantial rise in 3D printing, the trade in digital services is likely to surpass the traditional global economy by 2050.[315] The WTO's Global Trade Model estimates that global trade could grow by around **2% points more than the baseline growth through 2030** if countries adopt digital technologies that facilitate the expansion of services.[316] E-commerce sales in 2018 were equivalent to 30% of global GDP and was valued at $US4.21 trillion in 2020.[317] It is projected to reach $US17.53 trillion by 2030, **growing at a compound annual growth rate of 15.1% from 2021 to 2030**.[318]

TRACING THE JOURNEY TO THE PRESENT

> Kia whakatōmuri te haere whakamua.
>
> I walk backwards into the future with my eyes fixed on my past.

This whakataukī speaks to Māori perspectives of time, where the past, the present and the future are viewed as intertwined, and life is a continuous cosmic process.

As with any work based in te ao Māori, to move forward, this report must look back. The report takes an *I ngā wā ō mua* approach by traversing the terrain of the past. We have specifically viewed the past across four 'perpetual present' timeframes. By 'perpetual present' we mean to imply that the past is very much with us in the present as an essential guide to our future – such is the distinctiveness and significance of a Māori approach toward understanding how to proceed; an approach that reverberates around kitchen tables, marae wharenui, boardrooms, political chambers and academic circles across whānau, hapū, and hapori. Inspired by Tā Justice Joe Williams, we include the terms Hawaikians and Aotearoans to frame our exploration along with Whānau/Hapū and Māori (the dividing dates are arbitrary).[319]

1. Hawaikian – 1300AD-1450AD

2. Whānau/Hapū – 1450AD-1770AD

3. Māori – 1770AD-1980AD

4. Aotearoans – 1980AD-Present

This inquiry concludes with a discussion on pathways to the future to lay down some ideas on approaches that will inform our research design. To be clear, no two sections in this chapter will follow the same structure as each has a different function. The Hawaikian section will focus on describing the first adaption and crisis faced by the Polynesian settlers. The Whānau-Hapū section outlines how the resilient and adaptive nature of te ao Māori and its people was harnessed to overcome this initial crisis and how a wellbeing economy was structured. The Māori section then explores the next crisis, one of even greater existential proportions, and outlines the tumultuous history of contact, colonisation, and rejuvenation that this two-century span saw. Finally, the Aotearoan section sets up the current situation, showing the opportunities and constraints for creating a new wellbeing economy built on insights from the Whānau/-Hapū section but calibrated for the new dynamic context in which it must operate.

Hawaikians

Wayfinding

Oceanic navigators were among the greatest explorers of their times, honing their wayfinding skills under the tutelage and guidance of master navigators. Māori leadership has been deeply imprinted from one generation to the next by wayfinders who stood at the threshold of uncertainty, change and adversity and found a way through.[320] For this, they possessed a future mindset and vision. It is, thus, unsurprising that the legacy of Hawaiki lives on. While direct knowledge of the early years and decades of settlement in Aotearoa New Zealand is somewhat limited, much can still be understood by unpeeling the layers, looking backwards. The influence of these early explorers and settlers crosses virtually every sphere of Māori life, as embedded in oration, stories, and whakapapa. As Walter et al. note:

> For Māori, the principles of political organisation, legitimacy and succession, of land tenure and identity itself are grounded in the traditions of the ancestral voyaging canoes that travelled from the mythical homeland of 'Hawaiiki', their crew and their landfall.[321]

Hawaiki migration to Aotearoa

Recent scholarship has shown that the settlement of Aotearoa New Zealand was most likely a planned and coordinated mass migration from several different source points. The timing, size, origin, and exact destination are unknown, and there are competing theories.[322] Walter et al. "argue that New Zealand was the target of planned mass migration out of tropical East Polynesia in the early 1300s. By migration, we mean the deliberate movement of populations in what were essentially one-way voyages from the tropical Pacific to New Zealand."[323] While the traditional 'Great Fleet' origin story was largely driven by poor scholarship and Western desires to link Māori to the Israelites, in the past few decades greater technological precision in radiocarbon dating and DNA research as well as new archaeological evidence has shown that rather than arriving in uncoordinated waves over centuries, Māori arrived around 1300AD in a mass migration.[324] "By referring to this as a 'planned' event", Walter et al. explain:

> We mean that the scale of the endeavour in terms of cost and technology, and the number of participants involved, implies prior knowledge of the destination and strong, well-defined motives... the migration does not seem to have been ecologically or demographically driven, which leaves socially defined agendas as

the most probable motivating factors. Second, …during the colonisation phase
the migrants adopted a systematic and coordinated strategy for the exploration
of New Zealand and the establishment of a network of viable communities
linked by regular interaction.

While the migration was likely planned and coordinated, this did not mean that the various waka
were homogenous. It seems likely, especially considering the waka came from different islands,
that each brought its own specific encoded culture. The 'Hawaiki Zone' encompasses at least the
southern Cook, Austral and the eastern Society Islands. These ancestral wayfinders brought with
them diverse tikanga as Tā Williams says:

…the detailed systems of tikanga they brought with them varied between waka.
And those variations remained with the descendants. As Buck said many years
ago, iwi are, in heart and mind, a series of islands connected by land.[325]
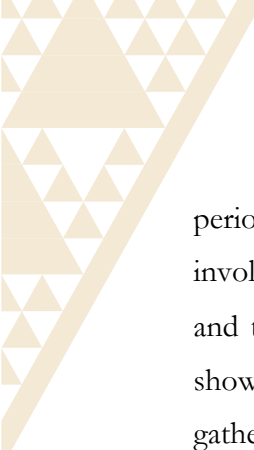
These Hawaikians initially lived in small hunter-gatherer bands, each inhabiting 'islands' dotted
along the dense and often rugged coastline. These 'islands' are the progenitors of "semi-
autonomous lineage groups descended from eponymous ancestors acting under the leadership of
powerful chiefs."[326] While these communities would have been relatively remote, they were placed
in strategically optimal positions in terms of resources and logistics and had relatively frequent
contact with other settlements, as shown in the archaeological evidence.[327] The early Hawaikian
settlements were "characterised by high levels of mobility and low levels of population
isolation."[328] At the same time, they were attempting to cultivate a range of the critical plants and
animals they probably brought with them. As Holdaway et al. explain:

In New Zealand, many of the domestic and wild species present in tropical
Polynesia were either not introduced or were lost, including plant species (e.g.
banana, bread fruit, coconut, plantain and sugar cane) as well as domestic
animals (pig and chicken). The lack of these species alone implies changes in
Māori food production techniques compared to those practised in other parts
of the Pacific.[329]

Transplanting Hawaiki knowledge

Food that was brought, such as kūmara, hue, and taro, struggled to adapt to varying degrees, due
to the drastically different climate, forcing the Hawaikians into a different mode of living.
Horticulture was only substantially practised in the far north of Aotearoa New Zealand during this

period, where "middens of this period reflect a rich, broad-spectrum subsistence economy involving the exploitation of inshore fish and shellfish species, as well as the hunting of marine and terrestrial birds (many now extinct) and marine mammals."[330] The archaeological evidence shows that the Hawaikians were generally operating a subsistence-based economy of hunting, gathering, and gardening, though they also had extensive trade networks that saw the near nation-wide distribution of geographically isolated resources as well as luxury items.[331] This trading, argue Walter et al., was not sporadic or ad-hoc:

> Instead the range of industrial resources found in colonisation-phase sites strongly suggests that a systematic exploration programme was established immediately upon arrival, which resulted in the rapid acquisition of geographical knowledge and the establishment of an exchange or communication network linking sites around the country. Indeed, early explorers did not just map out New Zealand coastal waters in the colonisation phase but were exploring far offshore. Obsidian from the Mayor Island source in the North Island has now been identified in sites from this period on the Kermadec Islands, Norfolk Island, the Chatham Islands and sub-Antarctic Auckland Island.[332]

Belich refers to 'resources islands' when discussing Hawaikian economic modes – identifying gathering, fishing, wood, stone, gardening, and game islands as key categories – a concept that reinforces the different 'cultural islands' discussed above.[333] In essence, each island settlement would have each had satellite resource islands, some they would have moved to for different seasonal requirements and some they simply visited to gather resources. These islands would have been accessed via sea travel, further reinforcing the 'island' concept. Belich continues:

> As the abundant resources of the premium islands decline through use, and as the population grew, new islands beyond the boundary of knowledge were sought and second-class islands behind the boundary were brought into use. As the process continued, the chain of coastal resource islands became almost continuous, and economic penetration of the interior began, initially by river. The key concept in all of this is that of a *thickening archipelago.* The archipelago was extended by discovery and thickened by progressive exploitation of resource islands that had previously been found but not used while better options existed.[334]

The six different categories of resource islands would have been depleted at different rates, driving different patterns of settlement and differing economic modes. The game islands were some of the first to be depleted, forcing the Hawaikians to rely more on the other categories. This idea of resource islands also helps map the development, concept and practice of resource user rights as the population spread across enough of the land and the Hawaikians transitioned into the Whānau/Hapū era.

Until recently, the historiography portrayed the transition from Hawaikian to Māori proper as taking several hundred years. However, as with new insights into the migration and settlement, the latest evidence is that this transition was far faster than previously thought, occurring in just several generations.[335] Walter et al. argue:

> [The Hawaikian] communities attempted first to reproduce their tropical lifeways. This was successful for a short time while it could be supported by unsustainable economic practices but it soon collapsed with the extinction of moa and of a viable large-game hunting economy, and this resulted in a period of extremely rapid readjustment and transformation leading to the emergence of ancestral Māori culture. All this took place within a century or so of first settlement.[336]

However, in terms of their daily life and the economic forms that shaped it, in these early years where food was bountiful it could be argued that rather than maintaining the same institutional obedience that would have been necessary to maintain life on the far smaller islands from which they came, there was a loosening of rigour in these first years – particularly in terms of kaitiakitanga. The abundance and scale of the natural resources, and the pioneering newness of their situation would have facilitated this loosening. The old story of slow transition characterised "a formative period of adaptation and population growth over several centuries, during which time the Polynesian settlers explored new landscapes, modified their tropical subsistence systems and learned to exploit the resource base of a new climate and ecology."[337] However, the settlers did not have the luxury of centuries to adapt as the early bounty and the easy life it sustained did not last, as natural resources such as forests were depleted, and some species like the moa that had fuelled the early 'protein boom' became extinct within a century of settlement.[338]

The more recent story of the fast transition from Hawaikian to the Whānau/Hapū era was probably facilitated by the growing awareness of the hard environmental limits of Aotearoa New Zealand and the need to adjust the institutions to conserve natural resources – as the resource

islands of moa and seals were lost, the Hawaikians were forced to transition to different economic modes with different institutional settings, which is likely to have helped precipitated the shift from Hawaikian to the Whānau/Hapū era. Belich argues that while Māori were responsible for the extinction of a number of species as well as significant deforestation, this needs to be viewed in context.[339] Compared to the small Pacific Islands from which they came, the natural resources of Aotearoa would have appeared essentially infinite and once the impact of their actions became apparent, they made efforts to conserve resources by creating an economy that was restrained by new or adapted institutions. This is not to make excuses for what happened but to place it in a broader context.
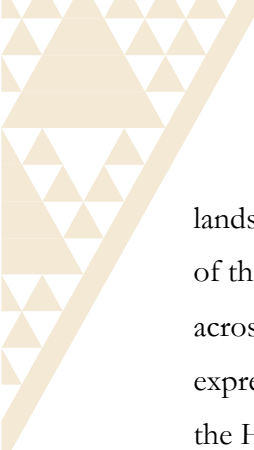
Not only were these men and women wayfinders of the oceans, but they were also wayfinders of the land as they navigated their new territories and established intranational relationships between settlements. The connections between different settlements have strong evidence in the archaeological record, with sites like the Wairau Bar noted as serving a central role as a social, cultural, and economic hub.[340] In places like this, the Hawaikians connected, traded natural resources and human capabilities, and built up their social cohesion – they were sites of wealth generation. Evidence of the latter two is less permanent. Still, the record reveals that "one of the roles of Wairau Bar may have been as a manufacturing and distribution centre for high quality adzes."[341] That said, Wairau Bar's role as a social and cultural hub is reinforced by the number of large ovens found that would be more than was required for the small population who lived there, suggesting that these were used for large feasts.[342] For humans to survive economically, culturally, socially and reproductively, they must operate within the framework of a community, even in migration and settlement phases. Hawaikian settlement "had to be self-supporting and this was achieved through three processes. First, it required the movement of sufficient people to create a functioning community, including enough diversity to provide marriage partners of appropriate biological and social distance; second, it required high levels of connectivity to link the dispersed settler groups; and third, it depended on one or more central places to provide a diversity of services via the medium of a communication network."[343]

Synchronising with Aotearoa

The first decades in Aotearoa would have seen massive social, spiritual, and economic changes. As Williams explains, "these old island cultures… melded, adapted and changed in important ways after arrival." While part of this transformation is simply the adaptive nature of culture, underpinning and driving it for the Hawaikians, was the rapid and concerning environmental change they had wrought on their new home. As they interacted with the new environment and

landscape, they created a distinctive culture, law, language, and economy that is "entirely a product of the interaction between those old Hawaikians and this place."[344] Shared and enduring concepts across the waka, such as whanaungatanga, mana, tapu, utu, and kaitiakitanga, found new expression in relation to the land.[345] As the Waitangi Tribunal described the custom brought by the Hawaikians:

> Its defining principle, and its life blood, was kinship – the value through which the Hawaikians expressed relationships with the elements of the physical world, the spiritual world, and each other. The sea was not an impersonal thing, but an ancestor deity. The dots of land on which the people lived were a manifestation of the constant tension between the deities, or, to some, deities in their own right. Kinship was the revolving door between the human, physical, and spiritual realms. This culture had its own creation theories, its own science and technology, its own bodies of sacred and profane knowledge. These people had their own ways of producing and distributing wealth, and of maintaining social order. They emphasised individual responsibility to the collective at the expense of individual rights, yet they greatly valued individual reputation and standing. They enabled human exploitation of the environment, but through the kinship value (known in te ao Māori as whanaungatanga) they also emphasised human responsibility to nurture and care for it (known in te ao āori as kaitiakitanga).[346]

Likewise, mātauranga adapted to the new context and began assimilating the new inputs into its overarching framework. As Sadler explains

> Mātauranga Māori is a knowledge tradition or an epistemology that had its genesis in ancient Polynesia. It was taken to Awatearoa by the ancestors of the present day Māori where it developed further and thrived. It was further embellished over a period of about a thousand years and was refined by the succeeding generations, who added further to the epistemology, into a culture, although having its roots embedded in Polynesia, that was vibrant, adaptable, and alive and flourished undisturbed until contact with Europeans was made in the 18th Century.[347]

Adapting to a new context can be understood as a recalibration of institutions to suit present conditions. In this, we see that te ao Māori has an inherent flexibility that enables it to undertake

this recalibration without a drastic impact on the core beliefs and values that underpin the worldview.

Over time the early Hawaikians developed a refined system of environmental management and economic exchange that minimised impacts and enhanced human and nonhuman wellbeing. Resource management strategies like kaitiakitanga, mahinga kai practices, rāhui, as well as a range of distribution mechanisms, helped ensure maximal use of resources. In traditional Māori society, there was very little waste because every aspect of life followed the principle of maximum use of minimum resources, as Sinclair explains:

> The Māori of old accepted the responsibilities of his supernatural ancestry that made him guardian priest of the deities that controlled the relationships among the human, animal, vegetable, insect, reptile, fish, bird, mineral and spirit worlds. It was because of these ancestral and spiritual relationships that the Māori fished, hunted, and cultivated only to the degree necessary to secure his well-being. It was inconceivable for him to develop senseless exploitation of the environment to the degree required by the so-called civilized world.[348]

The obligations of kaitiakitanga, Hēnare argues, instil a view that the earth's resources "do not belong to humankind; rather humans belong to the earth."[349] According to this view, humans do not exercise ownership rights but enjoy "user rights" and nature's resources do not exist just for use by humans, but for their own sake and have intrinsic value.[350] Jackson explains that resources are taonga, meaning they are highly prized and are given in koha, that is, gifted by nature, and that the receiving of these gifts for human benefit need to be reciprocated, to maintain balance. The concept of reciprocal exchange encourages humans to care for the earth so that natural resources will continue to be available for present and future generations.[351] The principle of reciprocity calls upon humans to respect and nurture the earth so that, in turn, human wellbeing is assured.[352] Reciprocity, then, is a key feature of a kaitiakitanga approach to managing relationships with nature.

Whānau/Hapū

The transition to the Whānau/Hapū era was partly driven by necessity as the previous economic mode was no longer sustainable as limits had been reached and, in some cases, breached. It was a time of crisis, with evidence written into the bones of those who lived through it. Belich explains:

57

In the fourteenth and fifteenth centuries, with the population now numbering tens of thousands, big game diminished towards extinction. People mopped up its vestiges in the major game islands, searched with increasing desperation for more isolated islands in the interior, and began making the adjustment to a non-hunting economy. Population growth slowed overall, famine occurred in some areas, and marginal gardening sites were abandoned, their function as adjuncts to hunting having ceased. A last frenetic round of colonisation took place, now motivated more by push than pull, as people scrabbled for resources... In this period, the highly mobile, far-flung colonies concentrated and became more sedentary, and split and lumped into a new form of socio-economic organisation: the tribe.[353]

As whānau and hapū navigated the changing contexts, they constructed new forms of social and economic organisation underpinned by both new and adapted institutions. Critically, as both Williams and Anderson, amongst many others, have argued, this ecological crisis would foster the emergence of a deeply embedded environmental ethos.[354] From this crisis would emerge the foundations for an economy that fostered wellbeing and was built on a set of interlinked institutional components: an economic framework that delivered well-distributed growth within environmental limits; consensus-based decision-making structures; a nuanced and layered user rights system; multigenerational integration; communal parenting; a balance and harmony in lifestyle; collective, balanced, and ordered existence; and synchronised with nature.

A caveat before exploring these is needed, however. When conducting such analysis, there is a risk of oversimplification, generalisation, and even romanticisation. The so-called 'Age of Discovery' saw diverse views about Māori and other Indigenous peoples' lifestyles, ranging from Hobbes' pessimistic 'nasty, brutish, and short' prognostication to Rousseau's romanticized 'state of nature' idyll and these binary perspectives and rankings have long continued to plague academia. What follows is not the complete account of this era. It could be argued that it is a Rousseauian view. Māori, like any human community, had flaws and faults. However, it is argued that these issues were ameliorated and overcome by the sophisticated and interconnected set of institutions outlined below, such that to a high degree wellbeing was created and maintained much of the time.

A whānau economic framework

The traditional whānau-hapū economy was complex and diverse, meaning that any summary will necessarily have to elide and simplify certain aspects as there was great variation from the populous

top of the North Island to the sparse South Island. Still, some generalities and commonalities can be provided, in particular the philosophic and practical underpinnings of this economy, which can best be understood through the concept of tauutuutu.

The whānau-hapū economy was largely based on reciprocal exchange, which helped bind whānau together internally and with other whānau, it also helped bind whānau into their hapū cluster, and then it also served to create bonds between hapū clusters. The traditional economy was a dense network of social obligations, with the ledger often going back generations. However, critically, it was not a static economy but was rather one that drove both innovation and progress within wider natural and social limits. Underpinning this network was tauutuutu, the fundamental framework of exchange within traditional Māori society. While it can be described as an 'economic' framework, the holistic nature of te ao Māori and consequent intertwined political, social, environmental, and economic domains of Māori existence mean that tauutuutu can be understood as an overarching framework that informed all forms of transactions, facilitating an ongoing cycle of (usually) mutually-beneficial reciprocal exchanges. Three key concepts underpin tauutuutu and its applicability to economic, environmental, and social exchanges: whakapapa, mana, and mauri.

Whakapapa provides the broader conceptual lens through which all exchanges can be understood – both within human groupings and between humans and nature. Broadly, whakapapa describes the world as a 'cosmological family'. Importantly, Māori do not view this 'cosmological family' in an undifferentiated way. Rather, whakapapa provides a complex genealogical narrative that identifies and classifies all of reality.[355] It has been referred to as a 'mental construct' and a 'taxonomic framework' because of this capacity to identify and classify.[356] Its taxonomic capacity provides information on the relational dynamics amongst people – between individuals as well as different members of a whānau, hapū, and iwi – and it also provides information about the natural world – offering practical knowledge about flora and fauna such as life cycles, habitats, harvesting and growing methods.[357] Whakapapa also provided a motivational component as atua are both the personifications and guardians of their respective natural domains. Because Māori trace their ancestry back to the atua, and through them to the rest of the natural world, Māori also have a responsibility to care for these domains. There is also motivation to care for the natural world for future generations' sake. The view of kinship that emerged from whakapapa generated obligations on Māori to maintain the wellbeing of people, communities, and nature – to care for the cosmic family. Whakapapa underpins "the innate mutualistic relationship between tangata whenua (people of the land) and whenua (land). The connection is underpinned by a notion of reciprocity and

59

stresses the ideology that just as society takes from the land, it must also give back to it in the form of respect and care."[358]

Mana, particularly what is either referred to as mana tangata or extrinsic mana, created and maintained the webs of obligation that held Māori society together as it acted as a 'social currency' that regulated and tracked exchanges. Every exchange generated an obligation that was both reciprocal and escalating in nature. The exchange of a good or service obligated the receiver to provide a good or service of equal or greater value at a later date.[359] Failure to provide the good or service or the provision of a return of insufficient value resulted in a loss of mana. The requirement for the return and the delay of the returned good or service created or maintained the relationship between the giver and receiver. As Metge explains, "the delay in making the return and the obligation to give more than an equivalent produce[d] a continuing state of imbalance in relations between the individuals or groups concerned… [creating] a see-sawing of obligation and hence of mana from one to the other which lasts for many years and many generations."[360] The "reasons for this deferred repayment were essentially practical ones, based on the seasonal nature of Māori economic activity", but as a consequence, it fulfilled a vital social function.[361]

Mauri also functioned as a 'social currency' in the whānau economy, though it regulated exchanges between humans and the natural world. All exchanges between humans and the natural world enhance or deplete the mauri of an animal, plant, or ecosystem, creating a social obligation to balance that disruption commensurately. Mauri as a 'social currency' provided a means through which exchanges with nature could be understood and measured. There are four key types of interactions that can accrete or erode mauri: symbiotic (mutually enhancing mauri); mutualistic (mutually maintaining mauri); commensalistic (not impacting each other's mauri); and parasitic (where one body diminishes the mauri of another for its short-term gain but long-term demise).[362] Mauri reflects the vitality of nature, and whakapapa is a means to actively interpret the outcome of interactions.

Through these four factors, the framework of tauutuutu can be understood to have maintained social obligations, tying whānau together internally and across increasingly large social groupings, whilst also providing a dynamic that increased prosperity amongst groupings, all while maintaining the limits of the natural resources. It can be understood as a system of dynamic equilibrium, ratcheting up the stakes with each exchange whilst tempering the excesses by tying these exchanges to the natural resources upon which they were founded. Tauutuutu helped create balance – or equilibrium – in two other important ways. First, it balanced the variability in wealth – natural resources, social cohesion, and human capability – of various regions. Much of the exchange

involved goods that were geographically dispersed or rare and specialised skills and knowledge.[363] Second, tauutuutu maintained balance in outcomes. As mana was acquired through generosity rather than hoarding, surpluses were redistributed and accumulated throughout a group rather than amassed individually. The "fixed wealth of the chief was not much greater than that of an ordinary tribesperson. The difference lay in the larger quantities which continually passed through his hand."[364] The level of generosity and capacity of an individual or whānau to provide also meant that those that were given to could be called upon to provide resources (such as labour) when needed. Tauutuutu did not prevent economic growth but ensured that the wealth generated was accumulated collectively and balanced in its distribution, ensuring wellbeing within whānau and hapū clusters.

The whānau-hapū economy in practice

During this era, the economy was complex and variegated – both seasonally and geographically. Horticulture was a core economic focus in the North Island and along the northeast coast of the South Island. Along with horticulture, fishing, gathering, and bird snaring were crucial aspects of primary production. These were complemented by a range of other products and services, from highly specialised aspects like ta moko, which were generally conducted by tohunga, to large-scale operations like waka construction, which became increasingly specialised and localised in key regions. There were also growing trade routes that laced both islands, with some of the more popular routes served by porters and even specialised traders operating on either side of Cook Strait.[365] Highly prized resources and luxury goods were the most common long-distance trade goods, though skilled individuals also moved along these routes when needed.[366]

Whānau were the economic hubs. They typically had "their own compound within a settlement. Whānau often had their own plot in communal gardens and their own places to fish and hunt. Economically, the whānau provided its own workforce … and would work together to produce or gather food, hunt and fish. The whānau shared their wealth and resources, holding their houses, tools, stored food and effects in common… Therefore in most matters the whānau was self-sufficient."[367] However, whānau also operated within an existing economic framework with regulatory features to meet the needs of the individual and the collective. Within hapū, social obligations were balanced by individual and whānau freedom. Individuals were not restricted to only operating within communal contexts but frequently contributed the goods, labour, or skills they acquired independently to the group voluntarily. When "incentives of security were present, the individual's gains in terms of skill or wealth" would be "shared with the wider group."[368] The familial bonds, economically speaking, served as a safety net. Spiller et al. explain that "Māori had

an existing economic framework with stable, well established protocols for the conduct of trade to meet the needs of the individual and the collective. Their distribution systems were far reaching, and trading relationships were secured and strengthened through an 'economy of affection.'"[369]

Bartering goods between tribal areas was a typical feature of the whānau-hapū economy. Whānau, congregated as hapū, exploited the natural advantages of their regions by trading resources. Certain areas specialised in produce such as eels or preserved birds, and other regions in resources such as greenstone, basalt, or bull kelp which was used for food storage. Gifts of resources underpinned the pre-colonial economy, which had stable, well-established protocols.[370] Within tauutuutu there were two forms of inter-hapū trade, with varying degrees of attributed social obligation.

The first was the hākari, or feast attended by other hapū. These feasts were events of "considerable economic, political, and cultural importance."[371] Hākari were a powerful expression of the mana of the host rangatira, both within their hapū and with regard to their guests. At hākari the host rangatira was charged with dividing up the food. Piles would be set up, and the host rangatira would note which pile was for each particular hapū. The rangatira of that hapū would then again divide the food up amongst his hapū.[372] There was an obligation on the guest hapū to provide a reciprocal hākari that equalled or bettered the original feast, helping create and maintain bonds between hapū as the hosting duties oscillated between them in dynamic equilibrium.

The second form of inter-hapū exchange, sometimes referred to as kaihaukai, saw bartered geographically-dispersed, rare, or specialised goods and services. While other types of exchange also involved transferring dispersed, rare or specialised goods and services, kaihaukai was uniquely focused on addressing resource and skill imbalances. Tā Mead explains:

> Some intertribal gift exchanges were formerly largely economic in purpose as when coastal dwellers exchanged food supplies with inland tribes. Here, items of food not necessarily available to inland tribes were given to them in exchange for food items that were a speciality in inland areas such as huahua (preserved birds). Seafood was always highly desired by inland dwelling people and one way of having access was by way of an exchange relationship.[373]

Unlike the hākari, often the goods were not consumed during kaihaukai but were taken back to respective settlements.[374] While hapū were self-sufficient in terms of necessary skills, some highly specialised craftsmen were either temporarily 'traded' in these types of exchanges, going with the hapū to conduct their work, or whose work was bartered on during this meetings.[375] The kaihaukai did not involve significant social obligation, it was a more practical mechanism of exchange.

However, over time if two hapū continued to conduct this form of trade, obligations would be created. Kaihaukai "was usually an irregular event involving groups without rights to the desired resources. If regular trade became established, it was ritualised… to a form of gift exchange".[376] In other words, as the connections between groups grew, the previously more utilitarian bartering would take on a greater social significance.[377]

The intergenerational kainga where the related whānau lived were integral to decision-making processes, with leadership arising from the whānau unit, and, as Tā Ranginui Walker has noted, "the leaders of the whānau were the kaumātua (male elder) and kuia (female elder). They made the decisions concerning the working of family land, the control and use of family property, and rearing and education of children":[378]

> The kaumātua was usually the recognised spokesman on behalf of the whānau in the forum of the marae, the ceremonial courtyard of the village. The hapū was the autonomous political land holding group led by its own rangatira (chief) descended from the ancestor after whom the hapū was named.[379]

Tā Joe Williams explains that at the hapū level, comprising interrelated whānau wherein:

> ...higher level political and economic rights and obligations cohered. The hapū was the primary political unit of Māori life during the first law period, and through its laws, economic rights were distributed to whānau and exercised (for the most part) at that level on whānau-specific resource complexes.[380]

Leadership and consensus decision-making

Leadership was exercised collectively, with an emphasis on consensus decision-making, that is a decision-making process where group members develop, and agree to support, a decision that is in the best interest of the whole. King describes the influence of a rangatira on a decision thusly: as they were "bound by all the spiritual complications that surrounded intensified tapu, [they] most often 'presided' as focal points for community identity and loyalty rather than actively leading their people in war or peace. Their words would be influential in determining tribal strategies, however, for they were seen as potential intermediaries between deities and humankind and between ancestors and descendants."[381] Likewise, Anderson et al. explain that the authority of a rangatira came from "their willingness to be advised by the groups they served."[382]

Rangatira "were hands-on leaders, involved in food production and war."[383] In fact, their mana was directly related to how 'hands on' they were, how actively engaged they were in the day-to-day

63

living, particularly in the supply of basic human needs. As the rangatira Kahu-Hunuhunu reportedly said, "Obtaining food is the prized accomplishment."[384] Skills relating to food supply were ranked number one on several lists of ideal chiefly qualities made in the early contact period.[385] Two proverbs embody the value of active and pragmatic leadership. The first is that 'short fingernails show the rank of the man in power', which emphasises the importance of rangatira actively working in everyday tasks.[386] The second is 'with black, and with red, it will be done', where black symbolises the taurekareka, and possibly the tūtūā, and red the rangatira and ariki, and which Petrie believes means that "that all members of a community must contribute for communal wellbeing."[387]

One of the key means by which the hapū rangatira maintained mana was via the distribution of food as well as the granting of rights to harvest, hunt, or fish food to the hapū members.[388] Key to this was the nature of resource user rights, which were held at individual, whānau, and hapū level, generally depending on the scale the method required to harvest, hunt, or fish. For example, those species of fish that required a seine net (which could be over a kilometre long and required hundreds of people both in waka and on-shore) were held at the hapū level. No matter which level they were held, the hapū rangatira had ultimate mana over these resources.[389] The rangatira maintained significant stores of food that could be redistributed to facilitate communal enterprises, such as the building of a marae or waka, and in times of need.[390] Food was distributed by the rangatira after a large-scale harvest, hunt, or fish, in which case it was divided up amongst the hapū. Generally, the amount of food given to different whānau was gauged by the level of effort they had put in, with one saying for those who collected whitebait being 'that one is right; a wet skin'.[391] The connection between the food distribution and the mana of a rangatira was fundamental. Distribution saw food levels balanced out amongst the members of the hapū, ensuring wellbeing whilst boosting the mana of the rangatira. The rangatira's "ability to provide ample food supplies were intimately connected with tohatoha (its liberal distribution within the group)."[392]

Mana played a stabilising role, as Gallagher explains:

> [While] a principal rangatira had the rights to gift mana to individuals/groups, he was ultimately controlled by the people whom he governed. Hapū would acknowledge his mana and comply with his rule, but only while he provided protection and secured wealth for the community. Individuals, whānau, and hapū (and the rangatira who led them), were free to leave their hapū if they were

dissatisfied with the principal rangatira's leadership. Therefore, hapū could increase or decrease depending on the principal rangatira's influence.[393]

Consensus decision-making moderated by mana as a means of influence meant that the leader was obliged to act in the group's interest rather than their own; the system was internally reinforcing: the better job they did, the greater the size of the group and the increase in their mana. This form of decision-making has positive repercussions for human needs whereby the group's needs come before the individual's and the group is actively involved in decisions regarding how to meet their needs.

User-rights

Underpinning the whānau-hapū economy during this era was the nuanced and nested user rights system. Rather than having rights to a single territory where they could gather resources, individuals, whānau, hapū and iwi had overlapping areas from which they could hunt, harvest, fish etc.[394] Māori had "a complex arrangement of nested rights and responsibilities relating to extended families, villages and tribes."[395] This system was highly complex, with a bricolage of rights held by different grouping sizes that could change with the season or be revoked or suspended for a range of reasons including lack of occupation (ahikā) or the need to protect the tapu of the resource (rāhui). Māori "tended to allocate property rights among individuals and families on a functional rather than a geographical basis."[396] That is to say, "a person would not own a zone of space; one would instead own the right to use a particular resource in a particular way. One might possess the right to trap birds in a certain tree, or the right to fish in a certain spot in the water, or the right to cultivate a certain plot of ground."[397] Māori had what could "be thought of as an 'ecology' of user rights, as rights to different resources in an ecosystem (e.g. migrating birds, or eels) were divided up between users."[398] The rights regime was so incredibly nuanced, with so many layers that the same tree might be used by one whānau for fowling during one season while an individual may hold the right to gather berries from it in another season.

Generally speaking, there were four key ways in which rights were conferred to users. While whakapapa can be understood as the core determination of user rights, there were four ways user rights could be proven or exchanged:

- Ahikāroa: occupation and use;
- Tāketuku: the payment of an acceptable fee for the temporary access to a resource or resources;

- Raupatu: the conquering of new territory and, in turn, gaining access to the resources of that territory;

- Whakamoe: marriage was another method by which rights to resources could be conferred, with children inheriting the rights of both parents.[399]

The rangatira was generally the distributor and adjudicator on user rights.[400] Because their mana grew with distribution rather than possession but was also dependent on maintaining the mauri of the natural resources, they were well positioned to ensure user rights were utilised in ways that grew wellbeing. Tā Joe Williams reinforces that "whanaungatanga was, in traditional Māori society, not just about emotional and social ties between people and with the environment. It was just as importantly about economic rights and obligations. Thus rights depended on right holders remembering their own descent lines as well as the descent lines of the potential claimants to the right."[401] Leadership, then, was deeply embedded in whānau networks.

Multigenerational integration

Māori society had a high degree of multigenerational integration; the whānau was an extended family unit that generally lived together amongst the wider hapū. Because they had been raised by and amongst them, "young people greatly respected the old people", kaumātua "lived with the children as they grew older, and they were rarely treated with harshness."[402] Kaumātua were not just respected but actively involved in daily life, "elders are held in high esteem. They are recognised for their life experiences and the knowledge they have accumulated over the years. Age brings not only respect and recognition, but also expectation. Their guidance is often sought on all manner of topics in daily life, as well as the more esoteric and ceremonial matters of Māori tradition."[403]

This multigenerational integration goes beyond involving the elderly, though, children were "initiated by their parents into all the games, dances, and practices of their fathers and mothers" from an early age.[404] Taonui goes into depth regarding the involvement of children in the day to day life of the whānau and hapū, and as Marsden explained, "it is not uncommon to see young children of tender years, sitting next to their parents in the war councils, apparently listening with the greatest attention to the words of war uttered by the chiefs."[405] Similarly, Polack noted that "are early initiated by their parents into all the games, dances, and practices of their fathers and mothers."[406]

Communal parenting

Children were raised by their wider whānau, they were not seen as their biological parents' children but rather children of the entire whānau.[407] Children "belong not only to their parents but also to the whānau, and beyond that to the hapū and iwi. They are 'ā tātou tamariki' (the children of us many) as well as 'a taua tamariki' (the children of us two)… They belong to a descent group but at any given time are held by individuals on its behalf, in trust for future generations."[408] Polack witnessed this firsthand, explaining that "a child belongs equally to his distant relatives as to the putative father."[409] In practice this communal parenting involved the "whole whānau" including "grandparents, uncles and aunts and minders in older cousins as well as siblings. All were committed to raising the children."[410]

Kaumātua elders and older siblings played critical roles. Kaumātua, as the most senior members of the whānau, "had the greatest responsibility and influence for guiding the rest of the whānau."[411] A child's grandparents had the primary parental responsibility, with the parents largely responsible for physical wellbeing. Concerning siblings, "there were reciprocal relationships intended to support the welfare of the group as a collective, where the elder were referred to as tuākana and had responsibilities for leadership, protection and advice while the younger were referred to as tēina and were required to serve and provide."[412] While the tuākana have obligations of leadership, inheritance and responsibility the teina are required to support, serve and respect, with a degree of leniency to these relationships depending on the individuals involved. Fathers played a central role in the parenting of their children, a "nurturing warrior – the father as carer along with the mother."[413] Marsden even noted that "boys are brought up entirely by the men", while Angas explained that both "parents are almost idolatrously fond of their children; and the father frequently spends a considerable portion of his time in nursing his infant, who nestles in his blanket."[414] Crozet also noted the role fathers played, stating that after "the baby boy was weaned, his father took over his care and the mother cared for the girl babies. He generally bore the burden of carrying them continually within his mat."[415]

Children, then, were not just their parent's responsibility but the entire whānau and hapū, they were raised by the extended family. "Young people in these times grew up amongst four generations, learning by exposure and instruction the values and practices needed to be fully incorporated into the whānau."[416] As such, Taonui explains, "the close relationships with other family members acted as a check against over-chastisement in general", concluding that "Shared parenting by the extended family acted as a check against violence."[417] communal parenting was not just useful in ensuring that the potential negative impacts were reduced but also had positive outcomes as well. One of these was the transmission of knowledge; Pere emphasises this as a

critical benefit, with the elders having the main responsibility for the learning and development of the young.[418] Whānau was how knowledge was transmitted from one generation to the next. Te Rangihiroa states that for the Māori child, the earliest 'personal instruction' was received from their tīpuna.[419]

Balance and harmony of lifestyle

While there has been much debate regarding 'work to leisure' ratios, it is important to note that for Māori, leisure, relaxation, creation, and spirituality were not just integral components of daily life but were often integrated into the process of subsistence and with each other. That is not to say that everything Māori did was all of these aspects, but rather that many of the most important components of daily life were an amalgam of many of them. As Tsai et al. explain, there was an interconnectedness "between games, song, dance, decorative arts, warfare, death, and spirituality in daily Māori life", with almost every aspect of life infused with aspects of the other.[420] They also refer to the "inherent relationship between Māori spirituality and Indigenous games", explaining that many of these games played a role in physical, mental, spiritual development and wellbeing.

This harmony would have varied over time and across regions. Calman explains, "Māori, like other peoples, sought a balance between work and leisure – a balance determined largely by how much effort was needed to produce sufficient food. In the early years of Māori settlement in New Zealand there would have been relatively more leisure than there was later: the human population was at its lowest, and protein was easily accessible in the form of kekeno (fur seals) and moa."[421] The reality is that for many Māori at certain times, the process of subsistence living would have been all-consuming while for others the surplus of easily gathered and hunted food would have meant that this 'harmony' would have been more easily maintained. For people who are starving, hunting and gathering would no doubt have lost any aspect of leisure, though it may have heightened the spiritual element. However, while many of the foods they brought with them from the tropics did not flourish and the supply of seals and moa dwindled, Māori generally had enough food sources, both native and imported, to ensure that their subsistence needs were generally met.[422] Māori were in "the habit of leading a carefree life until the food ran out, and only then, when it was essential to their continued existence, would they go en masse to search for food. The European idea of consistent work and hoarding goods was not theirs."[423] 'Work' was often something that Māori derived pleasure from, "[t]o Europeans, anxious to get on with the business of living, hours spent in chipping and polishing a tool or weapon might seem wasted, to the Māori there was more pleasure in loving labour on a prized object than in perpetual work for its own sake."[424]

Furthermore, the Māori "pattern of life was flexible, but there was a pattern", while they were relatively free to do what they chose, there was a coherence to their reality; this coherence comes largely from their synchronicity with nature, it is this that gave Māori life its pattern.[425] Firth notes, the last two months of the Māori year, those following harvest at the end of autumn, were generally "utilized for casual pursuits, visiting and social intercourse" because there were "no tasks of great importance."[426] He quotes a Māori whakataukī from 1835 as explaining that these months, the only two of the Māori calendar that often went without a name, were "not worthy to be reckoned, as it is only spent in visiting, feasting, talking, playing, and sleeping."[427] Thus, Māori had 'holidays' for a full sixth of the year.

Collective, balanced, and ordered existence

There were a number of institutions that helped deliver a collective, balanced, and ordered existence – many have been outlined above. However, the attention here is on the more general institutions that helped social cohesion.

Wairuatanga was essential. The spiritual permeated virtually everything pre-contact Māori did, "War… does not exhaust the areas of social life in which atua were involved. Cultivating the kumara, the building of a chief's house, the cutting and dressing of the hair of chiefly persons and childbirth are just four notable examples" of the spiritual permeation of everyday life."[428] For Māori, the "the super-natural is intertwined with the practical… Religious ceremony was traditionally incorporated in the collection of food."[429] Māori entertainment almost always had a spiritual component; as Best notes, they "sought to explain the origin of all amusements and arts of pleasure by attributing them to certain mythical personages of remote times."[430] Entertainment and art also served to preserve knowledge and educate as well, with stories and carvings both embedding important history and information.[431] The stories in particular provided precedents, models, morals, and prescriptions to guide behaviour and contained critical observations and understandings of the natural world.[432]

Whanaungatanga and manaakitanga were central in maintaining a collective, balanced, and ordered existence. Elsdon Best provided an insight into community life and the "power of public opinion in the Māori commune", which he described as "a peculiarly strong force in the preservation of order, in the attitude of a person towards his neighbours, and in the upholding of a strong sense of duty. The effect of a communal life was such that it was impossible for a person to ignore this force."[433][434]

Māori society was also relatively equitable, despite having a distinct hierarchy. There were rangatira and tūtūā, or aristocrats and commoners, just as there were ariki and taurekareka, or paramount aristocrats and slaves.[435] However, despite these hierarchical divisions the day-to-day life was one where it was common to find rangatira working alongside tūtūā and even taurekareka.[436] King concludes that, in general, pre-contact Māori society was "fairly homogenous."[437] Certainly there was a hierarchy but in general, "Māori society had a relatively flat class structure."[438] Firth too portrays Māori society as being relatively flat, explaining that the "social differentiation between chiefs and men of lesser rank was not marked by any exaggerated forms of respect. No commoner crouched or made obeisance before a chief, nor were any special titles or terms of respect used in addressing him in ordinary conversation."[439] As King explains:
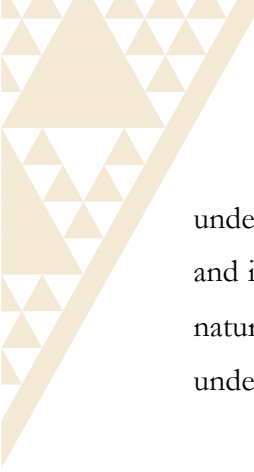
> For all the differences of status within Te Ao Māori – between ariki and rangatira, between rangatira and commoner, between tohunga and those who were not chosen, between slaves and everybody else, between tangata whenua (people of a particular place) and tau iwi (people from elsewhere), between men and women, adults and children – for all these differences pre-European Māori society was relatively homogenous. Despite tribalism and a strong sense of regional identity, the basic concepts and values of the culture were recognised and accepted from one end of the country to the other. The very language spoken was, despite regional and dialectical variations, the same everywhere.[440]

Closely aligned with this, and also a part of maintaining the collective, balanced, and ordered nature of existence – even if at first glance it appears to be the opposite – was the fluid and flexible nature of Māori social groupings. Meijl explains, "Māori oral tradition, as recorded in the course of the nineteenth century, suggest that Māori society was not set in cement. From the earliest histories Māori tribes have mixed and divided and migrated and formed fresh relationships. In Māori social practice, therefore, tribal concepts may never have been as delineated as they have been represented as being in twentieth century ethnography."[441] This fluidity and flexibility provided both a safety valve to release intra-group pressures, as well as a mechanism to ensure groups aligned with their available resources.

Synchronised with nature

Māori culture was synchronised with nature, though it may be more accurate to say that Māori during this era saw themselves as a part of nature rather than separate from it. That is, humans are one aspect of a wider ecology and are connected to the rest of the ecology because of this. Their

understanding of their place within nature, the 'synchronisation', influences how they view nature and interacted with it. "Māori have an intricate, holistic and interconnected relationship with the natural world… [this] bond links indigenous Māori to ecosystems and governs how they see and understand ecosystems and ecosystem services."[442] Orbell writes:

> Māori thought and mythology were centrally concerned with the human situation and human experience, as all systems of thought have necessarily been, but in their thought, as in their way of life, a balance was maintained between human beings and the environment. Their closeness to nature and the immediacy of their dependence upon it, their intimate and profound knowledge of plants, animals and landscape, led to a view of the world which recognised the tapu, the sacredness, of other life forms and the landscape itself. By seeing themselves in the natural world and thus personifying all aspects of the environment, they acquired a fellow-feeling for the life forms and other entities that surrounded them, and they saw a kinship between all things.[443]

This connection was so strong that ecosystem vitality was seen as intrinsically connected with Māori wellbeing, both in a pragmatic and philosophic manner. Pragmatically it meant that Māori understood that the mauri of the ecosystem sustained them physically; philosophically, this translates into a sense of kinship with the ecosystem.

Harmsworth and Awatere talk of the Māori view of nature as an "interrelationship of all living things… dependent on each other…[and this whakapapa] places Māori in an environmental context with all other flora and fauna and natural resources as part of a hierarchical genetic assemblage with identifiable and established bonds", though there are several aspects of this statement that need examining for this to be fully understood.[444] Firstly, rather than 'all living things are dependent on each other' the nature that Māori were 'in-sync' with was that which they live amongst and especially that which they receive mauri from – which in practice meant the scope was limited to those aspects of nature that were proximate and sustaining. The second element that needs examination is 'living things'. Māori view what Pākehā see as inanimate objects as animate subjects in the world, that mountains and rivers are as vital as a moa and a rat. What makes them important to Māori is their proximity and ability to sustain rather than whether they are 'living' or not. Hence 'natural resources' are nodes of mauri in the ecological network. Mauri is the "internal energy or life force derived from whakapapa, an essential essence or element sustaining all forms of life. Mauri provides life and energy to all living things, and is the binding force that links the physical to the spiritual worlds (e.g. wairua). It denotes a health and spirit, which

71
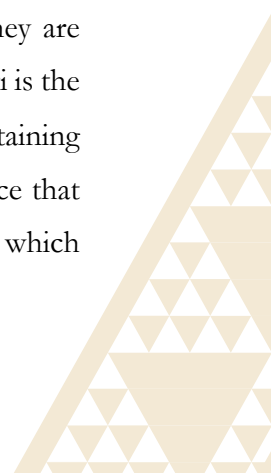
permeates through all living and non-living things. All plants, animals, water and soil possess mauri."[445]

This way of seeing themselves as an aspect of nature means that the surrounding ecology is understood as fundamental to Māori wellbeing to the degree they relate to it. Mikaere explains:

> whakapapa connects us to everything there is a myriad of relationships that speak to us of reciprocity, of responsibility and of the need for respect…[it] dictates that relationships are of paramount importance: relationships between past, present and future generations – which include, by necessity, relationships between humans and atua, and therefore, between humans and all over living things – must be nurtured. This connection of every living thing through whakapapa engenders the understanding that all aspects of the natural world are inherently tapu.[446]

Hence, a system of tauutuutu does not just involve exchanges between humans but also between humans and the natural world. The same focus on balance governs Māori interactions with the environment.

Tā Tipene O'Regan explains the cognitive duality that enabled the view of nature as related, that "[i]t was through these atua [gods] that our old people related to the physical world. The physical world was those atua ... water was Tangaroa [God of the Sea]. They were not silly, they knew water was wet and all that, but they also knew it as Tangaroa. There was a unity in their perceptions."[447] He also infers another key duality when he explains that "This does not mean that because my river represents an atua they should not be touched or used. One of the more endearing characteristics of Māori is their capacity to tie the practical together with their theological beliefs."[448] Māori were not just able to perceive something as having two natures simultaneously but were also able to marry the spiritual with the pragmatic, enabling them to both revere something and use it. These dualities also help explain the functional aspects of kaitiakitanga. The preservation of mauri lies at the core of kaitiakitanga and is closely associated with tapu. Prohibiting practices in certain areas and the sacredness of places protected mauri. It was tapu to leave the feathers of snared birds in the forest because other birds would sense danger and leave the area. Likewise, cleaning fish in the sea was seen as not just physically polluting but also spiritual pollution. A specific type of tapu, a rāhui, indicated by a mark, was imposed by those of high rank that restricted access to an area or resource and any violation of this rāhui led to severe punishment. The connection between the sacred and the pragmatic, between the physical world

and the spiritual, enables sustainable behaviour. As Firth notes, the importance of mauri had a powerful influence over Māori, ensuring they treated the environment with respect and forethought.[449]

This synchronisation with nature also delivers another benefit to human needs. It delivers an innate understanding of natural phenomena that westerners, with their abstraction from nature, find hard to achieve without extensive scientific training and specialisation. As Firth notes, Māori "displayed considerable accuracy of observation, enabling him to discover certain of the less obvious of natural phenomena and also to elucidate the affinities of a number of animals and plants."[450] In other words, this way of viewing nature enabled Māori to have a nuanced and connected understanding of it that matched reality in a way that meant they could perceive affinities between species of plants that are botanically related, but was superficially dissimilar. This ability allowed them to see connections that would have enabled them to maximise available resources. Similarly, this perspicacity meant that they had an inexhaustible knowledge of how the surrounding environment interlinked, so that they were able not just to retain a didactic list of facts for each flora and fauna but were able to understand how they all interacted.[451] Even at the didactic level, Māori knowledge was impressive, with over thirty names for different types of soils.[452]

Māori

Just as the whānau-hapū era emerged out of crisis, the 'Māori era' would also be founded on a crisis of an even greater existential nature. The first trickle of contact turned into waves of colonisation from settlers who not only wanted total dominion over Aotearoa New Zealand, but in the process of gaining and holding it, sought to deconstruct the fabric of Māori society, politics, and economy, as well as the culture that underpinned these domains. This section will take a more focused approach than the last, looking at the changing economic modes Māori practised in this era. We do so mainly because attempting to cover the most tumultuous two centuries of Māori history across all the domains explored above is beyond the scope of this report. That said, where relevant, other domains will be referenced.

It is telling that the word 'Māori' only came to be used as a proper noun after contact, before the arrival of Pākehā it had meant 'natural' or 'normal'.[453] Before contact, Māori thought of themselves as "tāngata (people) and if they named themselves it was as the "descendants of a particular ancestor."[454] Contact, unsurprisingly, changed almost everything, when "Europeans stepped into the southern dawn, the people who thought of themselves as constituting the whole human world found that they were one of its fringes."[455] Suddenly, the scale of their ingroups and outgroups

had changed enormously. However, Māori were determined to "eradicate their fringe status by pursuing modernisation", their reaction was not to isolate but to integrate.[456] Far from being subsumed by this contact and intermingling, Māori were active participants, seizing economic opportunity from the outset and building a dynamic, hybrid economy that still delivered wellbeing for several decades before the sheer mass of settlers and the colossal loss of land – and consequently mana and the whole undergirding socio-political system – saw this economy collapse and Māori entered a period of significant poverty, with a consequent immense loss of wellbeing.

It is also critical to stress that the experience of Māori from contact onwards has been incredibly variable and while the following discussion will attempt to differentiate to some degree, doing this with any real fidelity is an impossible task not just because the scope of these diverse experiences is enormous but also because the historical record is not comprehensive enough to sustain such an endeavour. Cleave has written about what he sees as the three Māori responses to European colonisation – resistance, neutralist and loyalist – and has connected these with iwi politics before the arrival of the Europeans as a means of explaining the variations in iwi responses to settlement. The first pattern is those that saw "rapid growth and conflict in the century before contact and armed resistance to Pākehā government later. The second pattern is that of an assertion of tribal authority and prestige immediately after contact which is accompanied by armed resistance to Pākehā government at an early stage with an eventual neutrality in the period of the Land Wars. The third is that of a relative consistency and stability in the pre-contact period often involving self-defence against those tribes whose power was rapidly growing, this being followed with neutral or 'loyalist' positions."[457] Lian has criticized Cleave for placing too much emphasis on iwi in his analysis, however, these variations are seen as providing some help in understanding how impacts would have been vastly different across the period.[458] From the early, and extreme, exposure of Ngāpuhi to the relative isolation of Tūhoe, Māori across New Zealand experienced greatly different impacts during this period

1770s-1830s: Precolonial period

Some of the very first interactions between Māori and Europeans were economic.[459] These exchanges were conducted as both straight barter and as exchanges with social obligations, depending on how Māori viewed the transaction and what they wanted from it.[460] This ability to chop and change was so nuanced that even in a single trade interaction, different goods carried different levels of social obligation.[461] "From the time of Captain Cook's arrival in New Zealand Māori demonstrated eagerness to trade, considerable enterprise, and, in many cases, a distinct desire to secure a bargain."[462] As Petrie notes, "Commerce between Māori and European required

a greater degree of adjustment, but even the most fundamental of Māori cultural injunctions were flexible enough to facilitate interaction with those who did not share them."[463] "Although the more economically significant trades, such as ship provisioning and contracts to supply flax and timber, was organised and managed by chiefs utilising communal labour and resources, there was clearly an element of individual trading."[464] Whānau involvement and influence in the early colonial economy was strong, recognised, and organised.

The first few decades after contact marked a period of enormous change as whānau and hapū engaged with the European explorers and settlers. Economic exchanges featured relational ideals that rallied around reciprocal rights, such as the right to participate in the whaling industry as crewmen, harpoonists, recovery and processing of whale meat in exchange for land, and the right to establish whaling stations.[465] Establishing enduring reciprocal relationships was a key feature of economic life. Whānau and hapū thus entered strategic alliances and joint ventures with European seal hunters and whalers who moved into the regions. The spread of various crops, stock, tools, and techniques in these early decades following contact were conducted through the tauutuutu framework, often via kaihaukai. Many of the new goods and the associated knowledge arrived in areas before the first Europeans did.[466] Māori were soon producing enough foodstuffs to provision ships; for example, "one whaler was able to purchase seven or eight tons of 'very fine potatoes' during a stay at the Bay of Islands" in 1803.[467]

Engagement with the growing settler economy and the introduction of money as a medium of exchange – which Māori resisted for decades until the 1830s when its fungibility was increasingly apparent – saw several 'interfaces' at the individual, whānau, and hapū level.[468] Many Māori gained employment on board whaling, sealing, and trading vessels, often at the behest of their chief, who understood it as a good opportunity for the collective to gain both information and financial capital.[469] As Māori began working with and for Europeans, the same flexibility and cohesion that had marked the previous era remained, for example, individuals who left to work on ships as deck hands or in whaling and sealing sectors would generally bring gifts back for their chief "to reaffirm their relationships with the home community" and restore balance "for the loss of their labour while away."[470] As the decades moved on, individuals who earnt wages across the wider settler economy could either spend them, bank them, or contribute them to the communal pool. In the early decades, it was common for most wages to be used either on goods for gifts or added to the communal pool.[471] O'Malley concludes, despite increasing integration into the cash economy, "participation… remained for the most part based on existing social structures and continued to be directed at advancing the interests of the group."[472] The wider tauutuutu economy remained

virtually unchanged, with these interactions only really occurring at the periphery – at least at first. Likewise, while there was no doubt many numerous interactions and engagements that saw chinks in the wider framework that supported wellbeing – with missionaries, intermarriages, the Musket Wars, and many other events and occurrences no doubt having an impact – on the whole of this period was probably still one where wellbeing was met in similar ways to the previous era.

1830s-1850s: Treaty of Waitangi

The 1840s and 1850s, in particular, signified the "golden age" of enterprise, and during these decades, whānau responded enthusiastically to trading opportunities and were major players in coastal shipping, the postal service, and wheat-based production. In the 1840s, Māori commerce accounted for roughly 95% of the gross national product of the colony.[473] Petrie notes that between them, in 1857, Mātaatua and Tūwharetoa, with a combined population of 8,000 had:

> over 3,000 acres in wheat, 3,000 acres in potatoes, nearly 2,000 acres in maize and over 1,000 acres in kūmara (sweet potatoes). Those figures suggest a rate of almost 1.125 acres per head under cultivation, compared with 0.915 acres per head by Europeans in 1870. Those tribes also owned nearly 2,000 horses, 200 head of cattle, 5,000 pigs, four water- powered flourmills, 96 ploughs, 43 ships averaging almost 20 tons each, and over 900 canoes.[474]

Some hapū maintained bank accounts in excess of £150,000, approximately $NZ25 million in today's terms, in cash shared between at most a few dozen family members.[475] Drawing on collectivised strength, and many tribal groupings organised themselves to participate in the new market, they were:

> … quick to adapt their communal tribal organisation and economic production to take advantage of trading opportunities presented by the new arrivals. The first fifteen years after the Treaty saw a period of economic expansion and prosperity for many tribes, especially those close to Pākehā markets.[476]

Whānau and hapū displayed a "capable and competitive" entrepreneurial ability[477] and embraced new technologies, adapting them for their social purposes and absorbing the introduction of a market economy into their tribal society.[478] While individuals had a degree of autonomy in their dealings they also had to ensure they did not compromise the mana of the chief under who they were operating.[479] Rangatira remained the key interface between the settler economy and the Māori economy during this period, with many managing trade for their hapū as a whole as well as

managing individual employment in the settler economy. This collectively-organised engagement in activities such as timber and flax sales and ship provisioning saw rangatira working at the interface between economies, in charge of bartering, quality control, as well as organising the workforce of the hapū, and receiving and subsequently distributing the payment earned to individuals and whānau.[480] "The rapid expansion of Māori commerce was not simply chance, but had been advanced by deliberate strategies in line with customary practice."[481]

Rangatira, during this golden age, "acted as entrepreneurs, accumulating capital assets and investing in business enterprises for their people's benefit."[482] Whānau and hapū showed a deft uptake of 'Western' economic systems and its attendant processes of accounting, marketing, and inventory control and operated their business affairs according to distinctive customary patterns.[483] Rangatira also built diplomatic and trading alliances, using gifts or desirable resources.[484] Rangatira created alliances with those they saw as powerful or influential. They "harnessed their political power for social and economic benefit" and by "successfully doing so… simultaneously enhanced that political power withy self-perpetuating motion."[485] "The incentive for chiefs to engage in capital enterprises was provided by the initial accumulation and possession of wealth, the potential for distribution, and their consequently increased mana."[486]

By the 1840s, Māori hapū were acquiring large capital assets, particularly flour mills and open-water ships, with the dual aims of increasing their economic capacities and enhancing their mana, which as Petrie notes were intrinsically connected.[487] Hapū sometimes collaborated in purchasing these capital assets, this "co-operation in the acquisition of both flourmills and sailing ships" was usually conducted through whakapapa networks, building on existing social obligations and relationships.[488] It was also often a practical decision, as the rivers the mills were powered by and the waters the ships travelled on crossed hapū boundaries.[489] Even though they were purchased collectively, hapū "preferred to retain their separate identities and autonomy", and "the evidence indicates that independent groups did not feel that their mana was compromised by this type of co-operation… participation was negotiated on a basis of community consensus."[490] Often these capital assets were purchased through a system "similar to a joint stock company", and while shares might be held in an individual's name, they were "subscribed for by the hapū, or subdivisions of tribes of which they [were] chiefs."[491] While rangatira were instrumental in these decisions, "there is also evidence of consultation between hapū concerning the degree of their contributions to such collective investments."[492] In terms of organisations, Māori quickly began to create hybrid forms which were able to integrate with the settler economy whilst still remaining true to core te ao Māori institutions.

The signing of Te Tiriti o te Waitangi by rangatira was more complex than a simple bi-lateral agreement between 'Māori' and the Crown. It was a multi-lateral agreement between 'sovereign states' (the old Hawaikian islands connected by land). Each rangatira had no doubt as to their sovereignty distinct through whakapapa. While iwi had a degree of significance in the pre-contact era, especially in the much more populous North Island, it was after colonisation that their importance grew. What were loose affiliations before contact had consolidated into stronger and more politically and socially important groupings by the middle of the 19th Century.[493] In the early 19th Century, there was a "unicentric growth of political groupings from hapū to iwi size and the hardening of boundaries at the level of the iwi."[494] The rise of the iwi-based identity can be seen as a response to the shifting power dynamic within New Zealand, as well as the settlers influence in terms of the grouping scale they preferred to deal with.

1860s-1890s: From Aotearoa to New Zealand

Many factors brought an end to the golden economic age, including the loss of land, the Land Wars, the growth in the settler population, and fluctuations in the national and international economic market.[495] The flourishing Māori economy was besieged by land confiscations, and shifts away from industries in which Māori were invested. Many whānau were reduced to "subsistence living, gum-digging and wage labour on farms, road-making, bush-felling and shearing."[496] During the late 19th century, the settler economy underwent a series of booms and busts, largely driven by the collapse of key natural resources which were rapaciously exploited, as well as wider international market booms and busts.[497]

Many have characterised this period as one of isolation for Māori, as they retreated to their kāinga, often only interacting with the wider settler state and populace in an economic function. Ausubel notes that Māori, "defeated but not annihilated by European (British) colonists, withdrew in reservation-like areas from effective contact with Europeans."[498] Similarly, Pool labels this period as 'recuperation through isolation'.[499] Hill, too states that "'After the Anglo-Māori wars, Māori had withdrawn into reservation-like areas and villages to preserve their identity. By the end of the nineteenth century, then, while they necessarily had to engage with the politico-economic world of the Pākehā, 'Māori cultural autonomy and identity survived the impacts of Europe'."[500]

During the late 19th century, the Māori economy remained a kin-based subset of the national economy. Their approach to the market continued to aspire towards acquiring benefit for "the immediate subtribal good"[501] concerned with "maintaining the distinctive objective of the Māori economy as the common weal of the collective."[502] The tauutuutu economy still functioned within

and between Māori communities, though these exchanges still worked to build and maintain social obligation, their scale had generally been reduced to between individuals and whānau. Most of these exchanges were non-cash, involving food that had either been hunted or gathered or grown in the extensive – often communal – gardens Māori maintained.[503] Up until the push towards urbanisation in the mid-20th century, Māori "lived in isolated villages and reverted to a subsistence type of agricultural economy supplemented by land clearing and seasonal labour for Pākehā farmers and for the railway and public works departments."[504] Pool explains, "in the period 1860–1900 Māori business enterprises became an endangered species; the vibrancy reported for the period 1840–1860 had withered away. There were fragments here and there, but the record is so thin that any examples stand out: gone are most of the schooners, trading canoes, sales to urban settlers, and other activities that made the history of Māori commerce in the early colonial decades so exciting."[505] In 1902, "Māori-owned sheep comprised less than 2% of the national flock so their involvement in pastoralism was less than marginal."[506] Māori were caught in a deficit situation, while most Māori communities "continued to produce, exchange and subsist outside of capitalist economic relations" taxes were levied on tobacco, alcohol, sugar, guns, dogs, and land, meaning they had to obtain cash.[507] Although besieged by the pervasive Western mechanistic, capitalist economic system a Māori mode of exchange continued to survive, however, further upheaval was underway.

This period can also be understood as one of demographic inundation, as the demographics began to shift dramatically. Pool and Kukutai explain: "In 1840 the ratio of Pākehā to Māori was about one to 40. By 1860 the groups had reached parity and Pākehā dominance was ensured by sizeable inflows of British migrants until the mid-1870s, swamping Māori. After 1874 Māori were less than one-tenth of the national population, and this remained the case for a century." [508] The Māori population continued a downward spiral in the wake of the 1840 Treaty of Waitangi, reaching a low of around 42,000 in 1896. Of this demographic decline, Hon. Mahara, noted the consolidation of Māori political presence was "Hugely critical at a time of history when Māori were 'supposed to go to the pillow and die'. What would have happened if that didn't occur? So we have Apirana Ngata, Maui Pomare, Te Rangi Hiroa, Sir Turi Caroll huge influences."[509] Ngata spearheaded cultural revitalisation efforts. Māori rallied around spiritual, political and cultural communities: Parihaka, Kēnana, Hauhau, Kotahitanga, and Kīngitanga. Whilst associated with charismatic leaders in the vanguard of catalytic change, individuals and communities, rallied around these leaders and were a vital part of the vanguard. For example, the establishment of the 'Komiti Wahine' indicated the strength of Māori Women's leadership in the Te Kotahitanga movement and within their communities.[510]

One of the more interesting organisations of the era was the Māori Parliament, whose focus was creating a parallel governing body. The main "method for achieving this, as the parliament's first Speaker was to say, would be strength through unity of the tribes from 'the four winds'. Without unity of the tribes, Māori aspirations would be treated as 'the murmuring of the wind'."[511] The Māori Parliament's influence on Māori can be somewhat gauged by the fact that "almost half of Māoridom signed a petition in support of its aims."[512] The Kīngitanga movement's purpose of unifying Māori as a single ethnocultural entity had, if anything, grown stronger since its inception, and although there were many Māori iwi who "declined to accommodate" the influence of the Kīngitanga movement cannot be underestimated, with Māori MPs asserting in 1883 that Tāwhiao was "the head of our race."[513] The movement "live[d] on into the twentieth century as an embodiment of Māori cultural identity, a *Mauri o te Māoritanga* – a bulwark for Māori ideals and values."[514]

Simultaneously, the relationship with Te Taiao was dramatically impacted in terms of rights. Land loss and the transition from Māori user rights to the settler state's manipulative and oppositional property rights impacted Māori in terms of loss of resources, with knock-on consequences for mana and social cohesion. During the second half of the 19th century, "the law was continually framed to deny Māori more than a minor share in state power and control of resources. That most precious institution of British culture, the rule of law, was prostituted to the land grab."[515] Kawharu called the Native Land Court "a veritable engine of destruction for any tribe's tenure of land, anywhere."[516] With regard to land sales, the "colonial government continually adjusted the complex of laws that constructed the market in ways that caused the prices received by the Māori to be lower than they would have been otherwise."[517] They adjusted the laws governing who could purchase the land, who could sell the land, and who bore the administrative costs of establishing the market. Take the case of Crown Preemption, which was in place from 1840-1865, where only the State could buy land. Banner explains, because Māori were unable to form a united front to counter the Crown, "Preemption was thus an instance of the importance of political organization in structuring the marketplace. Two peoples converged, and the better organized was able to take wealth from the poorly organized."[518]

Not only were Māori alienated from the majority of their land, the land they were left with was often the least productive or accessible. Land loss marked the loss of a significant natural resource for Māori, "Māori poverty became widespread in the wake of relentless land purchasing and laws that had created complicated Māori land titles, and inadequate provisions for Māori to manage land in multiple ownerships or raise capital for its development. These factors in turn gave rise to

a classic spiral of underdevelopment (poverty giving rise to poor health and poor educational achievement, affecting the potential of the next generation to earn an adequate income)."[519] Reid et al. explain:

> …the New Zealand economy in this period was characterised by contrasting growth and contraction of the European and Māori spheres, respectively. While each sphere was economically dependent on the other, the Māori economy had lost much of its internal autonomy by the end of the Land Wars and was increasingly dependent on the settler economy. Critically, the unequal integration of these two economic spheres was not just a by-product of settler land acquisition but was also a key means by which the settler state increased land sales. This functioned in both strategic and tactical fashions. Strategically, the settler aim was to create a unified market with Māori as weaker but active participants, as this was not only a core part of the capitalist credo but also meant that Māori would need to part with their major asset – land – to secure capital, while at the tactical level, they also used Māori lack of capital as a means of driving land sales in quite specific ways.[520]

It also marked a loss of political control, as the change in land title also meant a legal change in the authority that could govern that land and the people on it. O'Malley notes that "it was not just the land that was lost to Māori. With it also went political authority – effective control over the area in question."[521] At the same time, the political regime being put in place denied Māori equal access to power and influence. Māori were given four seats in Parliament when their 1867 population percentage would have equated to roughly twenty.[522] Tā Joe Williams notes:

> The colonisation process in the second half of the 19th century and the beginning of the 20th century stripped both the physical assets belonging to whānau and hapū, and their political and legal authority. That meant that by the 1920s, hapū and whānau were only relevant as co-residential social units based around traditional villages located on the remnant land base. Each had lost its core economic and political functions.[523]

The settlers quickly began to clear fell, burn, drain, fence, and re-order nature suddenly and ferociously, creating a deep severance and dislocation for Māori. "When the European settlement of New Zealand began in earnest in the mid nineteenth century, the landscape too underwent a

dramatic transformation. Much of the forest was destroyed by milling and fire, and the land converted to pasture for farming."[524] At the same time, new animal and plants species were introduced either intentionally or unintentionally, with cascading environmental consequences.[525] These drastic changes had significant impacts to Māori wellbeing, marking a loss of identity and mātauranga, as the places, plants, and animals that formed a core component of who they were and the associated knowledge, were converted into a mirror of idealised pastoral England. While it was largely seen as the loss of a resource by Māori up until the 1860s, "in the prophet-led mana motuhake movements that arose in the 1860s under the pressures of war, land loss, as a sign for conquest and dispossession, was reconstructed as a mana that represented Māori identity in a Pākehā-dominated country."[526] The probable reason it took several decades for the impact on identity to be felt is that land's very fundamentality as a component of identity would have meant that its importance was barely consciously reflected on by Māori until land losses were so significant and widespread. Boast explains how early on, "Māori would have viewed transactions within the framework of their own culture and expectations", viewing the "deals as a part of entering into reciprocal or shared relationships... [and] as a transfer of particular rights which remained subject to Māori rights to the land."[527]

One of the most insidious attacks on Māori wellbeing were assimilation policies, with the earliest attempts to assimilate Māori emerging as part of efforts to alienate land because the settler state wanted Māori to "resile from the 'beastly communism' of the tribal collectivity…[,] embrace individualism fervently, [and] maximise their profits by selling the land to those with the superior technology to use it efficiently."[528] The assimilation policies sought to enfold Māori into the "system of individualized ownership of private property… [of] settler-designed statute law."[529] The first significant assimilation policy was the 1844 Native Trust Ordinance, an educational policy that stated aim was "assimilating as speedily as possible the habits and ways of the Native to those of the European population."[530] . Education would continue to be a weapon of assimilation for many decades, not only attacking Māori culture and identity but also suppressing the Māori language.[531]

Unsurprisingly, during this period, Māori physical health and life expectancy declined significantly. "Evidence suggests that Māori life expectancy at the time of Captain James Cook's visits to New Zealand (between 1769 and 1777) was higher than that in Britain… After European contact, however, there was a major decline in Māori life expectancy."[532] By 1890, the population was cut down by roughly 50% by disease and the wars that had been waged across the North Island.[533] As

O'Malley has identified, the Land Wars had a significant impact on Māori both through direct death and death through privation.[534] Pool and Kukutai explain:

> Land alienation had long-lasting negative effects on Māori health, particularly for children. In any given region land loss was followed by a marked increase in child mortality rates, which took several decades to reverse. In the 1880s Māori mortality was well above Pākehā levels – and significantly higher than it had been before contact with Europeans. The average life expectancy (in years) of a newborn Māori girl in the 1880s was in the low 20s. By comparison, a newborn Pākehā girl could expect to live more than 55 years. Mortality was still heavily concentrated in childhood – of Māori girls born in the 1890s, 40% died before their first birthday.[535]

1900s-1930s: Māori adjustment to the settler economy

Over the first half of the 20th century, Māori became increasingly incorporated into the wider settler economy, with most working as labourers, either on farms, freezing works, or in other sectors like forestry, with a few running their own farms.[536] Their income was "supplemented by resource gathering in the forests, fishing, (whether in coastal waters, or in rivers and lakes), growing crops on Māori-owned land (sometimes for sale) and delivering milk on a small scale to dairy factories in some districts."[537] The Great Depression "impacted heavily on Māori, adding immeasurably to the existing poverty. As overseas markets collapsed and small-scale farming became unsustainable, the Māori economy was unable to support the now growing population; Māori unemployment soared and, in parallel fashion, morale declined."[538] Until the First Labour Government passed the Māori Social and Economic Advancement Act in 1945, removing inequalities in benefit payments that had been included in the 1938 Social Security Act, there were no government benefits for the unemployed or poor, so that while Māori were being further forced into the capitalist market they had no safety net.[539]

During this period, the remaining Māori land was increasingly fragmented. Māori title was not 'individualised' in the same way that settler title was. Instead, it was subjected to different hybridised title types, focused on facilitating the sale of land. Māori land title was collectivised such that a block of Māori land was owned by groups of individuals, with subsequent generations inheriting title for the same piece of land through bilateral succession. By the 1920s, Māori "Individuals or family groups were now named as owners on land titles, and as each new

generation inherited the land (whether they lived there or not) the number of owners increased at a rapid rate. The result was title fragmentation. Owners had no practical means to develop lands."[540] Furthermore, as Kukutai notes:

> Māori landowners faced much tighter restrictions in accessing capital because the fragmented nature of the holdings made it virtually impossible to access development loans otherwise available to European farmers. The perceived failure of Māori to exploit the economic potential of their land was used by settlers and Crown as justification for alienation through legislation.[541]

In the 1920s, Apirana Ngata "wanted to lift Māori out of what he saw as a threatening rural poverty trap by turning them into modern farmers."[542] Ngata felt that Māori should take part in the national export economy, but he also believed they should remain on their land and maintain their cultural autonomy. The land development scheme he created aimed to aid these twin goals by offering development finance and helping overcome the fragmented property titles that plagued Māori land.[543] He had "to counter a great deal of prejudice and misinformation. The earlier conviction that Māori were dying out and thus had too much land had been partially supplanted by the claim that Māori were poor land managers in any case."[544] The Māori Land Development Scheme was created in 1929, with the government providing funding for the development of Māori land. The legislation also encouraged the incorporation of Māori land. Incorporations provided a collectivist solution, giving legal form to a community of owners. "As idealised by Ngata," Boast explains, "incorporations worked by turning land blocks into a kind of community project: the community worked the land under the eye of a salaried manager, drew salaries, remained at home and earned profits according to the value of their shareholdings."[545] The incorporation is another hybrid form of organisation which retained much of the traditional Māori institutions, including the chiefly distribution, but was embedded within a cash economy.

During this period, Māori physical health continued to decline. In 1903 it was estimated that fewer than half of all Māori infants reached four years of age.[546] Māori death rates were six times that of the wider population during the influenza pandemic after World War One.[547] This was driven by material poverty, including substandard housing, a racist health system, along with a range of other drivers.[548] At the same time, during this period Māori were organising themselves to try to compensate for the woeful health provision provided by the state.[549] Critically, while physical health was suffering, during this period Māori mental health was still relatively intact, especially considering the deprivations of recent history. In a 1947 monograph, the Beagleholes, writing about Māori mental health, noted that the "fact that there are fewer neurotic and psychotic illness

among Māori than among Pākehās in New Zealand emphasises among other things the tremendous value to the Māori of possessing a psychological security that comes from tribal and family security."[550] Māori were still relatively isolated during this period, living in their kāinga. It is the psychological barrier provided by life still lived in te ao Māori environment that most likely protected Māori mental health during this period. As Houkamau explains: "Māori society had changed rapidly between 1840 and 1940, [however] due to geographical isolation the maintenance of a distinct Māori identity was still possible for Māori up until the 1950s... since generations of Māori families lived in the same communities young Māori were socialised by their own familial role models."[551]

1940s-1980s: Māori urbanisation

The 1940s would mark the beginning of yet another massive transformational period for Māori as the population underwent one of the largest and most rapid urbanisations in history. This had cascading economic, political, social, cultural, and psychological impacts. Certainly, the material changes were enormous, but it is important to take note of the social, cultural, and psychological changes – critically, even though Māori and Pākehā had coexisted for over a century, they "had lived in separate realities and experienced very limited interaction."[552] Within several decades, this would all change as *en masse* Māori moved into the settler towns and cities. This shift was staggering in its size and speed, "Twenty-six percent of Māori lived in towns and cities at the end of the Second World War. By 1956, this proportion had increased to 35 percent. Urban dwellers accounted for 62 percent of Māori in 1966 and nearly 80 percent by 1986."[553] "Social expectations among Māori were… raised by urbanisation."[554] The results were more mixed than had been hoped for, particularly in the early years of urbanisation.

With the massive urbanisation of the 1940s-1970s, the parallel Māori economy that was still based on tauutuutu institutions faded as more Māori entered the full-time workforce. However, the exchange of food, and in some cases, other goods, continues into the current era.[555] Many Māori during the 1940s-1970s worked in seasonal jobs such as freezing works or fishing, where they could spend considerable periods of each year hunting and gathering in ways congruent with traditional practices.[556] In material terms, urbanisation "often meant better opportunity for good housing, full-time employment, and education" for Māori.[557] Yet, this needs to be considered as relative to the material poverty and lack of educational options available in the years preceding urbanisation. Urbanised Māori were "concentrated in poor housing, working for low wages or on welfare."[558] Urbanisation, as Tā Durie explains:

> … propelled Māori into an urban industrial economy, largely as labourers and
> often at the unskilled end of the business… the formula was explosive. As more
> and more low-paid works congregated in the State's new housing areas, so the
> discontent arose… Jack Hunn in his 1960 report, pointed to a new class of
> urban dwellers – poor, unhealthy, housed in sub-standard homes, more likely
> to offend, less likely to succeed at school, and Māori.[559]

Whānau arrived in cities, predominantly, observes Walker as "waged labourers, drivers, machine operators and skilled workers."[560] Poata-Smith also explains the difficulties faced early on:

> Māori were likely to encounter limited employment opportunities, poor housing
> and overcrowding… The vast majority of Māori families were incorporated into
> the working class and into the lower levels of segmented labour markets; they
> were concentrated in blue-collar occupations such as in the freezing works, on
> the waterside, in construction and transport, and as coalminers and railway
> workers. These occupations often had long hours, low pay, and difficult and
> unpleasant working conditions. The limited opportunities for economic
> advancement were reinforced by discrimination in hiring and promotion
> practices.[561]

Furthermore, while Māori had largely been insulated from the settler populace's wealth, urbanisation meant becoming more aware of their relative poverty. While not downplaying Māori agency in the decision to urbanise, it also needs to be understood as the result of a "deliberate government policy to create a cheap labour market in which many Māori people were persuaded to move to cities and enter new occupations in industries."[562] As part of this policy shift, the State began directing Māori into trade training schemes.

The post-war decades up until the 1970s are often considered another golden era, experienced across all 'developed' states. Aotearoa New Zealand, like most of these other states, was governed under a Keynesian consensus, where the State controlled the economy across numerous areas including incomes, prices, domestic credit, import quotas and tariffs, interest rates and exchange transactions, with the aim of providing all citizens with cradle to grave welfare and full employment. The late 1940s to the early 1970s were a time of economic growth "at such a scale that output would double every sixteen years, [meaning] each generation could expect to be roughly twice as well-off as its parents and four times as well-off as its grandparents."[563]

Urbanisation brought about a gradual but relatively steady increase in Māori financial capital in this golden era. As Chapple explains:

> Māori entering urban areas were unskilled and poorly educated in terms of their new urban working environment because of poor rural schooling, few incentives to acquire an education in rural areas, and because of limited family resources. In addition there was little or no incentive to acquire skills through education on arriving in towns, since the world-wide compression of wage differentials during the long post-war boom meant that unskilled jobs, in addition to being plentiful, paid well relative to skilled jobs.[564]

Māori incomes never reached equality over this period, though they did increase, going from around 66% of non-Māori incomes in 1951 to 78.6% in 1987.[565]

However, the economic winds were shifting in the 1970s, with a series of shocks ending the golden age. By the 1980s, Aotearoa New Zealand was in heading towards an economic crisis. Poata-Smith notes, "If Māori entered the 1980s far behind non-Māori communities in terms of income, wealth and access to basic services, they were to fall even further behind in following decades."[566] The 1980s and 1990s saw Māori take two economic hits. The first hit was the economic reforms implemented by the Labour Government, and the second was the withdrawal of the welfare safety net by the National Government just as a recession hit. Because "Māori urbanised in the 1950s and 1960s, they were employed in manufacturing, railways, and forestry — all of which were sheltered from international markets at that time. What seemed like a guarantee of security at the time, turned into a disaster as New Zealand opened up to the rest of the world in the 1980s."[567] Māori unemployment had already begun to rise during the 1970s and, by 1981, "12 percent of Māori males and 17 percent of females were unemployed, several times higher than the unemployment rates of non-Māori."[568] "One-fifth of the Māori working-age population lost their jobs in the two years from March 1987 to March 1989, a figure approximately four times higher than for non-Māori population."[569] From 1988, "the Māori unemployment rate rose sharply, from 13.5 per cent in March 1988 to a high of 27.3 per cent by March 1992."[570] The end of this period was economically catastrophic for Māori. Tā Durie, however, makes a typically powerful statement on the neoliberal turn: "While it appeared Māori now had a much greater degree of control and autonomy than at any other time this century, the broad developmental directions were also linked to the introduction of free-market economic policies."[571]

The highly controversial 1960 Hunn Report, a review commissioned by the Department of Māori Affairs, proposed that the state shift from a policy of assimilation to one of integration. They provided a "three-tiered Māori typology that noted the majority were somewhere in between either 'a completely detribalized body of Māori with a vestigial culture' and those 'complacently living a backward life in primitive conditions'."[572] The policy 'softened' the language and promoted a cultural 'combination but not fusion'. However, it was Māori that were expected to 'combine and fuse' not Pākehā.[573] The State viewed Māori culture as a hindrance to economic development, and efforts to "accommodate ways of 'seeing and doing' that were different from those of Anglocentric culture were not on any state agenda."[574] During this period, as Tā Durie notes, "Māori had become increasingly dependent on a state that was essentially committed to policies and programmes that would assimilate Māori into the prevailing systems of colonial New Zealand."[575]

Politically, this period saw drastic changes. In the immediate post-War years, Māori were focused on maintaining the momentum they had gained during the war. However, Hill notes in many respects, the 1945 Māori Social and Economic Advancement Act actually "disempowered [Māori] relative to the position they had attained in the political economy during the war."[576] Tā Williams notes a shift whereby "social control was imposed not by hapū and whānau leaders but through the criminal justice system, the Social Welfare Department and in the Family Court."[577] Urbanisation weakened the political power and influence of rangatira and tribal organisations, while at the same time making the pan-Māori identity more salient than the more traditional hapū and iwi identities. At the same time, this weakening of the traditional power base did enable the unifying 'pan-Māori' organisations, initiatives and political class to appear who would help drive the progress from the 1970s onward.[578] Hill notes, "the offerings of urban life, rather than leading to full assimilation, had (in Tā Tīpene O'Regan's words) 'dramatically fuelled' Māori political consciousness."[579] Urbanisation provided the foundations for a strengthened Māori political voice and movement.

As collective Māori mana grew during this period, the government of the day was forced to account for the Crown's misdeeds. The "Treaty of Waitangi Act 1975 heralded the beginnings of a legislative infrastructure that recognised a political relationship between the majority coloniser/Pākehā population and the colonised/Māori. On the surface, this legislative infrastructure offers a bi-cultural utopia that provides a model for living together."[580] However, "[t]he reality, however, is very different."[581] Hēnare notes that "[n]oticeable changes occurred in the 1970s, when the courts and Parliament acknowledged that Māori rights and duties were of a constitutional order. With the establishment of the Waitangi Tribunal, Māori rights under Te Tiriti,

the Treaty of 1840 could be given a modicum of effect. The Tribunal, a court of enquiry, continues to hear Māori claims against the Crown government and whether its actions or non-actions are in accordance with the principles of the 1840 Te Tiriti o Waitangi: Treaty of Waitangi. Successful claims have led to attempts at social and economic relief."[582] Houkamau also outlines that "the Treaty of Waitangi was given greater recognition after 1975 with the establishment of the Waitangi Tribunal (a forum where Māori could make claims for compensation for breaches of the Treaty). In the mid-1980s the government extended the jurisdiction of the Tribunal to examine Māori grievances retrospective to 1840. Treaty claims, negotiations and settlements have been a significant feature of New Zealand politics since that time. Māori, overall, have achieved a great deal since the 1960s… Approximately 30 Acts of Parliament now require government officials to take into account the Treaty or its principles when exercising state powers."[583]

In terms of health, during this period, Māori physical health began to improve due to a greater focus by the health system including more Māori taking leadership roles in the system, and improved housing and material conditions.[584] However, "during mass urbanisation, Māori mental health went from being better to worse than non-Māori, with rates rising significantly in the 1960s."[585] This was partly due to the psychological challenges faced by Māori. Urbanisation "stretched and, in some case, severed the bonds of whenua, whānau, hapū, and whakapapa that had been under attack since the settler colonial project began. The mass migration of Māori to the Pākehā cities saw them move from the traditional pā, with the resultant splitting of whānau and communities. The impact was that the newly integrated Māori became isolated from the social support fabric of whānau and hapū."[586] This is emphasised by Tā Durie, who explained that "Left behind were nurturing kāinga, familiar landmarks, culture and language… urbanisation meant diminished access to those institutions and skills which nurtured a positive identity so that being Māori was measured more by deficits in comparison to the Pākehā middle class than by any notion of a secure Māori identity."[587]

As Rangihau wrote at the end of this Māori era:

> The history of New Zealand since colonisation has been the history of institutional decisions being made for, rather than by, Māori people. Key decisions on education, justice and social welfare, for example, have been made with little consultation with Māori people. Throughout colonial history, inappropriate structures and Pākehā involvement in issues critical for Māori have worked to break down traditional Māori society by weakening its base-the

whānau, the hapū, the iwi. It has been almost impossible for Māori to maintain tribal responsibility for their own people.[588]

This is a suitable epitaph for this era. However, the emergence of leaders like Rangihau during this period also reveals the resilience and adaptability of Māori despite the extreme pressures of colonisation, and it also sets up a powerful dichotomy of the next period – of both advancing and declining outcomes.

Aotearoans

Our journey through Hawaikian, Whānau-Hapū, and Māori history brings us to today: Aotearoan. Today's volatile, uncertain, complex and ambiguous (VUCA) world is the crucible within which Māori whānau have been living ever since they left the shores of Hawaiki. Deep within the Hawaikian DNA is a capacity for going beyond the known is very much alive as Aotearoans are called to be the wayfinders of today, navigating the unknown, where people are looking for effective solutions. As has been shown, this collective history is one of challenges and crises, and of resilient and adaptive responses. To face the future outlined in the first section of this report, Aotearoans will have to channel and harness this resilience and adaptability to the fullest. In this section, organisations will come to the fore, from trusts and incorporations to post-settlement governance entities (PSGEs), and then finally, to whānau and hapū, for these forms, particularly the last grouping, will drive the Māori wellbeing economy.

Trusts and incorporations

Māori land trusts and incorporations were designed to aid the use and development of Māori land, however, they have also been criticised for lowering the value of Māori land, making access to finance difficult, creating inflexible governance structures, and not preventing shareholder fragmentation.[589] Accessing financial capital has been a particularly significant issue, trusts and incorporations have traditionally faced higher costs borrowing capital because of specific land ownership constraints and because of the oversight function of the Māori Land.[590] Historically, "the most common method of accessing finance has been changing the status of the land from Māori to general" but more recently they have been "able to overcome some of these issues by using stock, infrastructure, or products as collateral security."[591] Because of legislated requirements, trusts and incorporations have "more complex, larger governance structures than comparable non-Māori land" and their boards have been "identified as lacking the skills and knowledge needed to

govern."[592] As Kawharu and Tapsell note, "Māori land entities have been exposed to high levels of market risk through price fluctuations, a lack of value-added strategies, poor water quality and sustainability and debt pressure. There are also unrealistic returns on capital projections."[593] Māori land authorities face significant challenges in the future: "grappling with troubled dairy-sector issues as well as ongoing pressures to supply commercial forestry and fishing sectors. Other challenges such as the effects of climate change (resulting in, for example, high intensity rainfall events and the consequences of these events), new biotechnology such as synthetic wool, nonmeat 'meat' and increasing vegetarianism all contribute to the need for Māori to adapt, respond and do things differently in relation to their remaining lands and waters."[594] Not only do they have to be successful in the wider capitalist market, but they have a range of other responsibilities. Their "worthiness is measured not only through annual financial reports, but also kin accountability among their descendant shareholders/ owners and beneficiaries. So, whether or not the troubles are cyclic or structural, the issue of commercial and environmental sustainability poses many challenges for those charged with the responsibility of being both business managers and hunga tiaki — stewards, trustees and custodians — over kin communities' precious ancestral resources."[595]

Kawharu explains, "Māori land trusts have provided varying degrees of self-sufficient economic enterprises over a number of years, but not necessarily successfully from cultural, social and economic points of view."[596] She notes that "trusts and incorporations have also applied the same general principles of mana and manaakitanga in farming enterprises over generations, but to varying degrees of success."[597] Māori land trusts "have also variably dealt with other social dimensions of manaakitanga in relation to people, i.e. considering the needs and concerns of communities of interest – the "descendants" who are ancestrally connected to lands that are farmed (but who may not be shareholders or owners anymore), and the actual shareholders and owners."[598] Many "have financially collapsed under the burden of debt that has built up over a number of years, and have not provided anywhere enough to sustain families and communities. Some have inadequately coped with continued degraded lands and waters, have not remained central to descendants lives anymore and/or have struggled under administrative burdens to maintain current shareholder/owner databases and run farming businesses well."[599]

However, while many trusts and incorporations continue to struggle, around 20% are in the well-developed category, many have in some cases not only managed to overcome some of the limitations they faced in the past, but have succeeded economically, environmentally, socially, and culturally.[600] In their study of agricultural trusts and incorporations Rout et al. found that many

had established what they called "whakapapa networks—that is, formal or informal Māori collectives based on shared genealogy and values."[601] As they explain, "these networks appear to provide a competitive advantage for [trusts and incorporations], though many are motivated as much by a sense of manaaki (caring for others) and whanaungatanga (sense of connection) as by financial objectives."[602] They argue that "successful Māori agribusinesses appear to demonstrate high levels of internal and external cooperation built upon strong relationships."[603] While vertical and horizontal sector networking and collaboration are key strategies championed by New Zealand agribusiness experts, Māori trusts and incorporations have "done it their own way, driven by their own values. Overcoming the constraints on development and colonisation's disruption of relationships, the deeply embedded cultural ethic to prioritise and value relationships, to build and sustain networks."[604] Kawharu and Tapsell note that "[o]ne response [by trusts and incorporations] has been to explore new socially, economically and/or environmentally diverse resource uses."[605] This is reinforced by Rout et al., who highlight the range of trusts in their study who have diversified from conventional agricultural methods to a range of different opportunities including tourism and apiculture.[606] The more successful trusts and incorporations have also managed to not only overcome governance issues but have turned the "multiple layers of decision-making within these entities" into an asset, as they "require input from expert consultants, thus providing reporting and monitoring disciplines not often found in typical family farms" and enabling these operations to take advantage of the more complex and knowledge intensive forms of agriculture emerging.[607] While many trusts and incorporations still struggle, there are many at the leading edge, who are ready to provide the leadership, guidance, and inspiration needed.

Iwi and post-settlement governance entities

Iwi had been growing in power and influence since the 19th century. However, during the Aotearoan era iwi, and more specifically their post-settlement governance entities (PSGEs), would come to dominate, particularly economically. There "have been a number of Treaty settlements between the government and various Māori iwi or tribes. These settlements have included, amongst other things, monetary compensation for past injustices, the return of lands unjustly confiscated, and 'cultural redress' giving Māori decision making input into geographical locations with which they are connected."[608] Settlements have driven increasing 'retribalisation' both institutionally and demographically. Mika et al. explain how "Treaty settlements have facilitated an increase in identifying members of a tribe through tribal registers."[609] Likewise, the "decision to allocate quota to iwi based on population prompted a wave of tribal enrolment initiatives, as iwi sought to grow their population numbers so they could get more quota."[610]

As iwi have long been the government's preferred grouping, several State-generated descriptions exist. The short lived Rūnanga Iwi Bill of 1990 defined an iwi as being: "a descent from a common tūpuna (ancestor); a collective possession of demonstrable cultural and historical identity; a developed political organisation; a structure of hapū; a network of functioning marae (communal meeting houses); historical belonging to a defined rohe (region); and continuous existence widely acknowledged by other iwi."[611] The Privy Council decided that "iwi meant traditional Māori tribe, a determination eventually finding its way into the Māori Fisheries Act (2004)."[612] During the fisheries settlement it was decided tribes could "choose whatever legal structure they wish provided it meets the minimum standard set by Te Ohu Kai Moana."[613] This might appear to give a degree of flexibility, however, the key phrases are 'legal structure' and 'minimum standards'. Ultimately, this definition requires iwi "invest the assets, monitor their performance, extract a dividend and make reinvestment decisions, meaning they must meet certain 'structural' criteria of capitalist modernity."[614] The Law Commission determined that there were two particular components, the tribe itself and the tribal entity – the latter referring to the legally mandated organisation that represents the tribe. "Treaty settlements over the last 30 years have reinforced the ascendency of iwi as the representative body of the tribe, but this is being challenged by hapū, whānau and non-iwi organisations, given the changing nature of Māori organisations."[615]

There are two common components of the PSGE: "(1) a rūnanga (tribal council) comprising elected iwi members as political representatives whose focus is governing the tribal entity for the tribe; (2) an asset holding company, a subsidiary which manages commercial assets and activities, generating wealth for redistribution; and a charity, which implements social and cultural policy within the tribe using resources largely generated from within, in addition to governmental funding."[616] The structure that tribes had to adopt to receive settlement has caused a raft of issues for tribes and tribal entities. Mika et al. identify a number of tensions within iwi:

- individual and private interests versus collective and iwi interests;
- local versus global developments;
- iwi versus crown interests;
- self-development strategies versus dependency strategies;
- culturally informed versus traditional economic "thinking" and "practice
- "bottom up" (inclusion models) versus "top down" (hierarchical models) development;
- differentiating "leadership" and "management" issues;
- critically understanding treaty settlements as more about "quantifying" and settling property rights issues than about settling personal rights in the Treaty of Waitangi;

- ahikā versus taurahere status; and

- rohe versus national- and international-based roles and activities.[617]

There are numerous tensions faced by these organisations, many that show the internal paradoxes of operating in externally imposed organisational structure, clashes between different institutional frameworks, conflicts between different forms of wealth, and the failure of these organisations to meet the needs of their members.

The PSGE is caught in a conflicting internal paradox where the rūnanga and holdings corporation have somewhat conflicting goals. The former is focused on growing social cohesion and human capacity while protecting natural resources and the latter is an almost entirely capitalist creation, driven to grow financial capital. Through the settlement process, "capitalist management structures were imposed on Māori societies."[618] These western-oriented organisational structures have also resulted in tribal leaders being forced into focusing on economic outcomes, "[i]n striving to participate in economic development, tribal organisations and people within them tend to behave like non-Māori in one sense, where wealth is expressed in terms of the value of the assets and the prestige, power and influence that comes with it."[619] Awatere et al. explain, "the corporate-beneficiary structure is inherently distancing by design, effectively isolating the corporation from the culture."[620]

Whereas from a te ao Māori perspective these different forms of wealth should not be separate, within the PSGE they are. As Tā O'Regan has noted, holdings corporations' "'purpose and consequently, governance, is little different in structure and requirements from the corporately owned assets in the wider economy.' That is, an entity that focuses on profit at the expense of the deeper values that guided and gave purpose to the traditional Māori economy."[621] Entrepreneurs view the division between commercial and social functions as limiting tribal enterprise, as it "can inhibit the flow of entrepreneurial opportunities to tribal members… [as it] allows tribal commercial entities to somewhat zealously hold to commercial investment criteria that may exclude cultural imperatives, when the doctrine of corporate social responsibility is emerging as a powerful countervailing narrative."[622] As Mika et al. explain:

> The separation between social and commercial functions within tribal entities
> has created an artificial divide" for entrepreneurs, "on the one hand, the social
> entity (typically a subsidiary charity) may see merit in an iwi-based business
> venture, but the resources to make such an investment are locked inside the
> commercial entity (typically a subsidiary company) whose mandate is strictly

commercial. On the other hand, commercial arms are often entrusted with hard-won treaty settlement assets that must be prudently managed for future generations. This makes startup enterprises decidedly unattractive investments because of their inherent risk.[623]

Mika et al. further elaborate, "Few post-settlement iwi are… investing in the enterprises of tribal members… Iwi appear preoccupied with building stable, capable and effective governing institutions, necessitating conservative investment programmes and the use of corporate business models."[624] As Mika et al. note, "the appropriate role of iwi is supporting Māori entrepreneurship, but that this should not replace the role of government."[625] Specifically, iwi could provide "financial assistance, business and educational support, intra- and inter-tribal networking and facilitating relationships with government and private enterprise, locally and overseas."[626] However, Awatere et al. identify that there "are gaps on the part of some entrepreneurs regarding understanding and applying kaupapa Māori values."[627] They further outline how this supports the assertion of "the disconnection between governance groups and MAHI [Māori asset holding institutions]."[628] Ultimately, "some MAHI outsource expertise to derive short-term profit that adversely impacts the capability of whānau to participate in managing collective assets."[629]

These organisational structures also create tensions between tribal members and the PSGE. Barr et al., referring to Ngāi Tahu specifically, note that the "separation created internal political tensions as the tribal membership did want to be supported in their own entrepreneurial activities to enhance their own rangatiratanga using traditional resources, not just that of a corporate tribe."[630] Critically, Awatere et al. explain that while "PSGEs have an "abundance of useful policy and strategies that have successfully incorporated Māori ethical positions" they are presented with a number of constraints in delivering these, key amongst them that often whānau are distanced from the management and governance structures – they lack "formalised engagement pathways."[631] This is a deficit in social cohesion. There is also a deficit of human capacity, as Awatere et al. note there is a lack of "skilled and capable entrepreneurs versed in Māori values like manaakitanga, kaitiakitanga and whakapapa."[632]

The PSGEs also created pressures on leadership.[633] Spiller highlights "calls for leaders to address growing concerns about the distance between wealth accumulated at the corporate level and the lack of wellbeing at the whānau level."[634] She notes:

> Māori leadership in governance settings, whilst deeply rewarding and meaningful, can be fraught with conflict and tensions, adversarial challenges, rivalry, contradictory expectations and a sense of separateness and loneliness.

95

> Leaders in these settings can find themselves as leaders of a coalition rather than a community.[635]

Roche et al. outline how "leaders in all types of organisations are under increasing pressure due to the competitiveness, complexity of organisational systems and change faced by leaders today… This situation is even more complex and ominous for Māori leaders."[636] Māori communities have far more challenges, adding extra burden on leaders. Furthermore, "evidence suggests that by the very nature of the leadership role in influencing others, this negative reaction filters through to others, including creating a negative impact on followers' wellbeing."[637] There is, then, reinforcing feedback as the leaders are strained, which strains an already strained community. The burden of managing the Treaty settlements is itself a major stressor:

> Māori communities are increasingly receiving lands and other resources as a result of concluding often lengthy cases concerning historical breaches of the (1840) Treaty by the government and which has seen significant resource loss. Those who are responsible for developing post-Treaty settlement growth programmes with newly received assets are faced with significant opportunities for transformative change. Integrating cultural with other social and economic values within community development strategies is important now more than ever in these contexts.[638]

Māori leaders face tensions between the organisational structures they operate within and the values they must embody. Māori PSGE leaders work within Westernised structures, yet they are also expected to lead via the engagement in, and utilisation of, unique elements of Māori tikanga and values.[639] This is something Haar et al. reinforce, noting that Māori leaders "face additional complexities in leading within western organisations."[640] However, Māori values do provide Māori leaders with 'armour' against the tensions of operating in Western structures.[641] That is, culture can help protect from organisational clashes. Also, as a means of dealing with these complexities, Māori leadership "aims to weave together traditional and contemporary cultural influences on leadership styles and practices."[642] This fits the notion of rangatira as a raranga tira, someone who weaves the group together, and, finds fit and balance amidst tensions in context, practice and tikanga, as well as between people. Spiller draws upon the notion of "cultural match" and develops six qualities of leadership: "an intergenerational visionary; a community builder; being culturally grounded and guided by tikanga and values; being relationally adept; an influential communicator; and a leader who possesses multifaceted acumen (not just financial and economic know-how)."[643] In their work on collective Māori leadership and decision-making in economies of wellbeing,

Spiller et al. provide an ecosystemic view of the complex, interconnected ways in which decision-making occurs, and they provide a suite of recommendations based on an extensive survey.[644]

Another driver of the division between PSGEs and their members is the growing divergence in Māori outcomes. As Poata-Smith notes, "Inequality between Māori and non-Māori has been an enduring feature of New Zealand society… in recent decades, it has coincided with another unwelcome development: the growth of income gaps within Māori communities."[645] This brings the report to the 'Māori economy'.

The 'Māori economy'

With the serious environmental and political challenges approaching Aotearoa New Zealand on the horizon, the Māori economy is likely to encounter significant future challenges. However, in recent years the Māori economy has been undergoing a 'renaissance'. There has been significant growth in Māori capital investments overall, with the asset base increasing from $16.5B in 2006[646] to $67.5 in 2020.[647] This demonstrates a staggering growth rate of 10.6% per annum. Depending on which form of GDP is used – income, production, and expenditure – the Māori economy was between 6.5 and 14.9% of the national GDP in 2018. The current values of the Māori economy can be viewed in Figure 5 below.
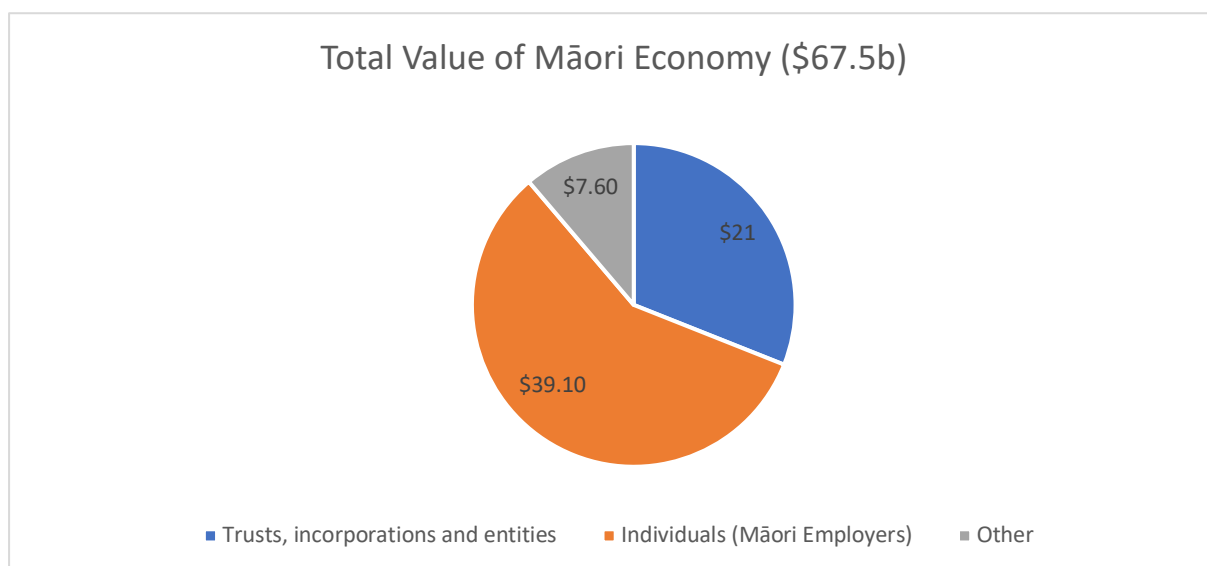
Figure 5 – total value of Māori economy

In terms of the collective component (Land Trusts, Incorporations, Post-settlement iwi corporations) of the Māori economy, this was worth $21b in 2020.[648] This is represented in the figure below. The asset base is concentrated in the agricultural, fishing, forestry, and property sectors, constituting $18.6b of the total asset base. The concentration of assets in these sectors can be explained first by the Treaty of Waitangi settlement processes, that divested assets held by the Crown in fisheries, forestry, agriculture, and commercial property to iwi authorities. Second, it is explained by the concentration of assets in land among Māori trusts and incorporations. Between 2015-2020 the number of individuals employed across Māori collectives increased 25%, compared with 13% for all Aotearoa New Zealand businesses.[649] However, the number of employees in the agricultural sector grew by an outstanding 52% during the same period.[650]
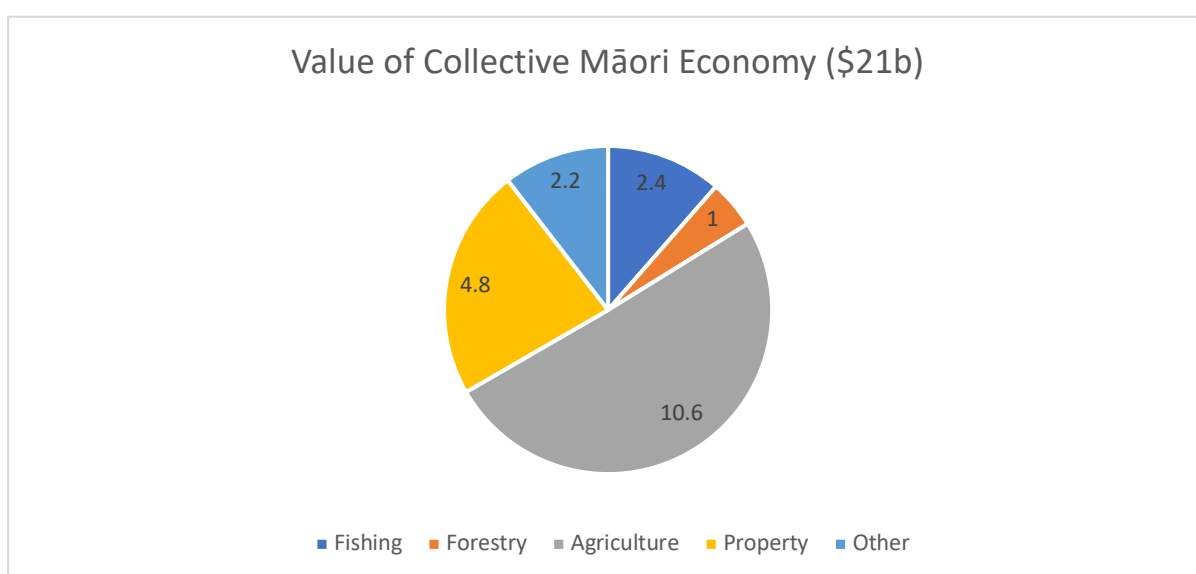
Figure 6 – Value of collective Māori economy

In terms of the 'private' Māori economy, beyond the collective Māori economy, more than 9900 Māori employers make up an asset base of $39.1b.[651] This is represented in the figure below. The property and primary sectors also feature strongly in the private Māori economy making up 35% of the asset base, with other sectors making up small percentages of the remaining 65%. There has been significant growth in the number of Māori enterprises, increasing from 6800 employers in 2013 to 9900 in 2020, representing a 31% change. Likewise, the asset base has grown from $23.4b in 2013 to $31.1b representing a 25% change. These businesses, on average, have 14 employees and $4m in assets.[652]
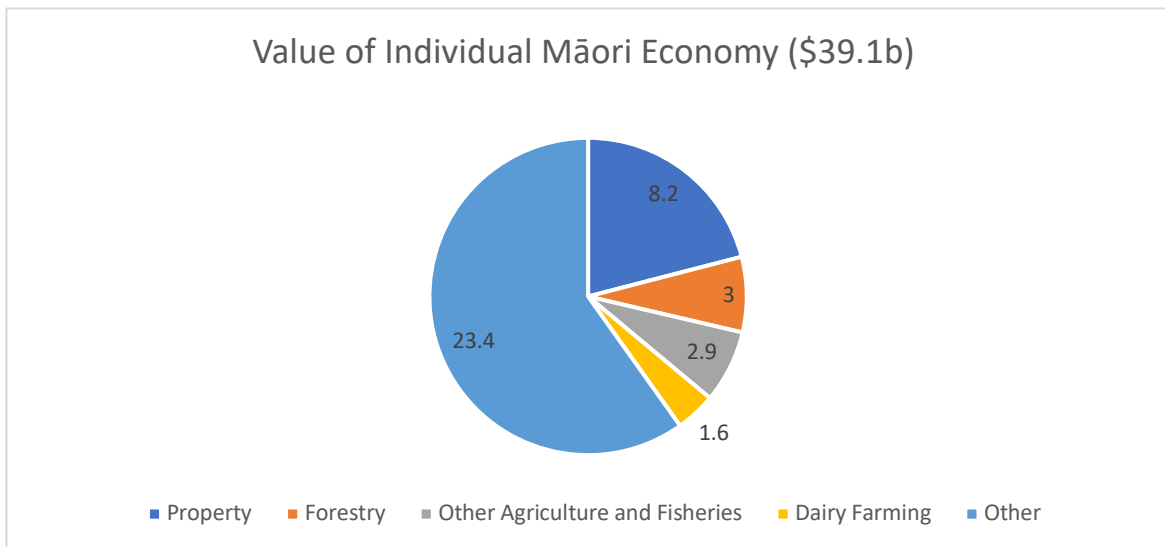
Figure 7 – Valuer of individual Māori economy

However, these projections need to be tempered somewhat. The 'Māori economy' is a commonly used term. However, this term lacks conceptual clarity or rigour.[653] Amoamo et al. believe the phrase 'Māori economy' "masks the true diversity and complexity of what constitutes the way Māori participate in and make sense of economic activity."[654] Greater "attention to the Māori economy is needed to 'more accurately represent the rich diversity of Māori enterprise that has evolved'."[655] Tau and Rout are even more critical, exclaiming that "despite the numerous claims that there exists a Māori economy…. Māori have yet to create an economy that they could say is truly theirs… despite the economic growth of tribal corporations, we do not have a tribal economy because such corporations are essentially an adjunct of the national economy… [and their] prime asset… —land—is vested in the Crown."[656] There are "a number of ways the term Māori economy could be defined, from a far-reaching institutional economics-oriented delineation that includes law-making, taxation capacity, contract enforcement and the like, through to a more tightly neoclassical synthesis-focused demarcation using leakage."[657] They conclude, "[e]ven defined neoclassically, [the term] "Māori economy" is highly problematic, as tribal businesses usually experience leakage in the first exchange, with virtually all money returning to the wider settler economy."[658] "Māori land does not sit within a governance structure that is uniquely Māori for the simple reason that until recently all Māori land fell under Crown title and therefore Crown governance. Māori have no institutional capacity to raise land tax (rates) off the land, and tribal corporations all function under Crown legislation. There simply is no Māori economy other than what functions within the existing settler economy."[659]

The "Māori economy is articulated in a way that conforms to the dominant Western/capitalist rational economic model, which is not reflective of the socio-economic realities that Māori live and experience, and is in fact a multiplicity of economies."[660] Furthermore, in "terms of government reporting in New Zealand, the Māori economy is represented as an abstract notion founded on statistics that aggregate out context and meaning, and draw from a narrow, Western conception of what constitutes an economy and therefore a business, thus inadequately characterising the multifarious ways in which Māori are engaged in economic activity, particularly the richness and diversity of those small enterprises operating at a regional level."[661] Amoamo et al. propose "approaching the Māori economy as a system that serves the people, rather than people serving the economy", viewing the Māori economy as an "ecology (or an ecosystem of collective action) in which human behaviour and activities are integrated "coordinates" of a complex flow of ethical and energetic interdependencies."[662]

There is a paradox at the heart of the 'Māori economy': the growing wealth of the 'Māori economy' and the continuing poverty of whānau. The size and scope of the Māori economy is often publicised. As the sizeable Māori holdings corporations began to appear, so too, Durie observes, did new classes appear with the emergence of a wealthy minority and poor majority.[663] Underlying the glitter is, as Hēnare noted, a "new phenomenon of asset-rich tribes and growing numbers of poor Māori people."[664] Houkamau repeats this, explaining that "[t]he benefits of Treaty settlements have not filtered down equally to all Māori who, compared to non-Māori, are still more likely to live in poverty."[665] Kawharu and Tapsell also identify this issue, explain that critically, for whānau, "the benefits of Treaty settlements have not yet reached all corners of marae or hapū lives."[666] Mika et al. make the connection between this inequality and the wider systemic issues, "even as the Māori economy grows, it is replicating what is happening in other parts of the world… it too is contributing to a divide in Māori society whereby the wealthier iwi and a few individuals are better able to take advantage of economic development initiatives than others."[667]

Whānau

In this complex Aotearoan world, what of whānau? Whānau are at the centre of this research which aims to transform lives through meaningful, targeted research that enhances their chances of long-term survival through work, business and employment. This recognises the symbiotic relationship between human activity, and the health of the environment, society and culture that is impacted by such activity. The great modern advocate for the whānau, Dame Hon Tariana Turia says:

Leadership to me is about working within our whānau as the foundation of tangata whenua social, cultural and political organization. Whānau is the source of identity, security, support and strength. The greatest challenge is to restore our rights and obligations to ourselves and to work as a collective unit… we need to create a new generation of whānau leaders, who are neither saints, public servants nor politicians. We need whānau leaders that can situate themselves in their own whānau narrative, who can grasp the complex dynamics of our whānau and who can imagine a future grounded in the very best of our past, yet who are attuned to the opportunities ahead.[668]

Economically, whānau are still disadvantaged, both by the settler economy and by the post-settlement regime. The reality is that "most Māori earn their living in the general economy rather than the Māori economy."[669] The sector with the highest number of Māori is manufacturing, followed by health care/ social assistance, construction, retail and education and training all roughly second equal, followed by primary production, as seen in the figure below.[670]
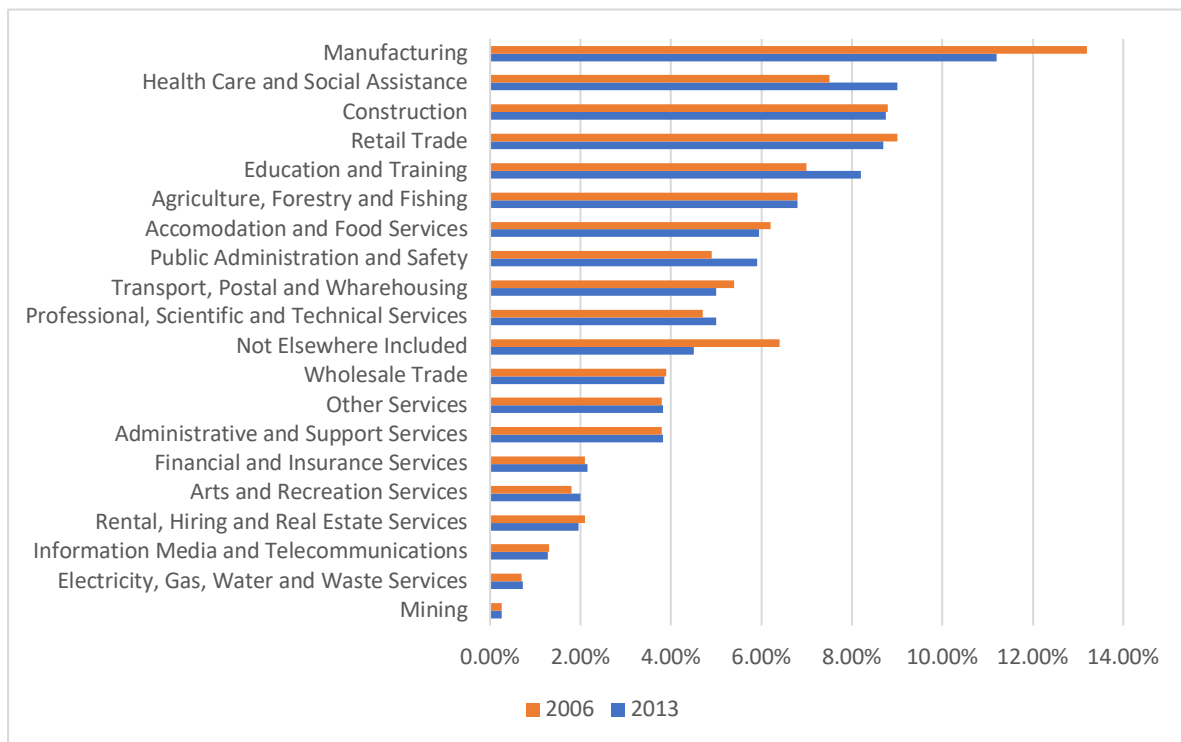
Figure 8 - Proportion of Māori employed in industries

There has been an upward trend in the Māori employment rate from a low point in 2013. The figure below demonstrates an encouraging trend upwards for Māori as the employment rate has grown faster than their European counterparts. However, it also illustrates the volatility of Māori employment, varying by about 8% over the twelve years from which the data was collected,

compared to an approximate 2% change for Europeans. This can likely be attributed to Māori overrepresentation in lower-paying jobs in more volatile sectors of the economy that are vulnerable to economic downturns. Employment rates remain lower for Māori than for Europeans. The faster growth generates some hope for convergence; however, this will depend on the resilience of Māori jobs as New Zealand enters another economic downturn.
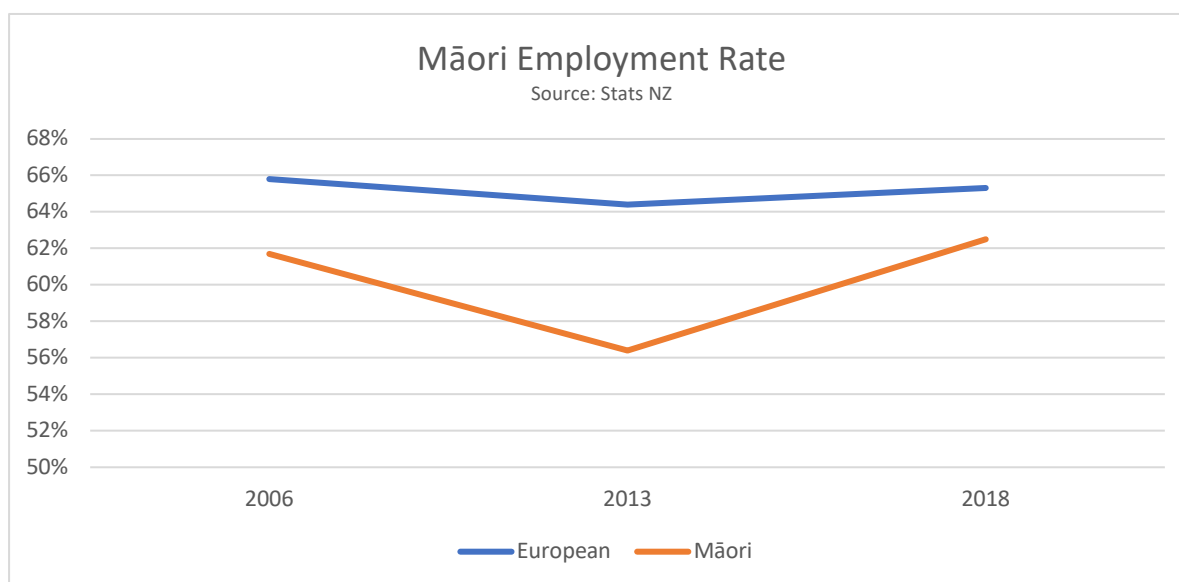
Figure 9 – Māori employment rate

Māori individual net worth remains significantly lower than those of Europeans in New Zealand, with the gap widening in the older age cohorts. The most dramatic difference in mean net worth can be seen within the 45-54 age grouping, where Europeans have a net worth almost 2.5 times higher than Māori, $650,000 compared to only $271,000. Within the 55-64 age grouping, European median net worth is approximately 2.7 times higher than Māori at $439,000 compared to $173,000.[671] These statistics can be seen in the figures below. This wealth differential can be attributed to colonial legacy issues, where significant capital, in terms of land, was transferred from Māori to settlers. This meant that the majority of Europeans entered a land-owning class, while Māori became landless and wage labourers in the colonial economy. The rapidly increasing land and property prices over the last three decades, has compounded the wealth difference between Māori and Europeans.
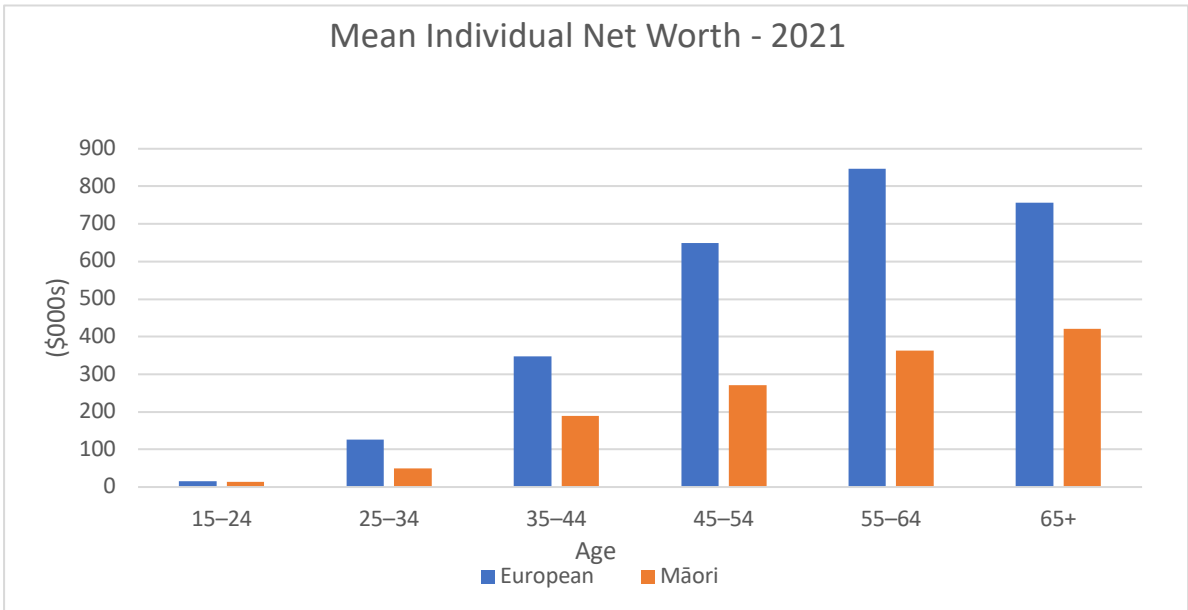
Figure 10 – Mean individual net worth 2021
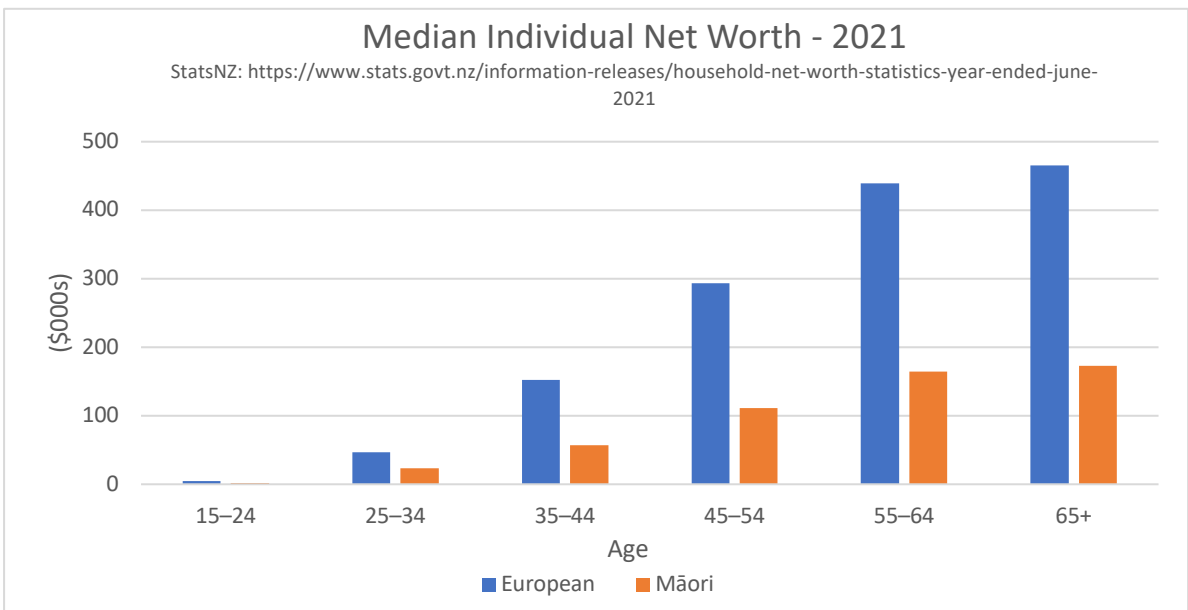
Figure 11 – Median individual net worth 2021

Surprisingly the difference in net worth, or wealth, does not correspond to differences in income levels. In terms of median weekly income, Māori is 88% of Europeans, while in terms of median wealth, Māori only possesses 38% of their counterparts. The average weekly income for Māori was $809 in 2021 compared to $1,008 for non-Māori.[672] In a 52-week working year, this equates to a $42,068 per annum income on average for Māori and a $52,416 per annum income for non-Māori.
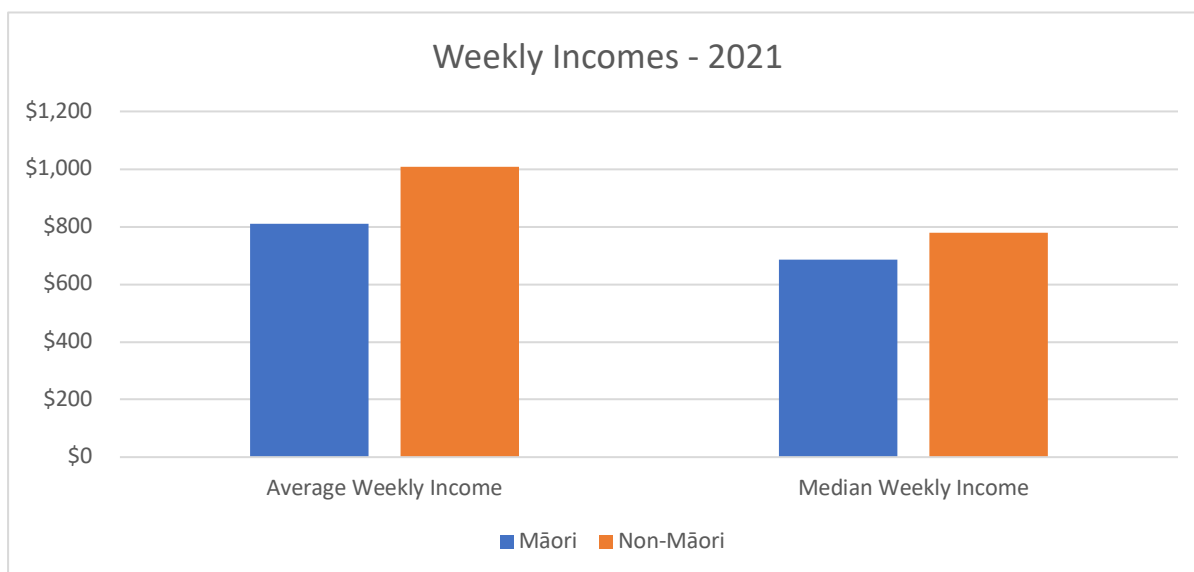
Figure 12 – weekly incomes 2021

Unsurprisingly, "Māori reported the lowest levels of work-life balance compared to the majority of New Zealanders."[673] "Even when individual Māori have been asked to reflect on their economic and career choices, Māori often refer to the implications of their choices for their whānau, hapū and iwi."[674] For those whānau working in Māori organisations, "quantitative research also shows Māori orientations towards whanaungatanga and collectivism exert a continuing influence on Māori career satisfaction."[675] Highlighting another tension, in reference to the collective focus of Māori culture, Brougham et al. refer to "the complexity of Māori families, as well as the demands they put on their members, and how these might override the pressures of work."[676]

There remains, however, a whānau-hapū economy in operation – though often in the interstices of both the settler and Māori economies. Kawharu notes that the modern whānau-hapū economy places "value on non-economic and processual, social and cultural variables within the context of their own growth and innovation."[677] Ruwhiu et al. explain that the whānau-hapū economy "includes aspects of equity, equality and empowerment beyond the economic" and that it "is a dynamic, deep-rooted, complex and ever evolving space, incorporating intergenerational wealth, maintenance of cultural identity, and the wellbeing of our Māori communities."[678] The same dynamics are identified by Amoamo et al., who identify that the whānau-hapū economy incorporates "the well-being of iwi, hapū and whānau."[679] Dell et al. argue that one of the key contrasts between a capitalist economy and the whānau-hapū economy is that Māori "concepts of value centre on collective interest as opposed to self-interest."[680] In the whānau-hapū economy, there "was often times when there was a barter exchange of other goods and services as opposed to direct financial compensation."[681] These take different "forms of exchange such as traditional,

gift, barter, and participatory economies included within the alternative, hybrid, and hidden economic spaces."[682] While "many people's lives engage with capitalist firms and formal markets, their lives are also shaped by non-capitalist organisational forms such as gifts, reciprocal exchanges, barter and 'hidden' forms of economic practice."[683] Houkamau et al. outline how "customary Māori cultural values (particularly whanaungatanga/collectivism and interdependence) continue to influence Māori perceptions when it comes to financial decision making."[684]

Māori values remain a guiding force in entrepreneurial businesses.[685] Māori culture is deployed as a way of building financial capital, social cohesion, and human capacity. Social cohesion is identified as an important factor in entrepreneurship in the whānau-hapū economy. Barr et al. state that "the presence or absence of social capital can have a profound influence on the success or otherwise of Indigenous entrepreneurship."[686] Henry et al. also argue "that an organisation's innovation capabilities are also linked to its cultural capital", linking "cultural capital to environmental context, personal identity and self-efficacy, which have been found to enhance entrepreneurial intent amongst Indigenous peoples."[687] They also note the importance of social cohesion, as it provides "social, networking and others resources it brings and the strategic relationships it generates."[688] Furthermore, "whakapapa reminds entrepreneurs about origins of things. More importantly, however, it provides ancestral reference points, lessons or precedents for addressing challenges, and the values to guide a vision of community economic, social and political sustainability and resilience."[689] Many entrepreneurs emphasise the importance of working in and for their community, showing how the creation of financial capital can help build social cohesion. Awatere et al. explain that kaupapa Māori guided entrepreneurs "pursue social aims to improve the wealth and wellbeing of Māori communities and the restoration of their lands, language and culture."[690] Likewise, Henry also notes that Māori entrepreneurs place a "relative importance of communities rather than individuals, which emphasizes culture and social norms over resources and profits."[691] Kawharu and Tapsell explain that "kind of entrepreneurship differs from broader ethnic Māori expressions of innovation, which are not tied to ancestral lands and people in whakapapa (kin accountable/genealogically delineated) terms."[692] As they continue:

> Other Māori enterprises such as whānau-centred innovation in urban areas may also be concerned with just tangata/people-centred wellbeing with no whenua dimension (direct connection to the land on which a venture may be operating). In some instances, ventures may leverage a generalised Māori heritage as its brand, validated by individuals' own Māori ethnicity. These commercialised

spaces generally operate beyond a reciprocal kin relationship or whakapapa framework and perhaps beyond the purview of ancestral marae communities.[693]

However, Awatere et al. offer a dissenting voice, noting that Tā Durie does not believe a distinctly Māori approach to businesses has emerged despite the increasing involvement of Māori, identifying "the near dominance of neo-liberal economic dogma among iwi and hapū entrepreneurs."[694] More broadly, te ao Māori remains a fundamental component of daily life for many whānau. Hēnare addresses this at a deep level:

> The maintenance of a historical sense and a willingness to learn from experience has ensured the resilience of the traditional worldview and religion— and this despite major changes in elements of Māori culture, in social organization, in the systematic undermining of kinship groups by the state, in transformations in material culture, and in political and economic activity. Yet all of these features have abiding elements that remain embedded in traditional Māori metaphysics and religious outlook.[695]

Likewise, Haar et al. outline that "traditional Māori world views are often maintained, while working and living in contemporary society."[696] Government statistics "indicate the bulk of Māori still value 'traditional' cultural practices."[697] Houkamau and Sibley "found that Māori who are more socially and politically conscious and believe more firmly in Māori concepts of spirituality… have a much greater preference for preserving and protecting iwi natural resources, including land, rather than utilising and risking it for profit."[698] They also found that "Māori who are deeply culturally engaged and treasure their Māori identity and culture prefer employment that promotes Māori values and development."[699] Furthermore, "with regard to individual performance versus sociality in the workplace, it makes sense that belief in interdependence… is associated with preferring the maintenance of relationships at work over individual performance."[700] Houkamau et al. explain that "a range of data sources indicate that Māori have a strong, underlying cultural orientation towards wealth sharing rather than personal wealth accumulation."[701] There have been changes to Māori values, however, as Houkamau and Sibley note: "Kaitiakitanga (environmental guardianship, acknowledging the close affinity of Māori to nature;) and rangatiratanga (Māori acting with authority and independence over their own affairs) are modern coinages invoked regarding, among other things, Māori economic development… [though] the values underpinning new constructs such as kaitiakitanga have been key facets of Māori life for generations in the management of resources and the promotion of identity."[702]

For whānau themselves, it is whanaungatanga, as Tā Williams advocated, that probably remains the paramount value that holds Māori society together.[703] His conviction is that "the whānau was, and still is, the essential glue that holds Māori culture together. In practical terms being Māori counts most at the intimacy of the whānau. Without whānau, being Māori is a mere abstraction."[704] Yet, he points to the plight of whānau, he says that "whānau persists as an institution in the hearts and minds of Māori people, **despite its multi-generational economic and social redundancy**" (emphasis added).[705] He is deeply puzzled by why iwi leadership does not instigate change in the same way they, together with the Crown, have found a way to take sole or shared responsibilities apropos the environment.

However, many whānau are distanced from their culture, identity, and language.[706] The "vast majority (70% of Māori adults) felt Māori culture was important to them, and many reported a keen interest in expressing themselves culturally as Māori", and the "vast majority of Māori (nearly 90%) feel whanaungatanga is important to life satisfaction."[707] "Despite colonisation and the non-legislative and non-binding nature of the Treaty of Waitangi (Māori and British versions)," Mika et al. explain, "Māori have expressed citizenship through whakapapa or kinship ties. Māori maintain their right to determine their identity, customs and culture as tāngata whenua."[708] That said, "89 per cent of Māori indicate they are unable to speak Māori either "very well" or "well"."[709] Across these three previous variables, Houkamau and Sibley)[710] also found that "having European ethnic affiliation bore no significant association with financial attitudes." They conclude that "some Māori may reject the culture of the 'dominant' ethnic group and identify much more closely with their own ethnic group and its values as traditionally represented, even if this rejection acts as a barrier to employment and upward social mobility."[711] As a corollary, Māori still face discrimination and racism, both individual and institutional, in contemporary NZ. "Māori face racist attitudes from non-Māori", Houkamau notes, and those who 'appear more Māori' experience more discrimination.[712] Similarly, Spiller et al. highlight a "survey conducted in 2005… revealed that some New Zealand recruiters still discriminate by race." As the survey's author explained, "If you only want Pākehā in your workforce, you're limiting yourself to two-thirds of the available workforce, which is rapidly ageing. If you want to be internationally competitive, you can't be provincial in your hiring."[713]

Many whānau are also distanced – either geographically, culturally, and or socially – from their home marae and tūrangawaewae. 84% of Māori live in towns and cities away from their traditional tribal rohe.[714] They are "are not necessarily 'attached' to, or directly involved in, their geographically distant lands or marae communities."[715] Consequently, "[m]any if not all communities are

confronted to one extent or another with diminishing expert Māori-language capacity and loss of tikanga or customary knowledge and practice."[716] "In this post-treaty settlement era, the enduring challenge is how urbanised Māori maintain connections to their tūrangawaewae (tribal places of belonging) and vice-versa."[717] There are tensions "between ahikā (iwi members residing within and on traditional tribal lands), taurahere (iwi members living outside traditional tribal territories), urban Māori (Māori living in an urban centre) and pan-tribal groups (Māori collectives with multiple tribal affiliations)."[718]

Whānau rank lower across all other socioeconomic indicators.[719] School completion rates are approximately 20% lower for Māori than for non-Māori, at less than 50%. 1 in 10 Māori who are actively seeking work remain unemployed. More Māori earn less than $10,000 a year than non-Māori. Consequently, 30% receive income support. Many Māori, over 30% (in 2013), remain without internet access which has become increasingly detrimental in recent years due to the necessity of completing schooling and working online. Almost 10% of Māori do not have access to a motor vehicle, and half currently live in rented accommodation. Lack of home ownership has ramifications for net wealth, particularly later in life, as reflected in the statistics earlier in this report. Finally, nearly 20% of Māori reside in overcrowded homes, which affects health outcomes, particularly during COVID-19 times.
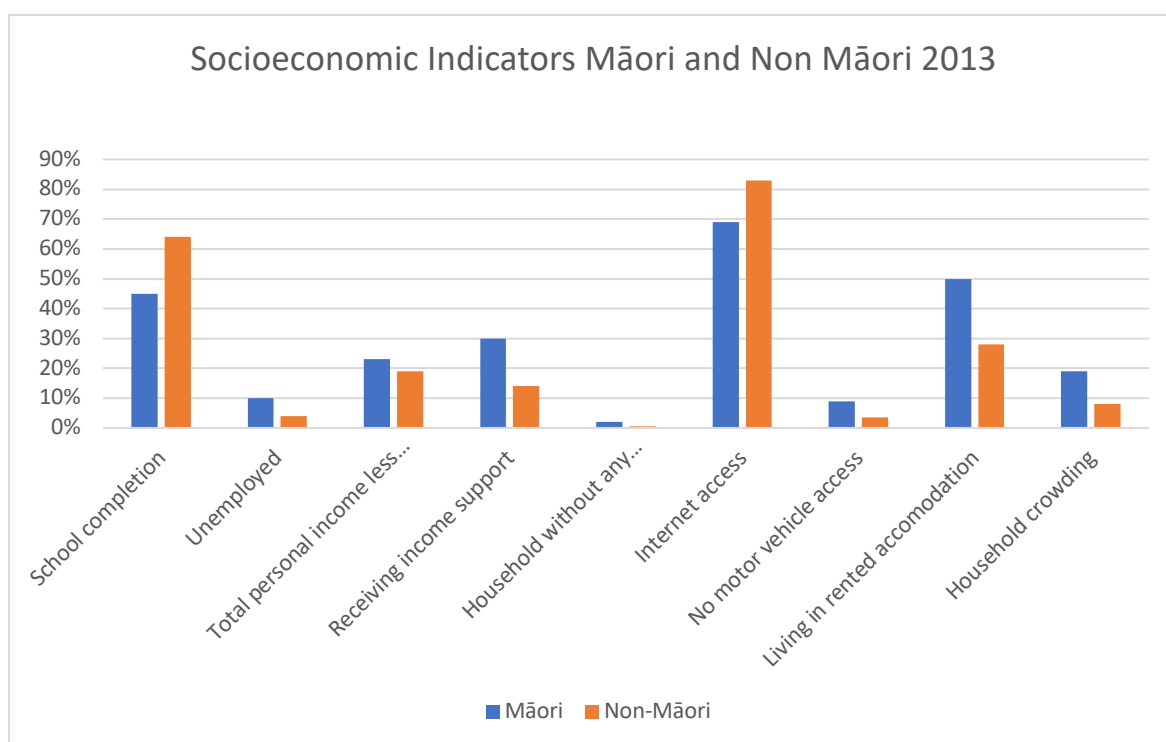
Figure 13 – Socioeconomic indicators for Māori and non-Māori 2013

PATHWAYS TO THE FUTURE

In this final section, we propose a theory of the whānau and discuss two possible pathways toward Māori wellbeing economies for whānau. First, whānau as enterprise with a focus on how whānau differentiates Māori approaches to enterprise development. Second, how Māori human capital can support workplaces and employees to be high performing and contribute to Māori wellbeing.

A theory of whānau

> True leadership will not bind us, it will set us free – Dame Mira Szaszy

> Ko te iwi kaore ana te moemoe ana, he iwi ngaro; A people who do not have a vision are lost – Canon Kohere

We stand at a threshold where in important ways, Māori can envision a more hopeful future than has been possible in the past 200 years. Conversely, the future, cast against the stark forecasts made in the first chapter, is challenging and bleak if the trends stack together and create a 'perfect storm' for Māori from the combination of critical events. The main aim of this section is to address these future potentialities and steer whānau toward more hopeful outcomes. We now turn to a theory of whānau and the possibility that this core unit of Māori society will guide Māori into a hopeful future. This theory of whānau is both a central interpretive lens and an armature upon which other useful concepts, such as organisations, institutions, wealth, and needs, will be overlaid.

Whānau is often translated as either 'family' or 'extended family, though in reality, it has a far more sophisticated and nuanced meanings. It includes "physical, emotional and spiritual dimensions and is based on whakapapa. Whānau can be multi-layered, flexible and dynamic. Whānau is based on a Māori and a tribal world view. It is through the whānau that values, histories and traditions from the ancestors are adapted for the contemporary world."[720] Regarding the traditional flexibility of whānau, Tā Durie found:

> While the traditional whānau arrangement and its related obligations and responsibilities to hapū and iwi was appealing to some Māori, for other Māori choosing a type of family arrangement that suited individual and family preferences was more logical given the economic driven environment. The location, nurturants, socio-economic realities and exposure to traditional cultural practices influenced somewhat how each individual and whānau formed and maintained their Māori identity.[721]

Kaupapa and whakapapa whānau

Metge identifies two kinds of whānau, a whakapapa-based whānau – the more commonly conceived form – and a kaupapa-based whānau.[722] Kaupapa-based-whānau place particular stress on the other characteristic feature of the whakapapa-based-whānau, that is, whānau values and the ways of working derived from them.[723] For all this variability, there was a fairly common set of conceptions that can be used to define the whānau in terms of structures and functions:

- a family group usually comprising three generations – an older man, his wife and some or all his descendants and in-married spouses, or some variant such as brothers, their wives and families;
- a domestic group occupying a common set of buildings;
- a social and economic unit responsible for the management of daily domestic life, production and consumption;
- the lowest tier in a system of socio-political groups defined by descent through common ancestors traced through links on both sides (the middle tier was hapū and the highest tier was iwi).[724]

Sadler describes the family group whānau in a nuanced manner that notes the various roles: "the whānau consists of tūpuna (kaumātua and kuia), mātua and whāea (parents, aunts and uncles), tuākana (elder relative of the same generation), teina (younger relative of the same generation), tuahine (referring to a sister by a brother), tungāne (referring to a brother by a sister) and tamariki and mokopuna (youngest generation and grandchildren)."[725]

Whānau types

Today the whānau has variegated expressions, and Tā Durie has set out whānau arrangements across a spectrum that ranges from whakapapa whānau to kaupapa whānau:

- whānau as kin: who descend from a common ancestor
- whānau as shareholders-in-common: who are shareholders in land;
- whānau as friends: who share a common purpose
- whānau as a model of interaction: for example, in a school environment
- whānau as neighbours: with a shared location of residence
- whānau as households: urban dwellers
- the virtual whānau: that meets in cyberspace due to geographical separation

- the 'kaupapa whānau' those whānau that are not based within whakapapa relations.[726]

While the whānau may have been the lowest tier in terms of scale, traditional Māori society generally had a reverse power hierarchy, where it moved from the smaller whānau group down through to hapū and then to iwi.[727] Traditional Māori society can be viewed as expanding networks of whānau, conglomerating into hapū, iwi, and waka. Traditional whānau organised and maintained themselves primarily amongst other whānau in their hapū. Moeke-Pickering explains the "whānau environment acculturated its members into a sense of collective affiliation, obligatory roles and responsibilities and the importance of uniting people. The value of maintaining collaborative relationships within the whānau and hapū were taught to the young and in turn passed onto the next generation."[728]

In significant ways the whānau has gone from the site of invention to the site of intervention. Even Whānau Ora, which takes a whānau-centred approach to wellbeing and development, is focused on supporting struggling whānau to "enter the world" as Tā Durie suggests:

> The overriding aim is that whānau should be self-managing and self-directing, equipped to enter fully into society, education and the economy, and to be confident and active participants in the Māori world. [729]

This project seeks to develop a framework within which whānau wellbeing can be increased; thus the whānau forms the core focus. This endeavour requires a theory of whānau to be developed, one that will be the framework upon which whānau wellbeing can flourish. Already in contemporary settings, the "concept of whānau is used widely by many groups and organisations to provide a management framework for organising and managing relationships."[730] Whānau has been found to be advantageous in the work experiences of Māori employees.[731] Māori have used it to provide a framework in which to assist and support Māori initiatives by Māori businesses, committees, land trusts, health groups and family groups.[732]

Whānau as a concept has always had flexibility, and this flexibility will be used as we construct a 'theory of whānau' which places them as the central organisation in a Māori wellbeing economy best suited to building wealth and fulfilling needs. These whānau might be either whakapapa-based or kaupapa-based. Every whānau needs to operate within a wider network of whānau, which can be imagined as a decentralised economy, or rather economies, where there are numerous whānau nodes. Some nodes will be grouped into hapū clusters – both whakapapa and kaupapa constituted – all operating within an institutional framework designed to build wealth across domains and

enable whānau wellbeing. These whānau nodes and hapū clusters can be viewed as loci of mutually-beneficial exchanges, with the hapū clusters providing the scale necessary for certain economic activities, just as traditionally entire hapū would work together when the task and equipment needs demanded it, such as seine net fishing. Developing decentralised networks that constitute an economy is easier than it has been since colonisation. A "key proposition about the information revolution is that it favors and strengthens 'network' forms of organization."[733]

A framework for conceptualising whānau

The reason for couching this theory of whānau in the language of organisations, institutions, wealth, and needs is that this helps connect the kaupapa of this project into the wider national and international wellbeing mahi – in particular Treasury's Living Standards Framework (LSF).[734] The LSF was updated in 2021 to reduce the emphasis on capitals and use more common language (e.g., social cohesion instead of social capital, natural resources instead of natural capital). It also considers he ara waiora as a Māori framework for wellbeing and does not try to integrate the two but places them alongside each other; not one (LSF) before the other (he ara waiora). However, this does not mean a complete lack of congruence between these concepts and te ao Māori. In the following section, the concepts of organisations, institutions, wealth, and needs will be expanded on, and the congruences with te ao Māori outlined. However, a brief overview is that:

- Whānau need to be the central organisation in the Māori wellbeing economy. Organisations are structures bound together by a common purpose to achieve objectives, in this case, wellbeing, through satisfying needs. **From a te ao Māori perspective, this can best be understood through whakapapa and kaupapa.**

- Organisations and economies reflect the institutional framework in which they are embedded. Institutions are the humanly (and or metaphysically) devised constraints regulating human (and for Māori non-human) interactions, from deeply held beliefs and values to specific laws and traditions. The current institutional framework that shapes both organisations and the economy is rooted in an Anglo-centric framework, for a Māori wellbeing economy there needs to be institutional change. **From a te ao Māori perspective, institutions are found in mātauranga, kaupapa, and tikanga.**

- There are four key forms of wealth – natural resources, social cohesion, human capability, and financial/built capital – which are the resources needed to meet human needs in a wellbeing economy. **From a te ao Māori perspective, wealth can be understood as**

the cosmic forces of mana, mauri, tapu, hau, and wairua. Furthermore, 'natural resources' are understood as kin and have their own needs.

- Finally, needs theory identifies a set of universal needs all humans have. Meeting these delivers wellbeing, so needs theory provides the objectives of the Māori wellbeing economy. **From a te ao Māori perspective, the satisfiers of needs are Māori values.**

Organisations – whakapapa and kaupapa

Organisations are "groups of individuals bound together by some common purpose to achieve certain objectives".[735] Whānau, like hapū and iwi, are central Māori organisations. The closest analogue in te ao Māori to organisations is whakapapa, not just genealogical relationships but more expansively as the central organising principle of Māori reality – one in which relationships are one of the most fundamental elements of existence. The other analogue is kaupapa, whānau can be an organising principle for action around which a grouping of people forms.

"Most discussions of institutions", as Bouma notes, "fail to distinguish institutions and the organisations associated with them, many using the term institutions to refer to organisations".[736] Bouma explains that "Institutions are clusters of norms which have emerged through social interaction… Organisations, by contrast, are structures of social relationship, social actors arranged in positions and roles; usually, but not always, deliberately arranged and designed to achieve some end or ends".[737] In short, while institutions provide the framework of possible action, organisations are the actors that act within that framework. As North notes, "organizations that come into existence will reflect the opportunities provided by the institutional matrix."[738] This point is critical, the actions of an organisation will reflect the institutional framework within which it operates, which helps explain why iwi are the central Māori institution in contemporary society – the settler framework has pushed this form of organisation. This creates several issues for Indigenous peoples living in settler societies where the institutional framework is an externally imposed rather than internally negotiated.

Institutions – Mātauranga, kaupapa, and tikanga

Institutions are "the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interactions" and can be either formal (constitutions, laws etc.) or informal (norms, customs, mores, and traditions etc.).[739] They "structure incentives in human exchange, whether political, social, or economic"; in other words, "institutions define and limit the set of choices of individuals."[740] Mātauranga, kaupapa, and tikanga together can be seen as

providing an institutional framework for traditional Māori society. While traditional institutions were not formal in the sense that they were enshrined in a written constitution, they can be seen as moving from the deeper held beliefs of mātauranga down through the more specific applied rules of tikanga.

Institutional economics is a powerful analytical tool that provides insights into the interactions between societies and the differing forms of economies that emerge from them, depending on their institutions. Williamson outlines four interacting institutional levels, the highest is social embeddedness, which includes norms, customs, values and traditions. The next level is the 'formal rules of the game', such as laws. The third level is the 'play of the game', things like contracts, and finally, the bottom level is the market, where the exchange of goods and services is regulated by supply and demand.[741] These can be generalised summarised as representing the social/cultural, political, legal and economic levels. The social/cultural is primarily informal, with the other three largely formalised. Together, these levels represent a society's institutional framework and is what shapes and constrains an economy, and a Māori wellbeing economy will not exist without some form of institutional framework that actively supports it.

Wealth – Mana, mauri, tapu, hau, and wairua

Following the LSF, rather than refer to 'capitals', this project will use natural resources, social cohesion, human capability, and financial/built capital as core concepts to analyse and measure 'wealth', with the acknowledgement that much of the literature will refer to these all as capitals. The TPK addendum to the LSF makes clear connections between these forms of wealth and te ao Māori, noting that kaitiakitanga, mauri, and wairua guide relationships to natural resources, tikanga, kawa, mātauranga and manaakitanga are critical components of social cohesion, mātauranga, wairuatanga and mauri are key elements of human capability, while mana is the key factor in financial/built capital.[742] However, here we think it more beneficial to focus solely on what Hēnare calls the cosmic forces of mana, mauri, tapu, hau, and wairua.[743] Together these are the source of vitality in the cosmos, they enervate reality whilst also channelling and corralling the actions that occur. The four types of wealth identified by the LSF are, from a te ao Māori perspective, manifestations of these cosmic forces.

Vemuri and Costanza note that these four forms of wealth have limited substitutability between them and argue that a balance between these forms is "necessary to satisfy human needs and generate individual and community well-being."[744] The TPK addendum to the LSF also describes that these four forms of wealth are more interlinked in te ao Māori. We might go further and note

the difference for Māori is that financial/built capital is rarely if ever the goal but rather functions as a means for growing wealth across the other domains.[745] The institutional framework of a Māori wellbeing economy needs to focus on growing the wealth across these four in a holistic, mutually-beneficial manner. One critical caveat here is that the LSF and other Western-oriented understandings usually present an instrumental and linear relationship between wealth – particularly natural resources – and wellbeing. From a te ao Māori perspective, the natural world is kin and has needs.

Needs – Māori values

Human needs can be defined broadly as the 'elements required by humans for physical and psychological health' and while there is much debate about whether they are 'universal' or not, the power of the concept is that within the universality, there is room for difference as well. However, as noted above, from a te ao Māori perspective, the needs of the natural world also need to be considered as fundamental as those of humans. Human needs theory emerged out of Maslow's work with Blackfoot First Nation in Canada, so its use here brings it back almost full circle.[746] Our approach will use the more sophisticated work of Chilean economist Max-Neef, who identified nine axiological human needs: subsistence, protection, affection, understanding, idleness (leisure), creation, identity, and freedom. These are expressed according to four existential categories of being, having, doing, and interacting. Finally, each need across each existential category has an array of satisfiers which meet that need. These can be placed in a matrix, though the satisfiers are not exhaustive, and it is here that the flexibility within the universality is provided.

There are no listed 'needs' in mātauranga; however, Māori values can be seen as the imperatives that satisfied needs – i.e., rangatiratanga satisfied subsistence, protection, and freedom. Ensuring Māori values are at the core of need satisfaction, and thus wellbeing, is critical - as TPK explains:

> Pere (1986) and Durie (1994) suggest that, for Māori, wellbeing is linked to understanding the values that drive them. Understanding these te ao Māori values adds another dimension for thinking about wellbeing.

In their own way, Māori values encompass the same terrain as human needs, providing a framework in which needs – both human and nonhuman – and their satisfiers can be located.

Whānau as enterprise

In keeping with Durie's[747] notion of multiple whānau types, 'whānau as enterprise' is proposed as a pathway toward Māori economies of wellbeing. Pakihi means business and whānau extended

115

family. While pakihi-ā-whānau means the conduct of business through family, pakihi whānau refers simply to family business whereupon the identity and modality of enterprise is constituted in the family. That said, whānau enterprise is used as the preferred term for family firms owned and operated by Māori and operate according to a mix of Māori and non-Māori values.

Whānau and family business are, however, not the same thing. The spiritual, physical, historical, social, economic, and political dimensions alluded to in the earlier theoretical discussion on whānau illustrate its conceptual distinctions. Whānau has a deeper connotation beyond family, extending to the cosmological connection between human and nonhuman elements[748] and the fundamental principle of indigeneity as the interrelatedness of all things.[749] A focus on whānau is not purely abstract; it is a site for understanding persistent poverty among ngā uri pōtiki (young children) as a serious moral crisis and legitimate pathways from it using Māori knowledge.[750] Evidence suggests Māori and Pasifika children are disproportionately living in poverty, their families occupy jobs vulnerable to cyclical downturns, poverty correlates with family violence, and Māori and Pasifika world views must inform poverty reduction and wealth creation strategies.[751] In this context, Hēnare notes that the "whānau is considered the fundamental social unit and the domestic economy within which children are nurtured, educated and raised." Traditionally, whānau lived in whare (households) in relative proximity in kāinga (villages), which despite limited material means, resisted destitution and were able to nurture children. A good life for Māori, therefore, is one in which mauri (life force) is maintained and enhanced, representing a key indicator of policy efficacy but one not presently in use.[752]

Whanaungatanga and Māori enterprise

Several authors explore the relationship between whānau and enterprise. Nicholson et al.,[753] for instance, argue that whanaungatanga, a derivative of whānau that means family or kinship relationships in its broadest sense, extends the concept of familiness in family business to incorporate the spiritual and pragmatic differences of what it means to be whānau. In the entrepreneurship literature, familiness denotes the distinctive capabilities that help family firms compete.[754] These capabilities include common aspirations, skills, and resources available to the firm because the family are members of the firm, they interact with one another, are involved in it, and vested in its outcomes because they and their descendants stand to gain from doing so.[755] Pearson et al. use social capital theory conceptualise familiness as cohering in the structural properties of social ties, the cognitive dimensions of shared meanings, and relational resources of personal interaction [756]

Nicholson et al. argue that familiness differs in important ways when interpreted within a Māori worldview.[757] First, whānau "is at the heart of all other relationships".[758] Second, social and cultural capital distinctions disappear because one depends on the other. Both orient whānau enterprise toward collective wealth measured in terms of multidimensional wellbeing—spiritual, environmental, kinship, and economic.[759] Third, Nicholson et al.[760] argue that relational wealth, which Spiller et al.[761] define as relationships grounded in valuing the intrinsic worth others, is an essential element of whanaungatanga. Moreover, whanaungatanga is intensified in enterprise collaboration through the principle of kotahitanga—unity and solidarity—and behaviour, which mana-enhancing because this invokes the strength of reciprocal relations between family and nonfamily members.[762] Whānau are not immune to conflict, impeding whanaungatanga, depriving whānau enterprise of the benefit of distinctive capabilities of familiness from a Māori perspective.

Whanaungatanga and Māori entrepreneurship

Haar and Delaney explore whether cultural variables, specifically whanaungatanga, assist Māori enterprises in generating competitive advantage. They see whanaungatanga "as a resource able to be called upon by Māori entrepreneurs who have family and tribal connections enabling the entrepreneur to leverage off the collective".[763] The essential argument is that investing in kinship relations, those based on blood ties and common interests, through the practice of whanaungatanga may create social capital that is available to support entrepreneurial endeavour and firm performance. Despite contestation about whether evaluating Māori values using cost-benefit analysis is appropriate, Haar and Delaney employ Porter's value chain model to indicate the multiple forms of value which Māori entrepreneurs might derive from whanaungatanga.[764] Prospective benefits include the value of institutional knowledge offered by senior whānau members, contributions of whānau labour and finance at low or no cost, and inimitable kinship bonds of whānau members. Haar and Delaney identify the need for empirical research on whether and how Māori entrepreneurs are using whanaungatanga as a resource during startup or growth cycles of the firm to reduce the risks of failure, and conversely, improve the chances of success.[765] The need for empirical research on the relationship between Māori values and Māori firm performance is an overriding implication.

Whānau and iwi economic principles and strategies

In contrasting the economic principles of Māori and Pākehā in Aotearoa New Zealand, Cross et al. conclude that the approaches are "not fundamentally incompatible."[766] During early contact with European settlers, Māori successfully applied European economic strategies while

maintaining their own economic principles. Still, the subsequent demise of Māori economic sovereignty and subjugation of Māori people is a root cause of Māori social economic disparity. They argue that the State has an important role in re-empowering Māori economic sovereignty and iwi and whānau are economic units. They cite the Pūao-te-ata-tū report, which in 1986 called on the Department of Social Welfare to eliminate cultural racism, deprivation, and alienation.[767] Cross et al. see this problem in economic terms as requiring an equitable allocation of resources. They define economic principles as "the philosophies, priorities, organisational frameworks and decision-making systems that underlie any economic system" and economic strategies as "the outward appearance of that system."[768]

While Māori and Pākehā economic strategies have tended to converge, their economic principles, which have to do with ownership, valuation, organisation, and decision making, remain divergent.[769] Whānau, hapū, and iwi as Māori forms of organisation were interlinked through common ancestry, collectively owned tribal lands, and governed by rangatira as chiefly leaders applying collective consensual decision making. Four enduring economic principles common to iwi are: first, "community of ownership and of economic activities;" second, "intertemporal and intergenerational responsibility…, to both ancestors and descendants;" third, mana is conditional on the ability to use and conserve resources; and fourth, the "inseparability of wairua (spirituality)… and orang[a]…from land and its economic value."[770] The Māori economic principle of "communality" contrasts with the Pākehā economic principle of "individuality" which applies to ownership, income, wealth, and distribution.[771]

The initial complementarity of Māori and Pākehā economic strategies between 1769 and 1850, where tribes were "in control of their own economies and their own transformation" within "communal ownership, organisational and distributional frameworks," individualisation of land title, seizure of Māori land, an enforced shift of Māori into wage labour, and migration to urban areas and into marginal unskilled jobs signalled the subordination of the Māori economy by Pākehā economic principles and strategies.[772] Māori economic and social disadvantage followed this involution of the Māori economy by colonisation,[773] and had the potential worsen dramatically as a consequence of economic restructuring and neoliberal principles, which emphasised private ownership and market price as methods for valuation.[774]

Māori were notable for their lack of success in the two main methods for escaping socioeconomic disadvantage—procuring marketable skills through education and producing marketable products through entrepreneurship.[775] Cross et al. argue that the solution lies in culturally appropriate education, Māori establishing their own educational institutions, and re-empowering the validity

of Māori economic principles, particularly among iwi and whānau.[776] All three strategies have been pursued by Māori and the Crown with varying success over the 30 years since the Cross et al. analysis, but the shifts in policy, practice and outcomes have been incremental at best.[777]

According to Cross et al., Māori economic success is contingent on re-empowering culturally appropriate economic principles (mana motuhake, appropriate scale, communal resource ownership, contribution and benefit), revitalising the cultural identity of iwi and whānau because of the inseparability of spirituality from the physicality of resources, and addressing unresolved questions of ownership of resources.[778] Treaty settlements have been instituted to address injustices in resource ownership,[779] Māori cultural identity and values are increasingly present in Māori economic thinking and practice at individual[780] and firm levels.[781] Reid and Rout, in particular, advocate for a return to the original economic instructions of the tribe as a normative script for tribal economic development in part because of their capacity for complementarity with Pākehā economic principles.[782]

Whakawhanaungatanga and kaupapa Māori theory

Gillies et al. focus on whakawhanaungatanga, rendered as networking in English, but in Māori terms, refers to the formation of kinship relationships, inclusive of "enduring obligation and reciprocity", underpinned by the principle of whakapapa.[783] As one of the four dimensions of Durie's whare tapa whā framework, te taha whānau, according to Gillies et al. encompasses belonging and identity, and constitutes social wellbeing.[784] Whakawhanaungatanga emphasises building and strengthening relationships and establishing whakapapa-based (genealogical) connections.[785] Whakapapa-based networks, once formed, establish lifelong connections sustained by a reciprocal obligation to give something in return for what was taken.[786] Whakawhanaungatanga in this view of it was applied to all aspects of their research with hapū. Research that takes without giving something in return is inconsistent with whakawhanaungatanga. Emphasis was thus on reciprocating the knowledge taken with the knowledge gained in hapū-centred research.

Whanaungatanga and Māori enterprise collaboration

Māori enterprise collaboration is an example of where the principles of whānau (extended family), whanaungatanga (kinship relationships), and whakawhanaungatanga (establishing kinship relationships) are being studied and practised. For instance, Smith et al. identify relationships and the collaboration that flows from them as one of several factors in the economic success of tribes.[787] They distinguish between relationships, which are based on tikanga and shared

119

whakapapa, and collaborations, which are project-based and, therefore, time-bound. Joseph et al. more directly evaluate the role of collaboration in the economic performance of Māori enterprise.[788] Joseph et al. characterise collaboration as responsive, conditional on effective relationships, underpinned by equity in power-sharing, grounded in a compelling reason, shared vision, open communication, and a coordinating infrastructure. Of the nine factors for effective collaboration that Joseph et al. identify, two have direct relevance here: first, collaboration is catalysed by a crisis, threat or opportunity; second, ideological and geographic proximity in relationships supports collaboration. Whakawhanaungatanga establishes whanaungatanga and the potential to be and act as whānau in enterprise settings. In other words, Māori enterprise collaboration occurs when there is a compelling reason to do so, shared aspirations and meanings are established, and there is the confidence that the underlying relationship is not at risk and the capacity for collaboration is available.

Te hononga—the connection

Mika et al. extend this research in Māori enterprises by exploring the rationale, process, and outcomes of collaboration in Māori enterprises that involve multiple contributions of Māori and non-Māori as owners, operators, investors, and partners.[789] Collaboration in te ao Māori terms is the "process of working together... to achieve a shared ideal... [that is] more transformational and driven by collective interests" underpinned by tikanga.[790] Māori collaborate in these cases for "collective well-being and to be self-determining as Māori".[791] A framework called te hononga identifies constitutive, instrumental, and consequential elements that indicate the potential, capacity and impact of Māori enterprise collaboration.[792] Collaboration in this model builds on the relationality of the Māori world view, existing whakapapa relationships among whānau, hapū and iwi, and assists Māori to achieve scale and impact in the marketplace.[793]

Characterising whānau

When te ao Māori is viewed as an expanding network of whānau, aggregating as hapū, iwi, waka, and pan-Māori, then disaggregating again to its collective root, the omnipresence of whānau as an organising principle in this Indigenous society becomes evident. A traditional view characterises whānau as a self-identifying, self-sustaining, self-mobilising entity that draws upon and contributes support to other whānau, who act together in reciprocal ways, reinforcing their common origin, existential interdependencies, and advance their shared aspirations, including enterprise. Whānau functioning is, however, not without disruption. Discord is a natural occurrence, marked by the gods who debated how they should separate their primal parents, Ranginui and Papatūānuku, and

continued to quarrel long after the separation. They derived from this discordance the world of light and enlightenment—knowledge in other words. Whānau we argue are intertemporal. They enjoy an endless continuity with the earliest known elements of te kore and te pō, occupy the present known as te ao mārama, and stand as latent ancestral legacies of future generations by way of whakapapa.

Whānau is, according to its multiple definitions, an entity upon which a person can depend for the satisfaction of their social, cultural, economic, spiritual, and physical needs regardless of their abilities, stature, or other intrinsic and extrinsic qualities. This is because they are born into, marry into, or are members of whānau by friendship or some other nonbiological affiliation. Membership of whānau establishes an identity, an affiliation, a set of obligations, a hierarchical structure linked to birth order and accepted claims of leadership, and a code of right and proper behaviour. Each member is simultaneously responsible for the whānau and the whānau for each member—tikanga Māori. Whānau usually sustain social cohesion through daily interaction, though members may be separated by physical and social distance by need and now by choice, forming whānau diaspora.

Whānau wellbeing is affected by the availability of economic and social opportunities. Still, the absence of either may not be a sufficient reason for the collapse and relocation of whānau to places perceived as more prosperous. The villages of Minginui and Kāingaroa, for example, remain despite the demise of the commercial forestry industries upon which each was built.[794] The whānau who live in these villages are, however, likely to experience high rates of deprivation and occupy ageing homes, but deprivation in of itself is not a reason to evacuate, leaving whānau with whom and in places they have lived for generations.[795] By remaining, these village settlements and the whānau they contain become vulnerable to exclusion from the affordances of mainstream society. However, still they seek new ways of eking out livelihoods from whānau capabilities and resources. The opportunity set is at once expanded when the broadest definition of whānau is applied, one which is inclusive of human and nonhuman entities, the living and nonliving—all are kin, all are whānau, occupying the great unity that is te taiao.[796] In this view, commercial opportunities and costs are a narrow subset of the full range of credits and debits.

Whānau engage in activity that satisfies the needs of the whānau not because an income is to be derived from doing so but because this is what whānau do. When an unfulfilled need is identified, the whānau will act collectively to fulfil it. When a surplus is generated, the whānau will act to distribute it. When a threat is perceived, the whānau will act to defend against it. When an opportunity is perceived, the whānau will act to bring it to fruition. When whānau argue, they will find ways to resolve their dispute or remove themselves and reform whānau elsewhere. Whānau

may engage in informal and formal economies out of circumstance, out of choice, or both, and may be institutionally and socially constrained from exiting the hidden economies. Whānau are adaptive, readily assimilating new technologies, processes, and structures that satisfy their needs and continuity. Whānau are thus flexible and enduring because of their collective strength and an imperative for intergenerational equity.

Māori human capital

He aha te mea nui o te ao?

he tāngata, he tāngata, he tāngata

What is the most important thing in the world?

it is people, it is people, it is people

The above *whakataukī* (proverb) is famous amongst Māori and highlights the importance of people in Māori culture. This section focuses on the workplace setting and thus Māori employees. Here, the context focuses on the Māori workforce as human capital. Initially, background details are explored to set the scene for Māori in work, and then this is applied to human capital literature and theory, and then applied to Māori to gain a solid background to Māori human capital.

Human capital

Alpkan, Bulut, Gunday, Ulusoy, and Kilicdefine human capital as "the sum of the individual knowledge, skills and abilities of the organizational human resources". [797] There are many types of capital within organisations, although it is well supported that human capital is foundational to all forms of intellectual capital arguments.[798] Dakhli and De Clercq argue that human capital is fundamental to organisations and is entrenched in the skills, knowledge, and expertise of their workforce.[799] Haar, Martin, Ruckstuhl, Ruwhiu, Daellenbach, and Ghafoor state that "Importantly, these factors are not seen as being static: a workforce can be developed and enhanced through formal or on-the-job training, as well as specific experience."[800] Youndt and Snellstate "organizations, in and of themselves, do not create knowledge, people do", and hence those authors see human capital as vital to organisational performance. [801] Haar et al. state that "overall, human capital reflects an enterprises workforce, and the associated Knowledge, Skills and Abilities (KSAs) it has". [802] Human capital is clearly important, and there is a meta-analysis by Crook, Todd, Combs, Woehr, and Ketchen showing support for organisations with superior human capital out-perform their competitors. [803] Hence, human capital is able to enhance organisational performance and facilitate the development of a competitive advantage.

122

Youndt and Snell suggest two main ways that organisations can enhance their human capital.[804] First, through recruitment, selection, and retention of highly skilled workers. Haar et al. suggest this might include "hiring top graduates or poaching top talent from competitors".[805] Hence, the organisation goes to market and seeks to recruit and select the best talent available. Second, organisations can take a more internal approach, where in effect, they seek to 'grow' their own talent. Haar et al. state this can be achieved "through various processes such as training (e.g., MBA and leadership programmes etc.)".[806] In summary, human capital represents, at a societal level, the KSAs of the workforce, and they are important because a society with a higher skilled workforce is likely to be prosperous. The next section provides background on Māori and their role as human capital in the Aotearoa workforce.

Background to Māori in work

In the Aotearoa economy, the median earnings of Māori employees are 10% lower than those of New Zealand Europeans.[807] The latest New Zealand Census data shows that when we compare the top range of income, only 1.1% of Māori workers are in the top income band ($150,000 or more), compared to 2.9% for other New Zealanders.[808] This represents a 264% difference for Māori employees at that top income range. Similarly, Māori are over-represented when the low-income groups are examined.[809] For example, for zero income, Māori make up 8.0 versus 6.8% (all others). For income $15,001-$20,000, Māori make up 11.7 versus 9.9% (all others) and for the $35,001-$40,000 group, Māori make up 5.9 versus 5.6% (all others). After the $40,000+ groupings, Māori have a lower proportion of income rate compared to all others for every income level. Thus, Māori make up more employees proportionally earning less money and less earning more money.

Beyond income, it is also critical to recognise the role of employment and specifically unemployment in Aotearoa for Māori. Within the Aotearoa workplace, Māori are at distinct disadvantages. Even in an economy with record low unemployment, Māori are still disproportionately disadvantaged. For example, the unemployment rate in Aotearoa for New Zealand Europeans (the ethnic majority) is 2.6% compared to the Māori rate of 7.0%, which is 269% higher.[810] Indeed, this disparity is an historical continuation for the Māori workforce. Similarly, Māori are over-represented in the New Zealand underutilisation rate, which reflects the proportion of individuals in the extended labour force – thus including both underemployed and unemployed. For Māori, this rate is 17.5%, but for New Zealand Europeans, it is 9.2%,[811] reflecting Māori have a higher rate at 190%. Hence, Māori are disadvantaged in terms of income and employment, even in a world of record tight unemployment.

So, why are Māori critically disadvantaged in income and job opportunities? One key reason is explained by education. Māori are more likely (25.3%) to have no formal education compared to 18.2% for others,[812] while Māori achieve tertiary education with 8.4% of the Māori population with a bachelor's degree, this rate is much higher (14.6%) for non-Māori. The disparity in education is accentuated at the highest qualification levels. Māori with a master's degree (1.3 versus) are at a much lower rate – 284% lower rate compared to non-Māori at 3.7 %. At the PhD level, Māori are at 0.3 % versus 0.8 % for non-Māori, representing a 267 % lower rate.[813] Similarly, an important determinant of income for Māori is around occupations. While 13.0% of Māori workers are in manager positions, this is less (18.0%) than non-Māori. Similarly, Māori as professionals (16.3%) are less frequent than non-Māori (23.0%) (Statistics New Zealand, 2021a). Further, Māori are more numerous in less skilled roles like labourers (19.4% for Māori versus 11.3% for non-Māori) and machine operators and drivers (9.1% for Māori versus 6.0% for non-Māori.

Finally, the last factor explored here is employment status, where Māori at 6.9% are significantly lower as self-employed compared to non-Māori at 17.1%. Similarly, Māori, at 2.8%, are much less likely to be a business employer compared to 14.5% for non-Māori.[814] This difference of 515% in the likelihood of being an employer is critical. This is because, from an economic perspective, business ownership includes the control of capital. Hence, the lower rate of Māori as self-employed and employers means they do not control capital to the same level as other New Zealanders. In summary, Māori human capital is likely to be less effective than New Zealand European human capital in the Aotearoa workforce. This is important to understand as we seek to build a whānau economy.

Māori workforce challenges

The linkages between education, employment, and income are important because they affect the Māori workforce in regard to its human capital and influence on organisational performance[815] as well as wellbeing. Indeed, income plays a critical role in wellbeing.[816] Further, Howell and Howell[817] conducted a meta-analysis on economically developing countries, using a total of 111 independent samples. They found a positive effect of economic status on wellbeing, stating that the strongest effect "among low-income developing economies (r=.28) and for samples that were least educated (r=.36). The relation was weakest among high-income developing economies (r= .10) and for highly educated samples (r= .13)" (p. 536). Yap and Yu[818] noted that income is a critical wellbeing predictor, especially amongst indigenous populations, due to providing greater stability and being instrumental in achieving important cultural factors.

These factors might also influence Māori wellbeing and therefore, the whānau economy indirectly. The above data showed that Māori were more likely to be unemployed and in low-skilled and low-paying occupations. Hence, in the context of 2022 and high inflation,[819] Māori employees might be compelled to work longer hours. This is important because long work hours are negatively related to wellbeing.[820] Alas, Statistics New Zealand does not differentiate work hours by ethnicity, and thus there are no specific Māori breakdowns. But we do know that in Aotearoa, 16.3% of the workforce works 50 hours/week or more.[821] While one in ten workers are employed in more than one job, 20% work of these workers clock in over 60 hours of paid work per week (Statistics New Zealand, 2019). That said, while long work hours are linked to poorer work-life balance,[822] Māori were found to report the highest work-life balance across seven samples in six countries.[823]

In 2022, in a world economy of record tight labour markets, which has led to *The Great Resignation*, with evidence suggesting that high turnover is occurring in Aotearoa.[824] While organisational turnover is a natural business phenomenon, retaining key human capital is advantageous, especially if achieved beyond competitors.[825] Indeed, Takeuchi, Lepak, Wang, and Takeuchi[826] note that organisational retention is particularly important if the workforce is highly skilled. This aligns with the meta-analysis by Park and Shaw[827] who found that employee turnover was significantly and negatively related to organisational performance.

Another specific challenge for Māori – especially in relation to human capital and highly skilled Māori, relates to aronga takirua. Aronga takirua refers to the phenomenon of Māori workers undertaking a cultural "double duty" at work.[828] Thus, in addition to working their normal job, any Māori cultural activities or relationship-building activities with Māori communities are broadly subsumed into their work roles, if not explicitly outlined in their employment agreement. This is potentially a major stressor within the Māori workforce, which has the potential to damage organisational performance. This additional role as Māori cultural guide, connector or educator for colleagues and their institutions exerts considerable pressure on Māori employees.[829] Aronga takirua likely plays a critical role in Māori human capital especially around retaining Māori, because the research talks about career repercussions and turnover from that highly skilled sector.[830]

Finally, it is worth noting that the lower human capital of Māori may also be a by-product of especially challenging work contexts for Māori. Globally, there is growing attention to workplace experiences around discrimination amongst minority ethnicities.[831] Cardo[832] defines workplace discrimination as an individual's perception that they are treated differently in their workplace because of their ethnic makeup or background. Such discrimination operates at different levels, including institutions and individual organisations.[833] There is evidence, including at the meta-

analytic level, that shows that workplace discrimination exists.[834] However, while academic workforce evidence in Aotearoa New Zealand workplaces is lacking, there is a general level of understanding that Māori suffer high levels of discrimination in Aotearoa.[835] Indeed, the Human Right Commission[836] stated "structural discrimination is the "elephant in the room" when talking about ethnic inequalities" in Aotearoa New Zealand.

In summary, Māori face several challenges within Aotearoa regarding their human capital. However, the literature does provide insight and hope beyond the typically detrimental factors identified above. The Māori economy and attention to it is burgeoning with growing economic benefits for Māori, especially whānau, hapū, and iwi.[837] Importantly, the growing economic attention is occurring within the context of a Māori cultural renaissance,[838] including in academia, reflected in Māori approaches contributing to new areas including management, business, human resources, innovation, entrepreneurship, and leadership.[839] Hence, there is a growing body of evidence highlighting the unique contributions Mātauranga Māori (Māori knowledge) can add to the broad management literature.

Māori workforce advantages

Importantly, in the context of Māori human capital, there is growing understanding around of the work experiences of Māori employees,[840] although the intersection of Māori culture and work has only begun to be explored.[841] Indeed, empirical findings show Māori employees can react differently from what established literature suggests, which is dominated by research in western economies.[842] For example, the importance of whānau experiences rather than work experiences in shaping turnover thoughts are unique amongst the Māori workforce.[843] This finding highlights the importance of cultural factors like whānau because it is in direct opposition to much of the literature.[844] Another example is Haar and Brougham[845] who found Māori employee career satisfaction was dominated by cultural wellbeing, a factor not otherwise considered in the broad literature. Further, empirical studies comparing Māori worker experiences with non-Māori workers shows unique effects from work,[846] including more beneficial effects.[847] For example, one study compared Māori and New Zealand European employees' self-esteem derived from work and while the scores were not significantly different overall, the influence of work self-esteem on outcomes (e.g., job satisfaction) was much greater for Māori employees.[848] Such studies challenge the status quo and highlight the importance of examining Māori distinctly and not assuming their work experiences follow the western paradigm. Consequently, the above literature shows us that Māori human capital can rise above the systematic challenges noted above (e.g., education, employment,

income etc.) and report valuable and, indeed, better workplace outcomes that New Zealand Europeans.[849]

Māori human capital future directions

Aotearoa can positively shape and influence Māori human capital. For example, legislation broadly supports self-regulation and the duty to consult with Māori.[850] However, researchers have not largely engaged in the ways that organisations seek to enhance the human capital of the Māori workforce. One avenue that has begun to gain attention is around the role of Human Resource practices and the way they can enhance Māori employee job attitudes and behaviours.[851] Indeed, there is a whole literature on Human Resource practices, specifically High Performance Work Systems (HPWS), with Datta, Guthrie, and Wright[852] defining them as HR practices "designed to enhance employees' skills, commitment, and productivity". HPWS enjoy meta-analytic support towards firm performance.[853] There is also evidence that HPWS enhance employee job attitudes and behaviours including amongst the Aotearoa workforce.[854] Importantly, the literature has queried the universal nature of HPWS especially in distinct settings.[855] Fundamentally, they ask if all firms use HPWS well and get the same benefits out of them? This might be especially useful when exploring HPWS in the context of Māori human capital, especially in the context of strong historical deprivation effects from colonization.[856]

Theoretically, it is argued that bundles of these Human Resource practices are beneficial because they help recruitment and selection of the best human capital, which we would assume results in top Māori employees being hired. Subsequently, they are given training and development to upskill their human capital, aiding employees to operate more effectively.[857] In addition, they are motivated through Human Resource practices targeting work design, compensation, and performance management[858] ultimately aiding the Māori workforce to achieve superior performance via targeting human capital. This burgeoning research has shown that Māori employees respond favourably to HPWS that target Māori cultural values.[859] For example, Māori-centric Human Resource practices that focus on *te reo Māori* (Māori language) and *tikanga Māori* (cultural practices).

While there are several theoretical approaches to explaining the links between HPWS and performance[860] there is alignment with the Māori human capital approach examined in this section. Boxall[861] argues for the theoretical approach of the *human capital advantage*, which suggests that superior firm performance is generated through HR practices because they help form a highly talented and committed workforce. Boxall[862] defines the human resource advantage as the product

of two key factors. The first is having superior human capital, as noted earlier. Thus, at least theoretically, HPWS enables employers and employees to achieve a superior skilled workforce. Further, the *human capital advantage* needs more than a superior workforce, specifically advantages from organisation process that, in combination with a skilled workforce, makes the full human capital advantage possible.[863] These might include aspects of job design and modern compensation practices, that provide unique processes that maximise the efficiency of the highly skilled workforce. Boxall[864] notes that HR practices around employee training and development ensure firms can generate enhancements in their already quality workforce, which can ultimately enhance the performance of the workforce.

Importantly, within the HPWS field, there has been no exploration of these Māori-centric HPWS on Māori human capital. Either at the individual (employee) level or the organisational level. How do Māori-centric HPWS relate to building the Māori workforce? While traditional HPWS have been found to be beneficial for Māori employees,[865] this does present a useful direction to understand the way organisations in Aotearoa seek to build the human capital of the Māori workforce. Importantly, Haar et al.[866] found the overall level of Māori-centric HPWS to be modest and noted that there was plenty of room for Aotearoa organisations – both Māori and non-Māori – to provide better Human Resource practices to their Māori workforce. This chapter argues that such Māori-centric HPWS might provide cultural 'nourishment' in the workplace, enhancing the human capital of the Māori workforce. Thus, the future research approach from a Māori human capital perspective is to understand the way Aotearoa organisations seek to build and develop the human capital of the Māori workforce.

CONCLUSION

This report has detailed future trends and has taken an i ngā wā ō mua approach to look at the past to understand our way forward. Our purpose in this undertaking is to set the direction and design for the research project 'He oranga whānau: mahi ngātahi Whānau livelihoods within the context of work and Māori economies of wellbeing.'

The Present-Future-Pathway framework developed in this report has provided a somewhat grim outlook. We have mapped out significant trends that, if they converge, will have a significant impact on whānau livelihoods. By explicitly grappling with these, laying them out and looking carefully at the past trajectories of Māori responsiveness to adversities, we have laid a whāriki upon which this research is taking place. Our aim is to provide the highest quality evidence for Māori to make core strategic decisions and planning the development pathways for whānau livelihoods within the context of work and Māori economies of wellbeing. This aim includes helping whānau fulfil their vision and is thus aspirational as well as practical and real; honouring mātauranga Māori as a knowledge system in its own right; making sure that Māori are the kaitiaki of taonga; facilitating effective decision-making and change at multiple levels of engagement for example, from a policy perspective, they change the way government sees things, and producing functional and useful recommendations that are accessible, practical and useful tools.

> We look not only to the past, the present and the future. We look within ourselves, ki te puna e koropupu ana, e koropupu ana e kore e mimiti.[867] Hon Mahara Okeroa

Endnotes

1 Rittel and Webber coined the phrase 'wicked problem' in 1973 to explain the complexities of addressing problems. They contrasted wicked with resolvable 'tame' problems. Wicked problems are ambiguous, defy simple solutions and are subject to real world constraints. Read more at https://www.stonybrook.edu/commcms/wicked-problem/about/What-is-a-wicked-problem

2 In this report, we typically use the term Māori economy, however, we note that this ought not to imply a monolithic, homogenised perception of there being just one approach to Māori economic endeavour. A more accurate term would be 'Māori economies'. However, any 'economy' is diverse and multi-dimensional, and we use 'Māori economy' in this sense, noting such an economy is a process of effectuating wellbeing.

3 Glavish, (N.D.). 100 Māori leaders available at (https://100Māorileaders.com/dame-rangimarie-naida-glavish-dnzm-jp

4 Joseph, R & Benton, R. (2021). *Waking the Taniwha: Māori Governance in the 21st Century.* Wellington, NZ: Thomson Reuters, p. xxiii.

5 https://www.auckland.ac.nz/en/alumni/whats-happening/alumni-video-and-audio/ng_-taniwha--the-university-s-mori-alumni-network--explores-the-.html

6 https://www.beehive.govt.nz/speech/%E2%80%9Che-taniwha-he-tipua-he-tipua-he-taniwha-dragon-and-taniwha%E2%80%9D; see also book by Manying Ip https://aucklanduniversitypress.co.nz/the-dragon-and-the-taniwha-Māori-and-chinese-in-new-zealand/

7 Joseph, R & Benton, R. (2021). *Waking the Taniwha: Māori Governance in the 21st Century.* Thomson Reuters: Wellington, NZ., p. xxiii.

8 King, D., and Goff, J. (2006). *Māori environmental knowledge in natural hazards management and mitigation.* NIWA Client Report for GNS Science, p. 10-11.

9 Ruwhiu, D. (2009). The sleeping taniwha: Exploring the practical utility of kaupapa Māori in firm performance (Doctoral dissertation, University of Otago); McMeeking, S. (2021). Enhancing the Māori Innovation system in Joseph, R & Benton, R. (2021). *Waking the Taniwha: Māori Governance in the 21st Century*: Wellington, NZ: Thomson Reuters, p. 930; Tourism Recreation Conservation; Tourism Recreation (2019, December). The Sleeping Taniwha. https://trctourism.com/the-sleeping-taniwha/

10 Ellis, M (2020). p. 3.

11 Barry, P., Graham, L., & Barry, M. (2020). Iwi investment report 2019. https://www.tdb.co.nz/wp-content/uploads/2020/02/Iwi-Investment-Report-2019.pdf

12 https://www.theguardian.com/environment/ng-interactive/2021/oct/14/climate-change-happening-now-stats-graphs-maps-cop26

13 https://edition.cnn.com/2020/01/13/world/climate-change-oceans-heat-intl/index.html

14 https://www.theguardian.com/environment/2022/apr/04/ipcc-report-now-or-never-if-world-stave-off-climate-disaster

15 https://www.theguardian.com/environment/2022/apr/05/when-will-world-reach-global-heating-limit-ipcc-climate-crisis

16 https://www.theguardian.com/environment/2020/may/08/sea-levels-could-rise-more-than-a-metre-by-2100-experts-say; https://www.noaa.gov/news-release/us-coastline-to-see-up-to-foot-of-sea-level-rise-by-2050

17 https://www.nature.com/articles/s41467-019-12808-z

18 https://www.newshub.co.nz/home/new-zealand/2022/05/new-website-shows-kiwis-whether-their-home-is-at-risk-from-sea-level-rises-after-startling-new-predictions.html

19 https://www.newshub.co.nz/home/new-zealand/2020/01/alarming-new-map-shows-the-devastation-rising-sea-levels-could-cause-in-new-zealand.html

20https://www.treasury.govt.nz/sites/default/files/202107/Treasury_LTFS%20Consultation%20Doc%20Draft%20June%202020 21_v22_Single%20pages%20FINAL.pdf

21 https://www.noaa.gov/education/resource-collections/ocean-coasts/ocean-acidification

22 https://www.noaa.gov/education/resource-collections/ocean-coasts/ocean-acidification

23 https://www.reuters.com/article/us-climatechange-oceans-idUSKBN16E24S; https://news.mongabay.com/2009/12/climate-change-causing-irreversible-acidification-in-worlds-oceans/

24 https://academic.oup.com/icesjms/article/65/3/414/789605

25 https://www.nytimes.com/2022/02/23/climate/climate-change-un-wildfire-report.html

26 https://www.c2es.org/content/wildfires-and-climate-change/

27 https://www.theguardian.com/environment/ng-interactive/2021/oct/14/climate-change-happening-now-stats-graphs-maps-cop26

28 https://www.woodwellclimate.org/climate-change-food-security-crop-failures/

29 https://www.woodwellclimate.org/climate-change-food-security-crop-failures/

30 https://www.woodwellclimate.org/climate-change-food-security-crop-failures/

31 https://www.theguardian.com/environment/ng-interactive/2021/oct/14/climate-change-happening-now-stats-graphs-maps-cop26

32 https://climate.nasa.gov/news/3124/global-climate-change-impact-on-crops-expected-within-10-years-nasa-study-finds/

33 https://www.nationalgeographic.com/climate-change/how-to-live-with-it/weather.html?awc=19533_1651006507_8eb22cc6b581263f5461cce22c3d05ea

34 https://www.nytimes.com/2021/08/29/climate/climate-change-hurricanes.html

35 https://nz.news.yahoo.com/droughts-and-floods-the-effects-of-climate-change-on-the-world-leading-up-to-2050-144506352.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbvbS8&guce_referrer_sig=AQAAABvVV2q rc7Ch4Yzyz1QUhgNeL7JbDaOVzeajvsX8J4PO7vmk3gZGD2_MEek7wESKVoUT7fbbuiwIkQ52cOEJDwjWbHaKEJTUqO LQ9MWuh7AVdh7iSPd3HAF2pm_GMyDnLtlW1-o9qwj9xjAYdThwLaxTHJOeZ0mxjsX4O6V7D6Od

36 https://www.climatesignals.org/climate-signals/atmospheric-moisture-increase

37 https://www.reuters.com/business/cop/whats-difference-between-15c-2c-global-warming-2021-11-07/#:~:text=Warming%20of%201.5%C2%B0C,the%20impact%20on%20food%20production.

38 https://www.theguardian.com/environment/ng-interactive/2021/oct/14/climate-change-happening-now-stats-graphs-maps-cop26

39 https://climate.nasa.gov/ask-nasa-climate/3151/too-hot-to-handle-how-climate-change-may-make-some-places-too-hot-to-live/#:~:text=Raymond%20says%20the%20highest%20wet,begun%20to%20exceed%20this%20limit.

40 https://climateanalytics.org/latest/limiting-warming-to-15c-could-halve-human-exposure-to-lethal-temperatures-in-bangladesh-india-and-pakistan/#:~:text='The%20wet%20bulb%20temperature%20limit,limited%20to%201.5%C2%B0C.

41 https://www.nature.com/articles/d41586-019-03595-0

42 https://news.climate.columbia.edu/2021/11/11/how-close-are-we-to-climate-tipping-points/

43 https://www.theguardian.com/environment/2021/aug/05/climate-crisis-scientists-spot-warning-signs-of-gulf-stream-collapse#:~:text=Climate%20scientists%20have%20detected%20warning,meridional%20overturning%20circulation%20(AMO).

44 https://www.theguardian.com/environment/2021/aug/05/climate-crisis-scientists-spot-warning-signs-of-gulf-stream-collapse#:~:text=Climate%20scientists%20have%20detected%20warning,meridional%20overturning%20circulation%20(AMO).

45 https://www.theguardian.com/environment/2021/aug/05/climate-crisis-scientists-spot-warning-signs-of-gulf-stream-collapse#:~:text=Climate%20scientists%20have%20detected%20warning,meridional%20overturning%20circulation%20(AMO).

46 https://news.climate.columbia.edu/2021/11/11/how-close-are-we-to-climate-tipping-points/

47 https://www.reuters.com/investigates/special-report/climate-un-amazon-tipping-point/

48 https://www.pnas.org/doi/10.1073/pnas.0710860105

49 https://esd.copernicus.org/articles/10/631/2019/

50 https://www.theguardian.com/science/2004/jan/08/biodiversity.sciencenews

51 https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/

52 https://ipbes.net/sites/default/files/2021-06/2021_IPCC-IPBES_scientific_outcome_20210612.pdf

53 https://ipbes.net/sites/default/files/2021-06/2021_IPCC-IPBES_scientific_outcome_20210612.pdf

54 https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/; https://ipbes.net/sites/default/files/2021-06/2021_IPCC-IPBES_scientific_outcome_20210612.pdf

55 Worm, B. (2016). Averting a global fisheries disaster. Proceedings of the National Academy of Sciences, 113(18), 4895-4897.

56 https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/

57 https://www.bbc.com/news/science-environment-52122447; https://www.frontiersin.org/articles/10.3389/fmars.2021.770805/full; https://www.un.org/en/chronicle/article/climate-change-poses-threat-our-oceans;

58 https://www.un.org/en/chronicle/article/climate-change-poses-threat-our-oceans

59 https://www.reuters.com/business/cop/whats-difference-between-15c-2c-global-warming-2021-11-07/#:~:text=Warming%20of%201.5%C2%B0C,the%20impact%20on%20food%20production.

60 https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/

61 https://www.unep.org/news-and-stories/story/top-pops-worlds-most-dangerous-pollutants

62 https://www.epa.gov/international-cooperation/persistent-organic-pollutants-global-issue-global-response

63 https://www.epa.gov/international-cooperation/persistent-organic-pollutants-global-issue-global-response

64 https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/

65 https://www.nationalgeographic.com/environment/article/plastic-pollution

66 https://www.sas.org.uk/our-work/plastic-pollution/plastic-pollution-facts-figures/

67 https://www.sas.org.uk/our-work/plastic-pollution/plastic-pollution-facts-figures/

68 https://www.nature.com/articles/s41598-018-22939-w

69 https://www.washingtonpost.com/news/morning-mix/wp/2016/01/20/by-2050-there-will-be-more-plastic-than-fish-in-the-worlds-oceans-study-says/

70 https://www.sciencedirect.com/science/article/pii/B9780128137475000114

71 https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/

72 https://www.fao.org/3/cb4827en/cb4827en.pdf

73 https://www.fao.org/fao-stories/article/en/c/1126974/

74 https://www.fao.org/fao-stories/article/en/c/1126974/

75 https://www.fao.org/3/cb4827en/cb4827en.pdf

76 https://link.springer.com/article/10.1007/s42452-019-1485-1

77 https://www.fao.org/3/cb4827en/cb4827en.pdf

78 https://www.theguardian.com/environment/2022/apr/27/united-nations-40-per-cent-planet-land-degraded

79 https://www.cdc.gov/air/pollutants.htm#:~:text=These%20six%20pollutants%20are%20carbon,matter)%2C%20and%20sulfur%20oxides

80 https://www.euro.who.int/__data/assets/pdf_file/0020/123059/AQG2ndEd_5_5carbonmonoxide.PDF

81 https://www.theworldcounts.com/challenges/climate-change/global-warming/global-co2-emissions/story

82 https://climate.mit.edu/ask-mit/how-much-ton-carbon-dioxide

83 https://ourworldindata.org/air-pollution

84 https://www.oecd.org/environment/indicators-modelling-outlooks/49928853.pdf

85 https://www.overshootday.org/2021-calculation/

86 https://www.wsj.com/articles/the-worlds-resources-arent-running-out-1398469459

87 https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/energy-transition/011922-global-oil-demand-to-surpass-pre-pandemic-levels-in-2022-as-omicron-fears-subside-iea#:~:text=During%20the%20fourth%20quarter%20of,compared%20to%20its%20previous%20report.

88 https://www.discovermagazine.com/planet-earth/is-the-world-running-out-of-oil ; https://www.eia.gov/tools/faqs/faq.php?id=38&t=6; https://mahb.stanford.edu/library-item/fossil-fuels-run/

89 https://www.sciencedirect.com/science/article/pii/S0301421513003856

90 https://www.theguardian.com/environment/2019/sep/06/phosphate-fertiliser-crisis-threatens-world-food-supply

91 https://www.theguardian.com/environment/2019/sep/06/phosphate-fertiliser-crisis-threatens-world-food-supply

92 https://www.theguardian.com/environment/2019/sep/06/phosphate-fertiliser-crisis-threatens-world-food-supply

93 https://www.bbc.com/future/article/20191108-why-the-world-is-running-out-of-sand

94 https://www.cnbc.com/2021/03/05/sand-shortage-the-world-is-running-out-of-a-crucial-commodity.html

95 https://www.bbc.com/future/article/20191108-why-the-world-is-running-out-of-sand

96 https://www.cnbc.com/2021/03/05/sand-shortage-the-world-is-running-out-of-a-crucial-commodity.html

97 https://www.newscientist.com/article/2313170-we-are-running-out-of-sand-and-global-demand-could-soar-45-by 2060/#:~:text=We%20are%20running%20out%20of,could%20soar%2045%25%20by%202060&text=Humanity's%20appetite %20for%20sand%20could,key%20material%20for%20urban%20expansion.

98 https://www.nature.com/articles/d41586-019-02042-4#ref-CR2

99 https://www.theguardian.com/environment/blog/2011/oct/31/six-natural-resources-population

100 https://www.oecd.org/agriculture/topics/water-and-agriculture/

101 https://www.nature.com/articles/s41545-019-0039- 9#:~:text=The%202018%20edition%20of%20the,dramatic%20population%20and%20economic%20growth; https://www.theguardian.com/news/2018/jun/18/are-we-running-out-of-water

102 https://www.nature.com/articles/s41545-019-0039- 9#:~:text=The%202018%20edition%20of%20the,dramatic%20population%20and%20economic%20growth.

103 https://www.undispatch.com/bad-news-world-will-begin-running-water-2050-good-news-not-2050-yet/

104 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008- dcdc_futures_GST_future_starts_today.pdf

105 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008- dcdc_futures_GST_future_starts_today.pdf

106 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008- dcdc_futures_GST_future_starts_today.pdf

107 https://www.nytimes.com/2022/05/03/business/economy/pandemic-supply-chains-inflation.html

108 https://www.nytimes.com/2022/05/03/business/economy/pandemic-supply-chains-inflation.html

109 https://www.brookings.edu/research/reshoring-advanced-manufacturing-supply-chains-to-generate-good- jobs/#:~:text=%E2%80%9CReshoring%E2%80%9D%20is%20the%20practice%20of,and%20develop%20a%20skilled%20wo rkforce.

110 https://www.kearney.com/operations-performance-transformation/us-reshoring-index

111 https://www.oecd.org/els/emp/wcms_556984.pdf

112 https://www.nytimes.com/2022/04/21/business/janet-yellen-supply-chains.html

113 www.project-syndicate.org%2Fcommentary%2Ffriend-shoring-yellen-russia-war-response-by-harold-james-2022-04

114 https://www.nytimes.com/2022/06/21/briefing/russia-asia-oil-china-india.html

115 https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/ohanga-amiomio-circular-economy/

116 https://www.weforum.org/projects/circular-economy

117 https://www.weforum.org/agenda/2019/10/heres-how-a-circular-economy-could-change-the-world-by-2030/

118 https://www.weforum.org/projects/circular-economy

119 https://theconversation.com/nzs-government-plans-to-switch-to-a-circular-economy-to-cut-waste-and-emissions-but-its- going-around-in-the-wrong-circles-170704

120 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008- dcdc_futures_GST_future_starts_today.pdf

121 https://www.mbie.govt.nz/dmsdocument/5754-artificial-intelligence-shaping-a-future-new-zealand-pdf

122 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

123 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

124 https://www.theguardian.com/technology/2020/jan/03/technology-2050-save-humanity-or-destroy-us

125 https://www.vox.com/future-perfect/2018/12/21/18126576/ai-artificial-intelligence-machine-learning-safety-alignment

[126] Brougham, D. & Haar, J. (2020). Technological disruption and employment: The influence on job insecurity and turnover intentions: A multi-country study. Technological Forecasting & Social Change, 161, 120276, 1-10. https://doi.org/10.1016/j.techfore.2020.120276; Brougham, D., & Haar, J. (2018). Smart technology, artificial intelligence, robotics, and algorithms (STARA): Employees' perceptions of our future workplace. Journal of Management & Organization, 24(2), 239-257. https://doi.org/10.1017/jmo.2016.55

127 https://www.theguardian.com/technology/2020/jan/03/technology-2050-save-humanity-or-destroy-us

128 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008- dcdc_futures_GST_future_starts_today.pdf

129https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

130 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

131 https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/trade-and-financial-fragmentation-new-challenges-to-global-stability/

132 https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/trade-and-financial-fragmentation-new-challenges-to-global-stability/

133 https://www.bloomberg.com/news/newsletters/2021-05-26/supply-chains-latest-new-zealand-rethinks-close-china-trade-ties

134 https://www.bloomberg.com/news/newsletters/2021-05-26/supply-chains-latest-new-zealand-rethinks-close-china-trade-ties

135 https://www.theguardian.com/world/2021/may/25/a-matter-of-time-new-zealands-foreign-minister-warns-china-storm-could-be-coming

136 https://financialpost.com/financial-times/the-dollar-has-had-a-100-year-run-as-the-worlds-reserve-currency-but-a-new-class-of-contenders-is-emerging

137 https://theconversation.com/russia-sanctions-new-impetus-for-chinese-yuan-to-move-up-the-reserve-currency-ladder-179602

138 https://financialpost.com/financial-times/the-dollar-has-had-a-100-year-run-as-the-worlds-reserve-currency-but-a-new-class-of-contenders-is-emerging

139 https://theconversation.com/russia-sanctions-new-impetus-for-chinese-yuan-to-move-up-the-reserve-currency-ladder-179602

140 https://www.scmp.com/economy/china-economy/article/3142061/chinas-yuan-become-more-influential-part-global-financial

141 https://www.scmp.com/economy/china-economy/article/3137000/chinas-yuan-could-become-worlds-currency-choice-2050-under

142https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

143 https://financialpost.com/financial-times/the-dollar-has-had-a-100-year-run-as-the-worlds-reserve-currency-but-a-new-class-of-contenders-is-emerging

144 https://www.reuters.com/business/cryptoverse-10-billion-reasons-bitcoin-could-become-reserve-currency-2022-04-12/

145 https://www.oecd.org/economy/surveys/New%20Zealand-2022-OECD-economic-survey-overview.pdf

146 https://reason.com/2020/09/21/americas-debt-will-be-twice-the-size-of-the-economy-by-2050/

147 https://www.treasury.govt.nz/sites/default/files/2021-07/Treasury_LTFS%20Consultation%20Doc%20Draft%20June%202021_v22_Single%20pages%20FINAL.pdf

148https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

149 https://www.treasury.govt.nz/sites/default/files/2021-07/Treasury_LTFS%20Consultation%20Doc%20Draft%20June%202021_v22_Single%20pages%20FINAL.pdf

150 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

151 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

152 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

153 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

154 https://i.stuff.co.nz/business/126303356/the-future-of-farming-what-will-nzs-agri-sector-look-like-in-20-years

155 https://www.climateaction.org/news/changing-our-diet-by-2050-is-essential-to-achieving-a-sustainable-future-ne ; https://www.theguardian.com/food/2020/jan/01/food-in-2050-bacon-grown-on-blades-of-grass-and-bioreactor-chicken-nuggets

156 https://www.theguardian.com/food/2020/jan/01/food-in-2050-bacon-grown-on-blades-of-grass-and-bioreactor-chicken-nuggets

157https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

158https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

159 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

160 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

161https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

162 https://www.publicservice.govt.nz/assets/SSC-Site-Assets/SAPG/Public-Workforce-2035-Futures-Scan.pdf

163 https://www.lgnz.co.nz/assets/e1a77509ff/42597-LGNZ-2050-Challenge-Final-WEB-small.pdf ; https://www.wgtn.ac.nz/__data/assets/pdf_file/0007/1935430/WP-21-10-wealth-inequality-in-New-Zealand.pdf

164 Aziz, O. A., Ball, C., Creedy, J., & Eedrah, J. (2015). The distributional impact of population ageing in New Zealand. New Zealand Economic Papers, 49(3), 207-226.

165 Aziz et al., (2015).

166 Dixon, S., & Maré, D. C. (2007). Understanding changes in Māori incomes and income inequality 1997–2003. Journal of Population Economics, 20(3), 571-598.

167 Marriott, L., & Alinaghi, N. (2021). Closing the gaps: An update on indicators of inequality for Māori and pacific people. Journal of New Zealand Studies, (32), 2-39.

168 Van Meijl, T. (2020). Culture versus class: towards an understanding of Māori poverty. Race & Class, 62(1), 78-96.

169 https://www.treasury.govt.nz/sites/default/files/2021-07/Treasury_LTFS%20Consultation%20Doc%20Draft%20June%202021_v22_Single%20pages%20FINAL.pdf

170 https://www.massey.ac.nz/massey/fms/Massey%20News/DefiningNZ/2013/pdf/definingnz_Jan_2013.pdf

171 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

172 https://eujournalfuturesresearch.springeropen.com/articles/10.1007/s40309-017-0120-x

173 https://www.landcareresearch.co.nz/uploads/public/researchpubs/business_unusual_rutledge.pdf; https://www.bbc.com/news/world-asia-china-55454146

174 https://eujournalfuturesresearch.springeropen.com/articles/10.1007/s40309-017-0120-x

175 https://eujournalfuturesresearch.springeropen.com/articles/10.1007/s40309-017-0120-x

176 https://eujournalfuturesresearch.springeropen.com/articles/10.1007/s40309-017-0120-x

177 https://eujournalfuturesresearch.springeropen.com/articles/10.1007/s40309-017-0120-x

178 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

179https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

180 https://eujournalfuturesresearch.springeropen.com/articles/10.1007/s40309-017-0120-x

181 https://eujournalfuturesresearch.springeropen.com/articles/10.1007/s40309-017-0120-x

182 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

183https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

184 https://www.massey.ac.nz/massey/fms/Massey%20News/DefiningNZ/2013/pdf/definingnz_Jan_2013.pdf

185https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

186https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

187 Mann, M. (1997). Has globalization ended the rise and rise of the nation-state? Review of International Political Economy, 4(3), 472-496; Miyoshi, M. (1993). A borderless world? From colonialism to transnationalism and the decline of the nation-state. Critical Inquiry, 19(4), 726-751; Schmidt, V. A. (1995). The new world order, incorporated: The rise of business and the decline of the nation-state. Daedalus, 124(2), 75-106.

188 Rotberg, R. I. (Ed.). (2010). *When states fail: Causes and consequences*. Princeton University Press. https://www.theguardian.com/news/2018/apr/05/demise-of-the-nation-state-rana-dasgupta

189 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

190 https://www.pewresearch.org/fact-tank/2019/03/21/looking-ahead-to-2050-americans-are-pessimistic-about-many-aspects-of-life-in-u-s/

191https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

192 https://www.atlanticcouncil.org/blogs/geotech-cues/pandemic-may-replace-the-nation-state-but-with-what/

193 https://www.wgtn.ac.nz/strategic-studies/documents/working-papers/wp-21.pdf

194 https://www.treasury.govt.nz/publications/speech/chances-choices-and-challenges-new-zealands-response-globalisation

195 https://www.auckland.ac.nz/en/news/2021/05/24/taking-issue-opinion-more-cohesive-after-covid19.html; https://thespinoff.co.nz/politics/23-02-2022/divided-splintered-what-the-parliament-occupation-says-about-nz-now

196 https://freedomhouse.org/report/freedom-world/2021/democracy-under-siege

197 https://freedomhouse.org/article/new-report-global-decline-democracy-has-accelerated

198 https://www.dw.com/en/democracy-in-decline-worldwide/a-60878855

199 https://www.theguardian.com/news/2018/apr/05/demise-of-the-nation-state-rana-dasgupta

200 https://www.un.org/development/desa/dspd/2021/07/trust-public-institutions/

201 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

202 https://www.weforum.org/agenda/2014/06/joseph-nye-government-age-internet/

203 https://www.wgtn.ac.nz/sog/about/news/news-archives/2016-news/new-zealanders-distrust-in-government-growing

204 https://misinforeview.hks.harvard.edu/article/misinformation-in-action-fake-news-exposure-is-linked-to-lower-trust-in-media-higher-trust-in-government-when-your-side-is-in-power/

205 https://www.govtech.com/magazines/gt-special-issue-nov-2020-heres-what-government-will-look-like-in-2030.html

206https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

207 https://journalism.csis.org/thinking-outside-the-bubble-addressing-polarization-and-disinformation-on-social-media/

208 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

209 https://www.govtech.com/magazines/gt-special-issue-nov-2020-heres-what-government-will-look-like-in-2030.html

210 https://www.un.org/development/desa/en/news/population/world-population-prospects-2019.html

211https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/993891/GO-Science_Trend_Deck_-_Demographics_section_-_Spring_2021.pdf

212 https://www.nber.org/system/files/working_papers/w22452/w22452.pdf

213 https://i.stuff.co.nz/national/123643091/roughly-oneinfour-chance-new-zealand-population-could-be-declining-in-2050s-stats-nz-says

214 https://www.massey.ac.nz/massey/fms/Massey%20News/DefiningNZ/2013/pdf/definingnz_Jan_2013.pdf

215 https://www.royalsociety.org.nz/assets/Uploads/Our-futures-submission-Natalie-Jackson.pdf

216 https://www.royalsociety.org.nz/assets/Uploads/Our-futures-submission-Natalie-Jackson.pdf

217 https://www.treasury.govt.nz/sites/default/files/2021-07/Treasury_LTFS%20Consultation%20Doc%20Draft%20June%202021_v22_Single%20pages%20FINAL.pdf

218 https://thehub.swa.govt.nz/resources/future-demographic-trends-for-Māori-part-one-population-size-growth-and-age-structure/#:~:text=The%20current%20M%C4%81ori%20ethnic%20population,New%20Zealand's%20children%2C%20by%202038.

219 https://www.rbnz.govt.nz/-/media/ReserveBank/Files/Publications/Research/Te-Ohanga-Māori-Report-2018.pdf?revision=7eae6b2b-14d1-480e-95b8-fb57e6ba6e8e

220 https://www.tpk.govt.nz/en/mo-te-puni-kokiri/our-stories-and-media/future-demographic-trends-for-Māori-part-one

221https://www.tpk.govt.nz/documents/download/249/Māori%20Demographic%20Trends%20for%20Economic%20Return.pdf

222 https://www.brookings.edu/research/the-climate-crisis-migration-and-refugees/

223 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

224 https://www.brookings.edu/research/the-climate-crisis-migration-and-refugees/

225 https://www.brookings.edu/research/the-climate-crisis-migration-and-refugees/

226 https://www.weforum.org/agenda/2021/06/climate-refugees-the-world-s-forgotten-victims/

227 https://www.theguardian.com/world/2021/jul/28/new-zealand-rated-best-place-to-survive-global-societal-collapse

228 https://www.theguardian.com/news/2018/feb/15/why-silicon-valley-billionaires-are-prepping-for-the-apocalypse-in-new-zealand

229 https://www.newsroom.co.nz/nz-planning-for-inevitable-climate-related-migration

230 https://reliefweb.int/report/world/new-zealands-climate-refugee-visas-lessons-rest-world

231 https://www.oecd.org/economy/growth/evolution%20of%20homeownership%20rates.pdf

232https://www.buildingbetter.nz/publications/ktkr/Rout_et_al_2019_Homeless_&_landless_in_two_generations_KTKR.pdf

233 https://www.stats.govt.nz/reports/housing-in-aotearoa-2020#:~:text=Housing%20tenure%20and%20tenure%20security,to%2064.5%20percent%20of%20households.

234 https://www.stats.govt.nz/reports/housing-in-aotearoa-2020#:~:text=Housing%20tenure%20and%20tenure%20security,to%2064.5%20percent%20of%20households.

235https://www.buildingbetter.nz/publications/ktkr/Rout_et_al_2019_Homeless_&_landless_in_two_generations_KTKR.pdf

236 Barrett-Walker, T., Plank, M. J., Ka'ai-Mahuta, R., Hikuroa, D., & James, A. (2020). Kia kaua te reo e rite ki te moa, ka ngaro: do not let the language suffer the same fate as the moa. *Journal of the Royal Society Interface*, 17(162)

237 Barrett-Walker et al. (2020).

238 Barrett-Walker et al. (2020).

239 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

240 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

241 https://nzsar.govt.nz/environmental-scan/demand/demography/urbanisation/

242 https://www.lgnz.co.nz/assets/e1a77509ff/42597-LGNZ-2050-Challenge-Final-WEB-small.pdf

243 https://www.weforum.org/agenda/2016/07/this-map-shows-the-incredible-growth-of-megacities/#:~:text=Around%2077%20million%20people%20are,1995%20to%2029%20in%202016.

244 https://www.nature.com/articles/s42949-020-00007-5

245 https://www.weforum.org/agenda/2018/10/these-are-the-megacities-of-the-future/

246 https://www.weforum.org/agenda/2018/10/these-are-the-megacities-of-the-future/

247https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

248 https://www.archives.govt.nz/research/guides/education

249 https://www.stats.govt.nz/news/education-outcomes-improving-for-Māori-and-pacific-peoples#:~:text=In%20the%202018%20Census%2C%2080.6,24%2Dyear%2Dolds%20nationally.

250 https://www.stats.govt.nz/news/education-outcomes-improving-for-Māori-and-pacific-peoples#:~:text=In%20the%202018%20Census%2C%2080.6,24%2Dyear%2Dolds%20nationally.

251 https://www.stats.govt.nz/news/education-outcomes-improving-for-Māori-and-pacific-peoples#:~:text=In%20the%202018%20Census%2C%2080.6,24%2Dyear%2Dolds%20nationally.

252 https://oag.parliament.nz/2016/education-for-Māori-summary/part1.htm

253 https://www.publicservice.govt.nz/assets/SSC-Site-Assets/SAPG/Public-Workforce-2035-Futures-Scan.pdf

254 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

255 Brougham, D. & Haar, J. (2020); Brougham, D., & Haar, J. (2018).

256https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

257 https://www.infometrics.co.nz/article/2018-08-putting-automation-perspective

258 https://www.infometrics.co.nz/article/2018-08-putting-automation-perspective

259 https://i.stuff.co.nz/business/300336547/businesses-struggling-for-staff-may-turn-to-automation-instead

260 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

261 https://www.productivity.govt.nz/assets/Documents/4a91b2689d/Measuring-the-gig-economy-Motu.pdf

262 https://www.govtech.com/magazines/gt-special-issue-nov-2020-heres-what-government-will-look-like-in-2030.html

263 https://www.ifac.org/knowledge-gateway/contributing-global-economy/discussion/gig-economy-trends-and-impact-small-and-medium-practices

264 https://www.ifac.org/knowledge-gateway/contributing-global-economy/discussion/gig-economy-trends-and-impact-small-and-medium-practices

265 https://hrnz.org.nz/news/article/the-gig-economy-transforming-the-workforce-and-hr-industry-as-we-know-it

266 https://www.productivity.govt.nz/assets/Documents/4a91b2689d/Measuring-the-gig-economy-Motu.pdf

267 https://i.stuff.co.nz/business/opinion-analysis/300217134/new-normal-or-back-to-normal-why-the-remote-working-revolution-isnt-here-yet

268 https://www.productivity.govt.nz/assets/Documents/4a91b2689d/Measuring-the-gig-economy-Motu.pdf

269 https://i.stuff.co.nz/business/125745390/many-gig-workers-are-Pākehā-have-a-degree-and-earn-little--survey

270 https://www.weforum.org/agenda/2020/08/flexible-remote-working-post-covid19-company-predictions/

271 https://www.forbes.com/sites/bryanrobinson/2022/02/01/remote-work-is-here-to-stay-and-will-increase-into-2023-experts-say/?sh=753f6e2320a6

272 https://www.vox.com/recode/2019/10/9/20885699/remote-work-from-anywhere-change-coworking-office-real-estate

273 https://i.stuff.co.nz/business/opinion-analysis/300217134/new-normal-or-back-to-normal-why-the-remote-working-revolution-isnt-here-yet

274 https://news.microsoft.com/en-nz/2021/04/22/microsoft-forecasts-the-next-great-disruption-as-hybrid-work/#:~:text=71%20percent%20of%20New%20Zealand's,those%20without%20decision%20making%20power.

275 https://thespinoff.co.nz/business/23-12-2021/the-future-of-work-is-flexible-2

276 https://old.iwgplc.com/MediaCentre/Article/why-employees-prefer-hybrid-working-to-pay-rise

277 https://www.forbes.com/sites/carolinecastrillon/2022/03/23/why-flexible-work-boosts-employee-productivity/?sh=7088319f6e4b

278 https://www.stats.govt.nz/news/over-half-of-employees-in-new-zealand-have-flexible-work-hours https://freerangeworks.co.nz/what-can-the-latest-data-tell-you-about-flexible-working-in-nz/#:~:text=More%20than%20half%20(51%20per,at%20different%20times%20each%20day.

[279] Haar, J. (2018). Overview of the Perpetual Guardian 4-day (paid 5) Work Trial. Auckland University of Technology. Auckland, New Zealand. https://www.4dayweek.com/research-prof-jarrod-haar-quantitative-research

280 https://www.weforum.org/agenda/2022/01/four-day-week-work-life-balance-trial/

281 https://i.stuff.co.nz/business/125068454/buzz-around-fourday-work-week-building-to-a-roar

282 https://i.stuff.co.nz/business/125068454/buzz-around-fourday-work-week-building-to-a-roar

283 https://i.stuff.co.nz/business/125068454/buzz-around-fourday-work-week-building-to-a-roar

284https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

285 https://www3.weforum.org/docs/WEF_FOW_Reskilling_Revolution.pdf

286https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

287 https://www3.weforum.org/docs/WEF_FOW_Reskilling_Revolution.pdf

288https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

289 https://www3.weforum.org/docs/WEF_FOW_Eight_Futures.pdf

290 https://www.weforum.org/agenda/2020/01/reskilling-revolution-jobs-future-skills/

291 https://www.weforum.org/agenda/2020/01/reskilling-revolution-jobs-future-skills/

292 https://www2.deloitte.com/au/en/pages/economics/articles/soft-skills-business-success.html

293 https://www.rbnz.govt.nz/-/media/ReserveBank/Files/Publications/Research/Te-Ohanga-Māori-Report-2018.pdf?revision=7eae6b2b-14d1-480e-95b8-fb57e6ba6e8e

294 https://hbr.org/2018/07/collaborative-intelligence-humans-and-ai-are-joining-forces

295https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

296 https://www3.weforum.org/docs/WEF_FOW_Reskilling_Revolution.pdf

297 https://www.forbes.com/sites/kathycaprino/2021/01/07/how-ai-can-remove-bias-from-the-hiring-process-and-promote-diversity-and-inclusion/?sh=72627e854ec5

298 https://techwireasia.com/2021/02/has-artificial-intelligence-revolutionized-recruitment/

299 https://www.bbc.com/news/business-44483305

300 https://www.bbc.com/news/business-44483305

301 https://www.reuters.com/article/us-global-policy-idUSKBN2ET0P4

302 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

303https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

304 https://jacobinmag.com/2022/03/index-funds-blackrock-vanguard-stocks-ownership-democracy-concentration

305 https://jacobinmag.com/2022/03/index-funds-blackrock-vanguard-stocks-ownership-democracy-concentration

306 https://riabiz.com/a/2021/7/28/suddenly-vanguard-blackrock-state-street-not-only-have-the-assets-but-the-power-of-esg-mandates-which-make-them-a-growing-threat-to-shareholder-democracy-critics-say

307 https://jacobinmag.com/2022/03/index-funds-blackrock-vanguard-stocks-ownership-democracy-concentration

308 https://newrepublic.com/article/165623/blackrock-vanguard-ubs-climate

309 https://braveneweurope.com/benjamin-braun-adrienne-buller-welcome-to-the-age-of-asset-manager-capitalism

310 https://sustainabilitymag.com/sustainability/esg-investment-assessing-past-current-future-projections-finance

311 https://sustainabilitymag.com/sustainability/esg-investment-assessing-past-current-future-projections-finance

312 https://www.globenewswire.com/news-release/2021/12/21/2355887/0/en/The-Global-Product-Stewardship-Market-is-expected-to-grow-by-309-52-mn-during-2021-2025-progressing-at-a-CAGR-of-6-40-during-the-forecast-period.html

313 https://www.theguardian.com/technology/2020/apr/15/the-right-to-repair-planned-obsolescence-electronic-waste-mountain

314 https://sustainable.org.nz/learn/news-insights/will-landfill-be-history-by-2030/

315https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1065623/20181008-dcdc_futures_GST_future_starts_today.pdf

316 https://www.dni.gov/files/images/globalTrends/GT2040/GlobalTrends_2040_for_web1.pdf

317 https://www.alliedmarketresearch.com/digital-commerce-market-A14464#:~:text=Digital%20Commerce%20Market%20Statistics%3A%202030,15.1%25%20from%202021%20to%202030.

318 https://www.alliedmarketresearch.com/digital-commerce-market-A14464#:~:text=Digital%20Commerce%20Market%20Statistics%3A%202030,15.1%25%20from%202021%20to%202030.

319 Williams, J. (2021). Lex Aotearoa: Mapping the Māori Dimension in Modern New Zealand Law in R. Joseph, R & Benton, R. (eds) *Waking the Taniwha: Māori Governance in the 21st Century*. Wellington, NZ: Thomson Reuters.

320 Spiller, C., Barclay-Kerr, H., & Panoho, J. (2015). *Wayfinding leadership: Ground-breaking wisdom for developing leaders*. WLG, NZ: Huia Publishers.

321 Walter, R., Buckley, H., Jacomb, C., & Matisoo-Smith, E. (2017). Mass migration and the Polynesian settlement of New Zealand. *Journal of World Prehistory*, 30(4), 351-376, p. 352

322 Walter et al. (2017).

323 Walter et al. (2017) p. 355.

324 Walter et al. (2017); Hanson, A. (1989). The making of the Māori: Culture invention and its logic. *American Anthropologist*, 91(4), 890-902.

325 Williams, J. (2021) p. 538.

326 Walter et al. (2017) p. 352.

327 Walter et al. (2017).

328 Walter et al. (2017) p. 362.

329 Holdaway, S. J., Emmitt, J., Furey, L., Jorgensen, A., O'Regan, G., Phillipps, R. & Ladefoged, T. N. (2019). Māori settlement of New Zealand: The Anthropocene as a process. *Archaeology in Oceania*, 54(1), 17-34, p. 21

330 Walter et al. (2017) p. 352.

331 Walter et al. (2017).

332 Walter et al. (2017) p. 363.

333 Belich, J. (2002). Making peoples: A history of the New Zealanders from Polynesian settlement to the end of the nineteenth century. University of Hawaii Press.

334 Belich, J. (2002) p. 41.

335 Walter et al. (2017).

336 https://www.otago.ac.nz/spar/research/otago723404.html

337 Walter et al. (2017) p. 352.

338 Walter et al. (2017).

339 Belich, J. (2002).

340 Walter et al. (2017).

341 Walter et al. (2017) p. 366.

342 Walter et al. (2017).

343 Walter et al. (2017) p. 368.

344 Williams, J. (2021) p. 538.

345 Ibid. p. 540.

346 Williams, J. (2021) p. 538.

347 Sadler, H. (2007). Mātauranga Māori (Māori Epistemology). *International Journal of the Humanities*, 4(10). 33-46, p. 33

348 Sinclair, as cited in Patterson, J. (1992). *Exploring Māori values*. Palmerston North, N.Z.: Dunmore Press., p. 90.

349 Henare, M. (2001). Tapu, mana, mauri, hau, wairua: A Māori philosophy of vitalism and cosmos. In J. A. Grim. (Ed.), *Indigenous traditions and ecology: The interbeing of cosmology and community*. Harvard: Harvard University Press. p. 202).

350 Marsden & Henare as cited in Henare (2001, p. 202).

351 As cited in Bargh, M. (Ed.). (2007). *Resistance: An indigenous response to neoliberalism*. Wellington, N.Z.: Huia, p. 47.

352 Patterson, J. (1992, p. 32)

353 Belich, J. (2002) p. 48.

354 Brooking, T. (2020). Changing attitudes towards wilderness in Aotearoa/New Zealand: From disappointment to glorification and guardianship. In *Rethinking Wilderness and the Wild* (pp. 105-122). Routledge.

355 Te Rito, J. S. (2007). Whakapapa: A framework for understanding identity. *MAI Review LW*, *1*(3), 10.

356 Roberts, M., Haami, B., Benton, R., Satterfield, T., Finucane, M. L., Henare, M., & Henare, M. (2004). Whakapapa as a Māori mental construct: Some implications for the debate over genetic modification of organisms. *The Contemporary Pacific*, 1-28; Roberts, M. (2013). Ways of seeing: Whakapapa. *Sites: a journal of social anthropology and cultural studies*, 10(1), 93-120.

357 Roberts, M. (2013).

358 https://blogs.otago.ac.nz/tetumuresearch/files/2018/11/MAOR202-EJOURNAL-2.pdf#page=61

359 Metge, J. (2002).

360 Ibid, p. 317.

361 O'Malley, V. (2012). *The meeting place: Māori and Pākehā encounters*, 1642–1840. ProQuest Ebook Central, 112.

362 Reid, J., & Rout, M. (2018). Can sustainability auditing be indigenized?. *Agriculture and Human Values*, 35(2), 283-294.

363 Metge, J. (2002).

364 Lian, K. F. (1992). Tribe, class and colonisation: the political organisation of Māori society in the 19th century. *The Journal of the Polynesian Society*, 101(4), 387-408 pp. 392-393.

365 Rout, M. and Reid, J. (2019). Tribal Economies – Ngāi Tahu: An examination of the historic and current tītī and pounamu institutional frameworks. Christchurch: Ngāi Tahu Research Centre.

366 Ibid.

367 He Hinatore ki te Ao Māori: A Glimpse Into the Māori World, Ministry of Justice, Wellington, March 2001:30 in Pihama, L., & Gardiner, D. (2005, p. 15).

368 Petrie, H. (2006). *Chiefs of industry: Māori tribal enterprise in early colonial New Zealand*. Auckland, N.Z.: Auckland University Press.

369 Pio, E., Waddock, S., Mangaliso, M., McIntosh, M., Spiller, C., Takeda, H., Gladestone, J., Ho, M., & Syed, J. (2013). Pipeline to the future: Seeking wisdom in Indigenous, Eastern, and Western traditions. In *Handbook of Faith and Spirituality in the Workplace* (pp. 195-219). New York, NY: Springer, 225.

370 Mauss, M. (1950/1990). *The gift: The form and reason for exchange in archaic societies*. London: W. W. Norton.

371 Petrie, H. (2006) p. 14.

372 Keane, B. (2013). Māori feasts and ceremonial eating – hākari. Te Ara - the Encyclopedia of New Zealand, http://www.TeAra.govt.nz/en/Māori-feasts-and-ceremonial-eating-hakari/print

373 Mead, H. M. (2003). *Tikanga Māori: Living by Māori values*. Wellington, Huia Publishers, p. 185.

374 Williams, J. (2004). *E pakihi hakinga a kai: An examination of pre-contact resource management practice in Southern Te Wai Pounamu* (PhD thesis, University of Otago), p. xii, 123.

375 Cumberland, K. B. (1949). Aotearoa Māori: New Zealand about 1780. *Geographical Review*, 39(3), 401-424.

376 Williams (2004), p. 88.

377 Payne, D. (2020). The Hau of Kai Hau Kai: The practice of intergenerational reciprocal exchange. *Mahika Kai Journal*, 1(1): 1-14.

378 Quoted in Pihama, L., & Penehira, M. (2005). Building baseline data on Māori, whanau development and Māori realising their potential. *Literature review: Facilitating engagement. Auckland, NZ: International Research Institute for Māori and Indigenous Education*, p. 30

379 As cited in Pihama, L., & Gardiner, D. (2005) p. 30.

380 Williams, J. (2021) p. 564.

381 King, M. (2003). *The Penguin history of New Zealand*. Wellington: Penguin, p. 79.

382 Anderson, A., Binney, J., and Harris, A. (2014). *Tangata Whenua: An illustrated history. New Zealand*: Bridget Williams Books, p. 104

383 Calman, R. (2013). Leisure in traditional Māori society – ngā mahi a te rēhia. Te Ara - the Encyclopedia of New Zealand. http://www.TeAra.govt.nz/en/leisure-in-traditional-Māori-society-nga-mahi-a-te-rehia/page-1

384 Petrie, H. (2006) p. 10.

385 Petrie, H. (2006).

386 Firth, R. (2011). *Primitive economics of the New Zealand Māori*. London: Routledge, p. 202

387 Petrie, H. (2006).

388 Lian, K. F. (1992).

389 Tau, T. M. (2016). Property rights in Kaiapoi. *Victoria University of Wellington Law Review*, 47(4), 677-698.

390 Lian, K. F. (1992).

391 Petrie, H. (2006).

392 Ibid p. 13.

393 Gallagher, T. (2003) Te Kāhui Kura Māori, Volume 0, Issue 1, Tikanga Māori Pre-1840. http://www.nzetc.org/tm/scholarly/tei-Bid001Kahu-t1-g1-t1.html.

394 Firth, R. (2011).

395 Paulin, C. D. (2007). Perspectives of Māori fishing history and techniques: Ngā āhua me ngā pūrākau me ngā hangarau ika o te Māori. *Tuhinga: Records of the Museum of New Zealand Te Papa Tongarewa*, 18, 11-47, p. 41.

396 Banner, S. (1999). Two properties, one land: Law and space in nineteenth-century New Zealand. *Law & Social Inquiry*, 24(4), 807-852, p. 811.

397 Banner, S. (1999) p. 811.

398 Reid, J., & Rout, M. (2016). Māori tribal economy: Rethinking the original economic institutions. In T. L. Anderson. (Ed.), *Unlocking the wealth of Indian Nations* (pp. 83–104). Maryland: Lexington Books., p. 89.

399 Firth, R. (2011).

400 Rout, M. and Reid, J. (2019). Tribal Economies – Ngāi Tahu: An examination of the historic and current tītī and pounamu institutional frameworks. Christchurch: Ngāi Tahu Research Centre.

401 Williams, J. (2021) p. 541.

402 Jenkins, K. and Mountain Harte, H. (2011). *Traditional Māori parenting: An historical review of literature of traditional Māori child rearing practices in pre-European times*. Auckland: Te Kahui Mana Ririki, p. 23

403 Higgins, R., and Meredith, P. (2013). Kaumātua – Māori elders - Kaumātua and their role. Te Ara - the Encyclopedia of New Zealand. http://www.TeAra.govt.nz/en/kaumatua-Māori-elders/page-1

404 Polack quoted in Jenkins, K. and Mountain Harte, H. (2011).

405 Taonui, R. (2010). Mana tamariki: Cultural alienation. *AlterNative*, 6.3.

406 Polack quoted in Jenkins, K. and Mountain Harte, H. (2011) p. 24.

407 Kiro, C. (2013). Ngā mātua – Māori parenting - Types of parenting. Te Ara - the Encyclopedia of New Zealand. http://www.TeAra.govt.nz/en/nga-matua-Māori-parenting/page-5

408 Durie-Hall, D. & Metge, J. (1992). Ka Tu te Puehu, Kia Mau: Māori Aspirations and Family Law. In Henaghan, M. & Atkin, W. (Eds) *Family Law Policy in New Zealand*. Auckland; New York: Oxford University Press, p. 54, 63.

409 Polack quoted in Jenkins, K. and Mountain Harte, H. (2011, p. 24).

410 Jenkins, K. and Mountain Harte, H. (2011) p. xiii.

411 Edwards, S., McCreanor, T., & Moewaka Barnes, H. (2007). Māori family culture: a context of youth development in Counties/Manukau. *Kotuitui: New Zealand Journal of Social Sciences Online*, 2(1), 1-15, p. 6.

412 Edwards et al. (2007, p. 7).

413 Jenkins, K. and Mountain Harte, H. (2011) p. xiii.

414 Both quoted in Taonui, R. (2010) p. 194.

415 Crozet quoted in Jenkins, K. and Mountain Harte, H. (2011) p. 23.

416 Edwards et al. (2007) p. 7.

417 Taonui, R. (2010) p. 195.

418 Pere, R. (1982). *Ako: Concepts and learning in the Māori tradition*. Hamilton: Dept. of Sociology, University of Waikato.

419 Pihama, L., & Gardiner, D. (2005) p. 16.

420 Tsai, E. H-L., Cushman, G., Gidlow, B., and Toohey, M. (2013). Research in Australia and New Zealand. In Stodolska, M., Shinew, K. J., Floyd, M. F., & Walker, G. J. *Race, ethnicity, and leisure*. Leeds: Human Kinetics, p. 267.

421 Calman, R. (2013).

422 Anderson, A. J. 2002. "A fragile plenty: pre-European Māori and the New Zealand environment", in Pawson, E. Brooking, T (ed). 2002. *Environmental histories of New Zealand*. Auckland, New Zealand: Oxford University Press. pp. 19-34.

423 Major, M. E. (1964). Christian missions in the South Island in the 1840's. MA Thesis, Canterbury University, p. 6.

424 Major, M. E. (1964) p. 7.

425 Ibid, p. 10.

426 Firth, R. (2011) p. 61.

427 Ibid, p. 61.

428 Fletcher, A. (2000) Religion, gender and rank in Māori society: A study of ritual and social practice in eighteenth and nineteenth-century documentary sources. (PhD Thesis, University of Canterbury), p. 17.

429 Major, M. E. (1964) p. 7.

430 Best, E. (1925). *Games and pastimes of the Māori...* by Elsdon Best. Wellington: Whitcombe and Tombs, p. 11

431 Ibid.

432 Haami, B. (2004). *Pūtea whakairo: Māori and the written word*. Wellington, N.Z: Huia, p. 16.

433 Pihama, L., & Gardiner, D. (2005, p. 18).

434 Best as cited in Ibid.

435 King, M. (2003).

436 Derby, M. (2013). Daily life in Māori communities – te noho a te hapori - Daily life in traditional communities. Te Ara - the Encyclopedia of New Zealand. http://www.TeAra.govt.nz/en/daily-life-in-Māori-communities-te-noho-a-te-hapori/page-1

437 King, M. (2003) p. 81.

438 Calman, R. (2013).

439 Firth, R. (2011) p. 92.

440 King, M. (2003) p. 81.

441 Van Meijl, S. (1995). Māori Socio-Political Organization in Pre-and Proto-History: On the evolution of post-colonial constructs. *Oceania*, 65(4), 304-322, pp. 309-310.

442 Harmsworth, G. R., and Awatere, S. (2013). *Indigenous Māori knowledge and perspectives of ecosystems. In Dymond JR (Ed.). Ecosystem services in New Zealand – conditions and trends.* Manaaki Whenua Press, Lincoln, New Zealand, p. 274.

443 Orbell, M. (1985). *The natural world of the Māori.* Collins: Auckland, N.Z, p. 216-217.

444 Harmsworth, G. R., and Awatere, S. (2013) p. 274.

445 Harmsworth, G. R., and Awatere, S. (2013, p. 276).

446 Mikaere, A. (2011). *Colonising myths, Māori realities: He Rukuruku Whakaaro.* Wellington: Huia Publishing.

447 O'Reagan, S. (1984). Māori perceptions of water in the environment: An overview. In Douglas E.M.K. *Waiora, WaiMāori, Waikino, Waimate, Waitai: Māori Perceptions of Water and the Environment.* Occ. paper No. 27 Centre for Māori Studies and Research, Waikato University, pp. 8-9.

448 O'Regan, S. (1984, p. 10).

449 Firth, R. (2011).

450 Ibid, p. 44.

451 Ibid, pp. 44-46.

452 Ibid, p. 51.

453 Walker, R. (1990/2004). *Ka whawhai tonu matou - Struggle without end (Rev ed.).* Auckland: Penguin.

454 Ballara, A. (1998). *Iwi: The dynamics of Māori tribal organisation from c. 1769 to c. 1945.* Victoria University Press, p. 42.

455 Head, L. (2006). Land, authority and the forgetting of being in early colonial Māori history. PhD Thesis, University of Canterbury, p. 99.

456 Ibid.

457 Cleave, P. (1983). Tribal and state-like political formations in New Zealand Māori society 1750-1900. *Journal of the Polynesian Society.* 92:51-92, p. 62.

458 Lian, K. F. (1992).

459 Reid, J., & Rout, M. (2016).

460 Petrie, H. (2006).

461 Ibid.

462 Ibid, p. 23.

463 http://news.tangatawhenua.com/wp-content/uploads/2010/10/24Petrie75.pdf

464 Petrie, H. (2006) p. 32.

465 Belich (2002); Petrie, H. (2006); Walker (1990/2004)

466 Petrie (2006).

467 O'Malley (2012) p. 122.

468 Ibid.

469 Ibid.

470 Petrie (2006) p. 32.

471 Petrie (2006).

472 O'Malley (2012) pp. 116-117.

473 McCreanor, T., McManus, A., Moewaka Barnes, A., Rankine, J., Borell, B., and Nairn, R. (2011). Māori business news in mass media. *Sites*, 8(2), 32-56, 33.

474 Petrie, H. (2015). Economic dysfunction or land grab? assaults on the 19th-century Māori economy and their native North American parallels. *AlterNative*, 11(3), 283-298, 285. p. 286.

475 Reid, J., & Rout, M. (2016).

476 Walker (1990/2004) p. 99.

477 King, M. (2003) p. 127.

478 Royal, T. A. C. (2007). Creativity and mātauranga Māori: Towards tools for innovation. Wellington: Hui Taumata Action Taskforce. p. 31.

479 Petrie (2006).

480 O'Malley (2012).

481 Petrie (2006) p. 35.

482 Petrie (2015).

483 Petrie (2006).

484 Ibid.

485 Ibid, p. 35.

486 Ibid, p. 10.

487 Petrie, H. (2005). Bitter recollections? Thomas Chapman and Benjamin Ashwell on flourmills and ships in the mid-nineteenth century. *New Zealand Journal of History*, 39(1), 1–21.

488 Petrie (2005) p. 4.

489 Petrie (2005).

490 Ibid, p. 5.

491 Ibid, p. 4.

492 Petrie, H. (2005) p. 5.

493 Ballara (1998).

494 Cleave (1983) p. 71.

495 Clydesdale, G. (2007). Cultural evolution and economic growth: New Zealand Māori. *Entrepreneurship and Regional Development,* 19(1), 49-68, 58; Petrie, H. (2006).

496 Walker (1990/2004) p. 312.

497 Belich, J. (2011). *Replenishing the earth: The settler revolution and the rise of the Angloworld.* OUP Oxford.

498 Quoted in Reid et al. (2017) p. 35.

499 Ibid.

500 Hill, R. S. (2004). *State authority, indigenous autonomy: Crown-Māori relations in New Zealand/Aotearoa 1900-1950.* Wellington: Victoria University Press, p. 28.

501 Belich (2002) p. 155.

502 Walker (1990/2004) p. 312.

503 Boast, R. P. (2016). Land, custom, and ideology 1870-1940: The New Zealand case in a global context. *Adelaide Law Review, The*, *37*(2), 325-368.

504 Ausubel, D. P. (1961). The Māori: A study in resistive acculturation. *Social Forces*, 39(3), 218-227, 220.

505 Pool, D. I. (2015). *Colonization and development in New Zealand between 1769 and 1900: The seeds of Rangiatea.* Springer, p. 268.

506 Ibid, p. 267.

507 Pool, D. I. (2015).

508 Pool, I. and Kukutai, T. (2011). Taupori Māori – Māori population change - Decades of despair, 1840–1900. Te Ara - the Encyclopedia of New Zealand, Retrieved http://www.TeAra.govt.nz/en/taupori-Māori-Māori-population-change/page-2

509 Families Commission, Kōmihana ā Whānau (2011, 4 August). He Ara Whakamua: Building pathways together to the future Final Report. Pipitea Marae: Wellington, NZ. p. 32.

510 Rangiheuea in Pihama, L., & Gardiner, D. (2021) p. 39 – 40.

511 Hill, R. S. (2004) p. 37.

512 Ibid, p. 42.

513 Ibid, p. 35.

514 Sorreson, M. P. K. (1975). How to civilize savages: Some "answers" from nineteenth-century New Zealand. *New Zealand Journal of History*. 9.2: 97-110, 105.

515 Ward quoted in Williams, D. V. (1999). *'Te Kooti tango whenua': The Native Land Court 1864-1909*. Wellington, N.Z: Huia Publishers, p. 18.

516 Kawharu, H. (1877). *Māori Land Tenure: Studies of a Changing Institution*. Oxford: Clarendon Press, p. 15.

517 Banner, S. (2000). Conquest by contract: Wealth transfer and land market structure in colonial New Zealand. *Law & Society Review*, 34(1): 47-96, p. 54.

518 Banner, S. (2000) p. 61.

519 Anderson et al. (2014) p. 340-341.

520 Reid, J., Rout, M., Te Maire Tau, & Smith, C. (2017). The colonising environment: An aetiology of the trauma of settler colonisation and land alienation on Ngāi Tahu whānau. Christchurch: Ngāi Tahu Research Centre, p. 32.

521 O'Malley, V. (2016). *The Great War for New Zealand: Waikato 1800–2000*. Bridget Williams Books, p. 46.

522 Kukutai, T. H. (2010). The thin brown line: Re-indigenizing inequality in Aotearoa New Zealand. (PhD Thesis, Stanford University).

523 Williams, J. (2021) p. 564.

524 Knight, C. (2009). The paradox of discourse concerning deforestation in New Zealand: a historical survey. *Environment and History*, 15(3), 323-342, p. 323.

525 Brooking, T. (2020).

526 Head, L. (2006) p. 3.

527 Boast, R. (2008). Te tango whenua – Māori land alienation - Pre-Treaty transactions. Te Ara - the Encyclopedia of New Zealand, http://www.TeAra.govt.nz/en/te-tango-whenua-Māori-land-alienation/page-2

528 Hill, R. S. (2004) p. 19-20.

529 Williams, D. V. (1999) p. 74.

530 Quoted in Matthews, K. M., & Mane-Wheoki, J. (2014). Mana Wahine: Boundaries and Connections in the Career of a Māori Educational Leader: Bessie (Wene) Te Wenerau Grace (Sister Eudora CSC). In *Women Educators, Leaders and Activists* (pp. 79-95). Palgrave Macmillan, London, p. 80.

531 Reid et al. (2017).

532 Pool, I. (2011). Death rates and life expectancy - Effects of colonisation on Māori. Te Ara - the Encyclopedia of New Zealand, http://www.TeAra.govt.nz/en/death-rates-and-life-expectancy/page-4

533 Lange, R. (2011). Te hauora Māori i mua – history of Māori health - Health devastated, 1769 to 1901. Te Ara - the Encyclopedia of New Zealand. Retrieved from http://www.TeAra.govt.nz/en/te-hauora-Māori-i-mua-history-of-Māori-health/page-2

534 O'Malley (2016).

535 Pool, I and Kukutai, T. (2011).

536 Boast, R. P. (2019). Re-thinking individualisation: Māori land development policy and the law in the age of Ngata (1920-1940). *Canterbury Law Review*, *25*, 1-52.

537 Boast (2019), p. 5.

538 Durie, M. H. (2003). *Nga kahui pou: Launching Māori futures*. Wellington: Huia Publishers, p. 89.

539 Labrum, B. (2004). Developing "the essentials of good citizenship and responsibilities" in Māori women: Family life, social change, and the state in New Zealand, 1944-70. *Journal of Family History,* 29(4), 446-465.

540 Kingi, T (2012). Ahuwhenua – Māori land and agriculture - Land ownership and Māori agriculture. Te Ara - the Encyclopedia of New Zealand. Retrieved from http://www.TeAra.govt.nz/en/ahuwhenua-Māori-land-and-agriculture/page-2

541 Kukutai, T. (2010, p. 53)

542 Boast (2019) p. 6.

543 Boast (2019).

544 Boast (2019) p. 6.

545 Boast (2019) p. 15.

546 Cram, F., Te Huia, B., Te Huia, T., Williams, M. M., & Williams, N. (2019). *Oranga and Māori health inequities 1769–1992.* Wellington: Ministry of Health.

547 Rout, M., & Walker, G. (2021). An Exploration of the Māori Housing-Health Nexus During the Mid-Twentieth Century. *New Zealand Population Review*, 47, 70-107.

548 Cram et al. (2020).

549 Ibid.

550 Quoted in Gassin, T. (2019). Māori mental health: A report commissioned by the Waitangi Tribunal for the Wai 2575 Health Services and Outcomes Kaupapa Inquiry. Waitangi Tribunal, p. 6.

551 Houkamau, C. A. (2010). Identity construction and reconstruction: The role of socio-historical contexts in shaping Māori women's identity. *Social Identities*, 16(2), 179-196, p. 185.

552 Nikora, L. W. (2007). Māori and psychology: Indigenous psychology in New Zealand. (PhD Thesis, University of Waikato), p. 47.

553 Morrow, D. (2014). Tradition and modernity in discourses of Māori urbanisation. *Journal of New Zealand Studies*, 18, 85-105, p. 85.

554 Joseph, P. (2000). Māori and the market: the Waitangi Tribunal. *Race & Class*, 41(4), 59-80, p. 65.

555 Reid et al. (2018).

556 Waitangi Tribunal (1991). *The Ngai Tahu report.* Wellington: Ministry of Justice.

557 Consedine, B. (2007*). Historical influences Māori and the economy.* Wellington: Te Puna Kokiri, p. 2.

558 Taonui, R. (2010) p. 196.

559 Durie, M. H. (2003) p. 91.

560 Walker (1990/2004) p. 312.

561 Poata-Smith, E. T. A. (2013). Inequality and Māori. In Rashbrooke, M. (Ed.). *Inequality: A New Zealand Crisis*, 148-158. Wellington: Bridget Williams Books, p. 148-149.

562 Meijl, T. (1999). Settling Māori land claims: Legal and economic implications of political and ideological contests. In Meijl, T., & Benda-Beckmann, F. (Eds.). *Property rights and economic development: Land and natural resources in Southeast Asia and Oceania* (pp. 259-291)- London: K. Paul International, p. 269.

563 Poata-Smith, E. T. A. (2013) p. 154.

564 Chapple, S. (2000). Māori socio-economic disparity. *Political Science*, 52(2), 101-115, p. 113.

565 Gould, J. (2008). The Distribution of Personal Incomes 1951 to 2006: Māori and Non-Māori Compared. *New Zealand Population Review*, 33(34), 249-260. Retrieved https://www.population.org.nz/app/uploads/2010/01/nzpr-vol-33-and-34_john-gould.pdf

566 Poata-Smith, E. T. A. (2013) p. 150.

567 NZIER. (2003). Māori Economic Development Te Ōhanga Whanaketanga Māori. Retrieved https://nzier.org.nz/static/media/filer_public/de/31/de315bcb-3188-4760-b21d-348382149aa0/Māori_economic_development.pdf, p. 15.

568 Coleman, A., Dixon, S., & Maré, D. C. (2005). Māori economic development - Glimpses from statistical sources. Motu Working Paper 05–13 Motu Economic and Public Policy Research, p. 15.

569 Humpage, L. (2010). Revisioning comparative welfare state studies: An 'indigenous dimension'. *Policy Studies*, 31(5), 539-557, p. 542.

570 Poata-Smith, E. T. A. (2013) p. 151.

571 Quoted in Rout and Reid (2019) p. 24.

572 Mahuika, N. (2011). Closing the gaps: From postcolonialism to kaupapa Māori and beyond. *New Zealand Journal of History*, 45 (1), 15-32, p. 15.

573 Morrow, D. (2014).

574 Hill, R. S. (2010). *Māori and the state: Crown–Māori relations in New Zealand/Aotearoa, 1950–2000*. Wellington: Victoria University Press, p. 92.

575 Durie (2003) p. 1.

576 Hill (2010, p. 14).

577 Williams, J. (2021) p. 564.

578 Hill (2004; 2010).

579 Hill (2010) p. 150.

580 Ruwhiu, D. R., Carter, L., Amoamo, M., Bargh, M., Ruckstuhl, K., Carr, A., & Awatere, S. (2019). Indigenous Forms of Organization: Transforming Economies and Economics. *Academy of Management Proceedings* U6, p. 6.

581 Ruwhiu et al. (2019) p. 6.

582 Hēnare, M. (2015) p. 85.

583 Houkamau, C. A. (2019). Māori identity and economic wellbeing. *Routledge Handbook of Indigenous Wellbeing*, 209-220, pp. 211-212)

584 Rout and Walker (2021).

585 Ibid, p. 73.

586 Reid et al. (2017) p. 41.

587 Durie, M. H. (2003) p. 90-91.

588 Rangihau, J. (1986). Puao-te-Ata-tu. Wellington: New Zealand Government, p. 18.

589 Rout, M., Reid, J., & Mika, J. (2020). Māori agribusinesses: The whakapapa network for success. *AlterNative*, 16(3), 193-201.

590 Rout et al. (2020).

591 Rout et al. (2020) p. 194.

592 Ibid.

593 Kawharu, M., & Tapsell, P. (2019*) Whāriki: the growth of Māori community entrepreneurship*. Auckland: Oratia Books, p. 16.

594 Kawharu, M., & Tapsell, P. (2019, p. 16).

595 Ibid.

596 Kawharu, M. (2018). Taitokerau Case Study: Exploring the marae value chain through Pā to Plate. Our Land and Water Report, p. 8.

597 Kawharu, M. (2019). Reinterpreting the value chain in an indigenous community enterprise context. *Journal of Enterprising Communities, 13*(3), 242-262, p. 248.

598 Ibid.

599 Ibid.

600 Rout et al. (2020).

601 Ibid.

602 Ibid.

603 Ibid.

604 Rout et al. (2020) p. 194.

605 Kawharu, M., & Tapsell, P. (2019) p. 16.

606 Rout et al. (2020).

607 Rout et al. (2020) p. 194.

608 Amoamo, M., Ruckstuhl, K., & Ruwhiu, D. (2018a). Balancing Indigenous Values Through Diverse Economies: A Case Study of Māori Ecotourism. *Tourism Planning & Development*, 15(5), 478-495, p. 481.

609 Mika, J. P., Smith, G. H., Gillies, A., & Wiremu, F. (2019). Unfolding tensions within post-settlement governance and tribal economies in Aotearoa New Zealand. *Journal of Enterprising Communities: People and Places in the Global Economy, 13*(3), 296-318. p. 301.

610 Rout, M., Reid, J. Bodwitch, H., Gillies, A., Lythberg, B., Hikuroa, D., Makey, L., Awatere, S., Mika, J., Wiremu, F., Rakena, M., & Davies, K. (2018). Māori marine economy: A review of literature concerning the historical and contemporary structure of the Māori marine economy. Report for Sustainable Seas, Whai Rawa, Whai Mana, Whai Oranga, Wellington: Sustainable Seas, p. 35.

611 Mika et al. (2019) p. 299.

612 Ibid.

613 Rout et al. (2018) p. 34.

614 Ibid.

615 Mika et al. (2019) p. 299.

616 Ibid, p. 306-307.

617 Ibid.

618 Rout et al. (2018) p. 35.

619 Mika et al. (2019) p. 304.

620 Awatere, S., Mika, J., Hudson, M., Pauling, C., Lambert, S., & Reid, J. (2017). Whakatipu rawa ma nga uri whakatipu: optimising the 'Māori' in Māori economic development. *AlterNative*, 13(2), 80-88, p. 81.

621 Quoted in Tau, T. M., & Rout, M. (2018). The tribal economy. *Journal of New Zealand Studies*, (27), 92-109, p. 105.

622 Mika et al. (2019) p. 307.

623 Ibid.

624 Mika et al. (2019) p. 306.

625 Ibid.

626 Ibid.

627 Awatere et al. (2017) p. 86.

628 Ibid.

629 Ibid.

630 Barr, T. L., Reid, J., Catska, P., Varona, G., & Rout, M. (2018). Development of indigenous enterprise in a contemporary business environment – the Ngāi Tahu Ahikā approach. *Journal of Enterprising Communities.*, 12(4), 454-471, p. 457.

631 Awatere et al. (2017) p. 84.

632 Ibid.

633 Spiller, C., Maunganui Wolfgramm, R., Henry, E., & Pouwhare, R. (2020b). Paradigm warriors: Advancing a radical ecosystems view of collective leadership from an Indigenous Māori perspective. *Human relations* (New York), 73(4), 516-543, p. 519.

634 Spiller, C. (2021). Māori Leadership in Governance: A Living Whāriki System in in R. Joseph, R & R. Benton (eds) *Waking the Taniwha: Māori Governance in the 21st Century.* Wellington, NZ: Thomson Reuters. p. 119.

635 Spiller, C. (2021) p. 119.

636 Roche, M. A., Haar, J. M., & Brougham, D. M. (2018). Māori leaders' well-being: A self-determination perspective. Leadership, 14(4), 25–39, p. 26.

637 Ibid.

638 Kawharu (2019).

639 Roche et al. (2018).

640 Haar, J., Roche, M., & Brougham, D. (2019). Indigenous Insights into Ethical Leadership: A Study of Māori Leaders. *Journal of Business Ethics,* 160(3), 621-640, p. 622.

641 Haar et al. (2019).

642 Haar et al. (2019) p. 622.

643 Spiller, C. (2021) p. 123.

644 Spiller, C., Wolfgramm, R., Henry, E., Pouwhare, R. (2020). Māori leadership and decision making for prosperous economies of wellbeing. Ko te rangatiratanga me te whakatau tikanga ki te whai oranga mō ngā ōhanga houkura. Report

645 Poata-Smith, E. T. A. (2013) p. 153.

646 https://www.tpk.govt.nz/en/a-matou-mohiotanga/business-and-economics/tribal-assets/online/1

647 https://www.nzherald.co.nz/kahu/Māori-economy-put-at-687b-workforce-up-by-100000-people-new-berl-report/L5AYBCPGGUKPJPBQJAC4BN3GNA/

648 BERL Report: https://www.nzherald.co.nz/kahu/Māori-economy-put-at-687b-workforce-up-by-100000-people-new-berl-report/L5AYBCPGGUKPJPBQJAC4BN3GNA/

649 https://www.stats.govt.nz/information-releases/tatauranga-umanga-Māori-statistics-on-Māori-businesses-2020-english

650 https://www.stats.govt.nz/information-releases/tatauranga-umanga-Māori-statistics-on-Māori-businesses-2020-english

651 BERL Report: https://www.nzherald.co.nz/kahu/Māori-economy-put-at-687b-workforce-up-by-100000-people-new-berl-report/L5AYBCPGGUKPJPBQJAC4BN3GNA/

652 https://www.nzherald.co.nz/kahu/Māori-economy-put-at-687b-workforce-up-by-100000-people-new-berl-report/L5AYBCPGGUKPJPBQJAC4BN3GNA/

653 Amoamo, M., Ruwhiu, D., & Carter, L. (2018b). Framing the Māori economy: The complex business of Māori business. *MAI*, 7(1).

654 Ibid, p. 67.

655 Haar, J., Roche, M., & Brougham, D., (2020). A kaupapa Māori approach to human resource management practices in Aotearoa workplaces.

656 Tau and Rout (2018) p. 103.

657 Ibid.

658 Ibid.

659 Ibid, p. 104.

660 Ibid, p. 67.

661 Ibid, p. 69.

662 Ibid. p. 69.

663 Durie, M. H. (2003).

664 Re-connecting with a mana based economy: A short report on the Whai Rawa research programme. Ngā Pae o te Māramatanga: Auckland. p. 3.

665 Houkamau, C. A. (2019) p. 212.

666 Kawharu, M., & Tapsell, P. (2019) p. 15.

667 Mika et al. (2019) p. 304.

668 Te Tau Ihu Māori Women's Leadership awards 2004 Tariana Turia as cited in Pihama, L., & Gardiner, D. (2005, p. 55.).

669 Mika et al. (2019) p. 305.

670 Ministry of Business Innovation and Enterprise (MBIE) 2019b. Māori in the Labour Market. Webpage accessed 5 February 2021. https://www.mbie.govt.nz/dmsdocument/4385-Māori-labour-market-trends-june2019

671 StatsNZ: https://www.stats.govt.nz/information-releases/household-net-worth-statistics-year-ended-june-2021

672 StatsNZ: https://nzdotstat.stats.govt.nz/wbos/Index.aspx

673 Brougham, D., Haar, J., & Roche, M. (2015). Work-family enrichment, collectivism, and workplace cultural outcomes: A study of New Zealand Māori. *New Zealand Journal of Employment Relations*, 40(1), 19-34, p. 19.

674 Houkamau, C. A. (2019) p. 219.

675 Houkamau, C. A. and Sibley, C. (2019). The role of culture and identity for economic values: a quantitative study of Māori attitudes. *Journal of the Royal Society of New Zealand*, 49(sup1), 118-136, p. 122.

676 Brougham, D., Haar, J., & Roche, M. (2015) p. 22.

677 Kawharu (2018) p. 8.

678 Ruwhiu et al. (2019) p. 3.

679 Amoamo et al. (2018b) p. 67.

680 Dell, K. M., Newth, J., Mika, J., & Houkamau, C. A. (2021). Developing a Māori theory of value: Report prepared for Ngā Pae o te Māramatanga, p. 19.

681 Ruwhiu et al. (2019) p. 20.

682 Amoamo et al. (2018a) p. 480.

683 Amoamo et al. (2018b) p. 69.

684 Houkamau et al. (2019) p. 3.

685 Barr et al. (2018); Henry, E. (2017). The creative spirit: emancipatory Māori entrepreneurship in screen production in New Zealand. *Small Enterprise Research*, 24(1), 23-35; Kawharu et al. (2017).

686 Barr et al. (2018) p. 457.

687 Henry, E., Newth, J., & Spiller, C. (2017). Emancipatory Indigenous social innovation: Shifting power through culture and technology. *Journal of Management & Organization*, 23(6), 786-802, p. 790.

688 Henry et al. (2017) p. 790.

689 Kawharu et al. (2017) p. 24.

690 Awatere et al. (2017) p. 81.

691 Henry et al. (2017) p. 27.

692 Kawharu, M., & Tapsell, P. (2019) p. 19.

693 Ibid.

694 Awatere et al. (2018) p. 81.

695 Hēnare, M. (2015). Tapu, mana, mauri, hau, wairua. In Spiller, C., & Wolfgramm, R. (Eds.) (2015*). Indigenous spiritualities at work: Transforming the spirit of business enterprise.* Charlotte, NC: Information Age. p. 85.

696 Haar, J., Roche, M., & Brougham, D. (2019). Indigenous Insights into Ethical Leadership: A Study of Māori Leaders. *Journal of Business Ethics*, 160(3), 621-640, p. 622.

697 Houkamau, C. A. (2019) p. 209.

698 Ibid, p. 130.

699 Ibid.

700 Ibid, p. 131.

701 Houkamau, C., Stevens, A., Oakes, D., & Blank, M. (2019). Taking Control: Māori Responses to Money Management, Wealth and Saving Ngā Whakautu a te Māori mō Te Whakahaeretanga o Te Pūtea, Te Whairawatanga me te Penapena Pūtea, p. 3.

702 Houkamau, C. A., & Sibley, C. G. (2019).

703 Williams, J. (2021) p. 540.

704 Ibid, p. 564.

705 Ibid.

706 Houkamau, C. A. and Sibley, C. (2019).

707 Houkamau, C. A. (2019) pp. 209, 215.

708 Mika et al. (2019) p. 301.

709 Ibid, p. 302.

710 Houkamau, C. A. and Sibley, C. (2019) p. 131.

711 Ibid, p. 133.

712 Houkamau, C. A. (2019) p. 212.

713 Spiller, C., Spiller, R., & Henare, M. (2006). Making a difference: Why and how to employ and work effectively with Māori. Auckland, New Zealand: Equal Employment Opportunities Trust, p. 4.

714 Mika et al. (2019).

715 Kawharu, M., & Tapsell, P. (2019) p. 15.

716 Ibid.

717 Mika et al. (2019) p. 301.

718 Ibid.

719 https://www.health.govt.nz/our-work/populations/Māori-health/tatau-kahukura-Māori-health-statistics/nga-awe-o-te-hauora-socioeconomic-determinants-health/socioeconomic-indicators

720 Walker, T. (2011). Whānau – Māori and family - Contemporary understandings of whānau. Te Ara - the Encyclopedia of New Zealand, Retrieved http://www.TeAra.govt.nz/en/whanau-Māori-and-family/page-1

721 Referenced Moeke-Pickering, T. (1996). Māori Identity Within Whanau: A review of literature. Hamilton: University of Waikato. Retrieved https://researchcommons.waikato.ac.nz/bitstream/handle/10289/464/content.pdf, p. 1.

722 Metge, J. (1995). *New growth from old. Wellington*: Victoria University Press.

723 Ibid.

724 Walker, T. (2011). Whānau – Māori and family - Contemporary understandings of whānau. Te Ara - the Encyclopedia of New Zealand, Retrieved http://www.TeAra.govt.nz/en/whanau-Māori-and-family/page-1

725 Sadler referenced in Herewini, N. (2018). Māori communities raising children: The roles of extended whānau in child rearing in Māori society. Retrieved https://www.borrinfoundation.nz/wp-content/uploads/2020/08/Herewini-2018-Ma%CC%84ori-Communities-Raising-Children.pdf p. 6

726 Pihama, L., & Gardiner, D. (2005). Building baseline data on Māori, whanau development and Māori realising their potential. Literature review: Facilitating engagement. Auckland, NZ: International Research Institute for Māori and Indigenous Education. p. 20

727 Referenced in Greensill, A. (1997). Balancing hapu and iwi (central and local) interests. Ngai Tatou 2020: Indigenous Governance & Accountability Conference Paper. http://www.firstfound.org/vol.%202/greensill.htm

728 Moeke-Pickering, T. (1996).

729 Durie, M. (2021). Towards Self-Determination: Māori Pathways in Decade Two in Joseph, R & Benton, R. (Eds). *Waking the Taniwha: Māori Governance in the 21st Century*. Wellington, NZ: Thomson Reuters, p. 829.

730 Moeke-Pickering, T. (1996) p. 11.

731 Haar, J., Roche, M., & Taylor, D. (2012). Work-family conflict and turnover intentions amongst indigenous employees: The importance of the whanau/family for Māori. *The International Journal of Human Resource Management*, 23(12), 2546-2560. https://doi.org/10.1080/09585192.2011.610344

732 Moeke-Pickering, T. (1996).

733 https://www.rand.org/content/dam/rand/pubs/papers/2005/P7967.pdf

734 Treasury. (2021). The Living Standards Framework 2021: 28 October 2021. https://www.treasury.govt.nz/sites/default/files/2021-10/tp-living-standards-framework-2021.pdf

735 North, D. C. (1994). Institutions matter. *Economic History*, *9411004*, p. 361

736 Bouma, G. (1998). Distinguishing institutions and organisations in social change. *Journal of Sociology*, 34(3), 232-245, p. 234

737 Bouma (1998), p. 235.

738 North (1994), p. 361.

739 North, D. C. (1990). *Institutions, institutional change, and economic performance*. Cambridge: Cambridge University Press, p. 3

740 Ibid, p. 3.

741 Williamson, O. E. (2000). The new institutional economics: taking stock, looking ahead. *Journal of Economic Literature*, 38(3), 595-613.

742 https://www.treasury.govt.nz/sites/default/files/2019-01/tp19-01.pdf

743 Hēnare, M. (2001). Tapu, mana, mauri, hau, wairua: A Māori philosophy of vitalism and cosmos. In Grim, J. (Ed.). *Indigenous traditions and ecology: The interbeing of cosmology and community* (pp. 197–221). Cambridge, MA: Harvard University Press.

744 Vemuri, A. W., & Costanza, R. (2006). The role of human, social, built, and natural capital in explaining life satisfaction at the country level: Toward a National Well-Being Index (NWI). *Ecological Economics*, 58(1), 119-133, p. 120.

745 https://www.treasury.govt.nz/sites/default/files/2019-01/dp19-01.pdf

746 Coon, D. J. (2006). Abraham H. Maslow: Reconnaissance for Eupsychia. In Dewsbury, D. A., Benjamin, L. T. Jr., Wertheimer, M. (Eds) *Portraits of Pioneers in Psychology* (Vol. 6). Washington DC: American Psychological Association, pp. 255-272; Valiunas, A. (2011). Abraham Maslow and the all-American self. The New Atlantis, 33, 93-110.

747 Durie, M. (2001). *Mauri ora: The dynamics of Māori health* (First ed.). Oxford University Press.

748 Rout, M., Awatere, S., Mika, J. P., Reid, J., & Roskruge, M. (2021). A Māori approach to environmental economics: Te ao tūroa, te ao hurihuri, te ao mārama—The old world, a changing world, a world of light. Oxford Research Encyclopedia of Environmental Science. https://doi.org/10.1093/acrefore/9780199389414.013.715

749 Mika, J. P., Dell, K. M., Elers, C., Dutta, M. J., & Tong, Q. (2022). Indigenous environmental defenders in Aotearoa New Zealand: Ihumātao and Ōroua River. *AlterNative: An International Journal of Indigenous Peoples*, 1-13. https://doi.org/https://doi.org/10.1177/11771801221083164

750 Hēnare, M. (2014). Pōhara, kōkiri, tōnui: Imagine a child and whānau-centred economy of equality, wealth creation and poverty removal. In V. Carpenter & S. Osborne (Eds.), *Twelve thousand hours: Education and poverty in Aotearoa New Zealand (*pp. 44-66). Dunmore Publishing.

751 Hēnare, M. (2011). Lasting peace and the good life: Economic development and the 'āta noho' principle of Te Tiriti o Waitangi. In V. M. H. Tawhai & K. Gray-Sharp (Eds.), *Always speaking: The Treaty of Waitangi and public policy* (pp. 261-276). Huia

752 Hēnare, M. (2014).

753 Nicholson, A., Woods, C., & Hēnare, M. (2012). Umanga Whanaungatanga: Family Business. International Council for Small Business (ICSB), Leading from the Edge, Wellington, New Zealand, 10-13 June 2012, Wellington, New Zealand.

754 Chrisman, J. J., Chua, J. H., & Steier, L. (2005). Sources and consequences of distinctive familiness: An introduction. Entrepreneurship Theory and Practice, 29(3), 237-247. https://doi.org/10.1111/j.1540-6520.2005.00080.x

755 Ibid.

756 Pearson, A. W., Carr, J. C., & Shaw, J. C. (2008). Toward a theory of familiness: A social capital perspective. Entrepreneurship Theory and Practice, 32(6), 949-969. https://doi.org/10.1111/j.1540-6520.2008.00265.x

757 Nicholson, A., Woods, C., & Hēnare, M. (2012).

758 Ibid (p. 10).

759 Hēnare, M. (2011); Spiller, C., Erakovic, L., Hēnare, M., & Pio, E. (2011). Relational well-being and wealth: Māori businesses and an ethic of care. *Journal of Business Ethics*, 98(1), 153-169.

760 Nicholson et al (2012).

761 Spiller et al. (2011).

762 Ibid.

763 Haar, J., & Delaney, B. (2009). Entrepreneurship and Māori cultural values: Using 'whanaungatanga' to understand Māori business. *New Zealand Journal of Applied Business Research*, 7(1), 25. p. 30

764 Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing industries and competitors* (First ed.). Free Press.

765 Haar, J., & Delaney, B. (2009).

766 Cross, T., Wilson, M., Earle, D., Scott, G., Kilby, C., & Soke, C. (1991). Iwi and whānau economic development: Social problems and policy implications. In J. Whitewell & M. A. Thompson (Eds.), *Society and culture: Economic perspectives* (Vol. 1, pp. 180-190). New Zealand Association of Economists Incorporated. p. 180.

767 Rangihau, J. T. R.-A., Manuel, E., Hall, D., Brennan, H., Boag, P., Reedy, T., & Grant, J. (1989). Puao-Te-Ata-Tu: The report of the Ministerial Advisory Committee on a Māori perspective for the Department of Social Welfare. https://www.msd.govt.nz/documents/about-msd-and-our-work/publications-resources/archive/1988-puaoteatatu.pdf

768 Cross et al., (1991) p. 181.

769 Ibid.

770 Ibid, p. 182.

771 Ibid.

772 Ibid, p. 184.

773 Petrie, H. (2002). Colonisation and the involution of the Māori economy Session 24 XIII World Congress of Economic History, 20-28 July 2002, Buenos Aires, Argentina. http://news.tangatawhenua.com/wp-content/uploads/2010/10/24Petrie75.pdf

774 Cross et al. (1991).

775 Ibid.

776 Ibid.

777 Carpenter, V., & Osborne, S. (Eds.). (2014). *Twelve thousand hours: Education and poverty in Aotearoa New Zealand*. Dunmore Publishing; Cole, A., & McCallion, A. (2014). Culture matters, too: Achieving ecological economic outcomes through the expression of Māori cultural identity. https://tetoiohanga.com/content/reports/2018/tto-report1-2018.pdf; Durie, A. (1999). Pathways Home: Te Hoe Nuku Roa (The Long Journey). http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED467408&site=eds-live&scope=site; Mika, J. P., Fahey, N., & Bensemann, J. (2019). What counts as an Indigenous enterprise? Evidence from Aotearoa New Zealand. *Journal of Enterprising Communities: People and Places in the Global Economy*, 13(3), 372-390. https://doi.org/https://doi.org/10.1108/JEC-12-2018-0102; Mika, J. P., Smith, G. H., Gillies, A., & Wiremu, F. (2019). Unfolding tensions within post-settlement governance and tribal economies in Aotearoa New Zealand. *Journal of Enterprising Communities: People and Places in the Global Economy,* 13(3), 296-318. https://doi.org/https://doi.org/10.1108/JEC-12-2018-0104; Ministry of Education. (2005). Economic outcomes for Māori from tertiary education. Tertiary Sector Performance Analysis & Reporting, Strategy and Systerm Performance, Ministry of Education; Nana, G., Reid, A., Schulze, H., Dixon, H., Green, S., & Riley, H. (2021). Te ōhanga Māori 2018: The Māori economy 2018. https://berl.co.nz/sites/default/files/2021-01/Te%20%C5%8Changa%20M%C4%81ori%202018.pdf; Ruwhiu, D., Amoamo, M., Ruckstuhl, K., Kapa, J., & Eketone, A. (2021). Success factors of Māori entrepreneurs: A regional perspective. *Journal of Management and Organization*, 2021(27), 41-61. https://doi.org/10.1017/jmo.2018.45 ; Smith, G. H., Tinirau, R. S., Gillies, A., & Warriner, V. C. A. (2015). He mangōpare amohia: Strategies for Māori economic development. Te Whare Wānanga o Awanuiārangi.

778 Cross et al. (1991).

779 Wheen, N. R., & Hayward, J. (Eds.). (2012). *Treaty of Waitangi settlements* (First ed.). Bridget Williams.

780 Greaves, L. M., Houkamau, C. A., & Sibley, C. G. (2015). Māori identity signatures: A latent profile analysis of the types of Māori identity. *Cultural Diversity and Ethnic Minority Psychology*, 21(4), 541-549. https://doi.org/10.1037/cdp0000033; Houkamau, C. A., Sibley, C., & Hēnare, M. (2019). Te rangahau o te tuakiri Māori me ngā waiaro ā-pūtea: The Māori identity and financial attitudes study (MIFAS): Background, theoretical orientation and first wave response rates. *MAI Journal*, 8(2), 142-158. https://doi.org/10.20507/MAIJournal.2019.8.2.4; Reid, J., Varona, G., Fisher, M., & Smith, C. (2016). Understanding Māori 'lived' culture to determine cultural connectedness and wellbeing. *Journal of Population Research*, 33(1), 31-49. https://doi.org/10.1007/s12546-016-9165-0

781 Haar, J., Martin, W. J., Ruckstuhl, K., Ruwhiu, D., Daellenbach, U., & Ghafoor, A. (2021). A study of Aotearoa New Zealand enterprises: How different are Indigenous enterprises? *Journal of Management & Organization*, 1-15. https://doi.org/10.1017/jmo.2021.6 ; Reid, J., & Rout, M. (2016). Māori tribal economy: Rethinking the original economic institutions. In T. L. Anderson (Ed.), *Unlocking the wealth of tribal nations* (pp. 84-103). Lexington Books; Warren, L., Mika, J. P., & Palmer, F. R. (2017). How does enterprise assistance support Māori entrepreneurs? An identity approach 'Borders', prosperity and entrepreneurial responses: 40th annual conference of the Institute of Small Business and Entrepreneurship (ISBE), 4-8 November 2017, Europa Hotel, Belfast, Ireland, UK.

782 Reid, J., & Rout, M. (2016).

783 Gillies, A., Tinirau, R. S., & Mako, N. (2007). Whakawhanaungatanga - extending the networking concept. *He Pukenga Kōrero: A Journal of Māori Studies*, Raumati (Summer) 8(2), 29-37, p. 29.

784 Durie, M. (2001); Smith et al. (2015).

785 Gillies et al. (2007).

786 Ibid.

787 Smith et al. (2015).

788 Joseph, R., Tahana, A., Kilgour, J., Mika, J. P., Rakena, M., & Jefferies, T. P. (2016). Te pae tawhiti: Exploring the horizons of economic performance. https://www.waikato.ac.nz/__data/assets/pdf_file/0006/322188/MAIN-FINAL-Te-Pai-Tawhiti-Report-Nov-11-2016.pdf

789 Mika, J. P., Cordier, J., Roskruge, M., Tunui, B., O'Hare, J., & Vunibola, S. (2021). Te hononga—Modelling Indigenous collaborative enterprise: A research report on Māori enterprise collaboration in Aotearoa New Zealand. https://sites.massey.ac.nz/teaurangahau/wp-content/uploads/sites/53/2021/08/Te-Hononga-FINAL-reduced.pdf

790 Ibid, p. vi.

791 Ibid, p. vi.

792 Ibid.

793 Ibid.

794 Price, K. D. (2003). Internal development: The case of Minginui Forest Village Massey University]. Palmerston North, New Zealand.

795 Te Puni Kōkiri. (2019, 10 September). Kaingaroa housing community development: whānau inspired for bright future. Kōkiri. https://www.tpk.govt.nz/en/mo-te-puni-kokiri/our-stories-and-media/kaingaroa-housing-community-development-whanau-ins

796 Rout et al. (2021).

797 Alpkan, L., Bulut, C., Gunday, G., Ulusoy, G., & Kilic, K. (2010). Organizational support for intrapreneurship and its interaction with human capital to enhance innovative performance. *Management Decision, 48*(5), 732-55. https://doi.org/10.1108/00251741011043902, p. 733.

798 Ullah, I., Hameed, R. M., Kayani, N. Z., & Fazal, Y. (2019). CEO ethical leadership and corporate social responsibility: Examining the mediating role of organizational ethical culture and intellectual capital. *Journal of Management & Organization*, 1-21. https://doi.org/10.1017/jmo.2019.48; Singh, B., & Rao, M. K. (2016). Effect of intellectual capital on dynamic capabilities. *Journal of Organizational Change Management*, 29(2), 129-149.

799 Dakhli, M. & De Clercq, D. (2004). Human capital, social capital, and innovation: A multi-country study. *Entrepreneurship & Regional Development*, 16, 107–128.

800 Haar, J., Martin, W. J., Ruckstuhl, K., Ruwhiu, D., Daellenbach, U., & Ghafoor, A. (2021). p. 738.

801 Youndt, M. A. & Snell, S. A. (2004). Human resource configurations, intellectual capital, and organizational performance. *Journal of Managerial Issues*, *16*(3), 337-360. p. 332.

802 Haar et al. (2021) p. 738.

803 Crook, T. R., Todd, S. Y., Combs, J. G., Woehr, D. J., & Ketchen, D. J. Jr. (2011). Does human capital matter? A meta-analysis of the relationship between human capital and firm performance. *Journal of Applied Psychology, 96*(3), 443–56. https://psycnet.apa.org/doi/10.1037/a0022147

804 Youndt, M. A. & Snell, S. A. (2004).

805 Haar et al. (2021) p. 738.

806 Ibid.

807 Statistics New Zealand (2020). *Labour Market Statistics (Income): June 2020 Quarter*. Statistics New Zealand, Wellington. https://www.stats.govt.nz/information-releases/labour-market-statistics-income-june-2020-quarter (accessed 1 October 2021).

808 Statistics New Zealand (2021a). Census 2018: Māori Ethnic Group. Statistics New Zealand, Wellington. Viewed at 25 June 2021 at https://www.stats.govt.nz/tools/2018-census-ethnic-group-summaries/māori (accessed 1 October 2021).

809 Ibid.

810 Statistics New Zealand (2022a). *Household Labour Force Survey: December 2021 Quarter*. 2 February 2022. Statistics New Zealand, Wellington

811 Statistics New Zealand (2021b). *Household Labour Force Survey: June 2021 Quarter*. Statistics New Zealand, Wellington. https://www.stats.govt.nz/information-releases/labour-market-statistics-june-2021-quarter (accessed 1 October 2021).

812 Statistics New Zealand (2021a)

813 Ibid.

814 Statistics New Zealand (2019). *Survey of Working Life: December 2018 Quarter*. Statistics New Zealand, Wellington. https://www.stats.govt.nz/reports/survey-of-working-life-2018 (accessed 1 October 2021).

815 Crook et al. (2011).

816 Ferrer-i-Carbonell, A. (2005). Income and wellbeing: an empirical analysis of the comparison income effect. *Journal of Public Economics, 89*(5-6), 997-1019; Sacks, D. W., Stevenson, B., & Wolfers, J. (2012). The new stylized facts about income and subjective well-being. *Emotion, 12*(6), 1181–1187.

817 Howell, R. T., & Howell, C. J. (2008). The relation of economic status to subjective wellbeing in developing countries: A meta-analysis. *Psychological Bulletin, 134*(4), 536-560.

818 Yap, M., & Yu, E. (2016). Operationalising the capability approach: Developing culturally relevant indicators of indigenous wellbeing–an Australian example. *Oxford Development Studies, 44*(3), 315-331.

819 Statistics New Zealand (2022b). *Annual Inflation Reaches 30-Year High Of 6.9 Percent*. 21 April 2022. Statistics New Zealand, Wellington.

820 Pega, F., Náfrádi, B., Momen, N. C., Ujita, Y., Streicher, K. N., Prüss-Üstün, A. M., ... & Woodruff, T. J. (2021). Global, regional, and national burdens of ischemic heart disease and stroke attributable to exposure to long working hours for 194 countries, 2000–2016: A systematic analysis from the WHO/ILO Joint Estimates of the Work-related Burden of *Disease and Injury. Environment International, 106595*. https://doi.org/10.1016/j.envint.2021.106595

821 Statistics New Zealand, (2019).

822 Haar, J. M., Suñe, A., Russo, M., & Ollier-Malaterre, A. (2019). A cross-national study on the antecedents of work-life balance from the fit and balance perspective. *Social Indicators Research, 142*(1), 261-282. https://doi.org/10.1007/s11205-018-1875-6

823 Haar, J. M., Russo, M., Suñe, A., & Ollier-Malaterre, A. (2014). Outcomes of work-life balance on job satisfaction, life satisfaction and mental health: A study across seven cultures. *Journal of Vocational Behavior, 85*(3), 361–373. http://dx.doi.org/10.1016/j.jvb.2014.08.010

824 Haar Haar, J. (2022a). Jarrod Haar: Study reveals more kiwis are thinking of changing careers. *Mike Hosking Breakfast.* 27 April 2022; Haar, J. (2022b). What are the odds of burnt-out risk and leaving the job? Turnover intent consequences of worker burnout using a two sample New Zealand study. *International Journal of Selection and Assessment* (In Press); Smith, C. (2022). The Great Resignation 'tidal wave' hits NZ - what it means for workers. *New Zealand Herald*, 14 June 2022.

825 Haar et al. (2021).

826 Takeuchi, R., Lepak, D. P., Wang, H., & Takeuchi, K. (2007). An empirical examination of the mechanisms mediating between high-performance work systems and the performance of Japanese organizations. *Journal of Applied Psychology, 92*(4), 1069-83. https://psycnet.apa.org/doi/10.1037/0021-9010.92.4.1069

827 Park, T. Y., & Shaw, J. D. (2013). Turnover rates and organizational performance: A meta-analysis. *Journal of Applied Psychology, 98*(2), 268-309.

828 Haar, J. & Martin, W. J. (2022). He Aronga Takirua: Cultural double shifting of Māori scientists. *Human Relations, 75*(6), 1001-1027.

829 Ibid.

830 Ibid.

831 Palumbo, R., & Manna, R. (2020). A portrait of workplace discrimination in Italy: empirical evidence from a nationwide survey. *Evidence-Based HRM: A Global Forum for Empirical Scholarship, 8*(1), 92-112; Thommes, K., & Klabuhn, J. (2021). Age and tenure diversity on the work floor: Evidence from a natural field experiment in production. *Evidence-Based HRM: A Global Forum for Empirical Scholarship, 9*(1), 95-117.

832 Cardo, L. M. (1994). Development of an instrument measuring valence of ethnicity and perception of discrimination. *Journal of Multicultural Counseling and Development, 22*(1), 49-59.

833 Korous, K. M., Causadias, J. M., & Casper, D. M. (2017). Review article: Racial discrimination and cortisol output: A meta-analysis. *Social Science & Medicine, 193*, 90-100.

834 Dhanani, L. Y., Beus, J. M., & Joseph, D. L. (2018). Workplace discrimination: A meta-analytic extension, critique, and future research agenda. *Personnel Psychology, 71*(2), 147-179.

835 see Ellis, M. (2021). Most Māori experience racism every day – new research. *Radio New Zealand*, 22 March 2021. Viewed (3-3-2022) at https://www.rnz.co.nz/news/ldr/438895/most-Māori-experience-racism-every-day-new-research

836 Humans Rights Commission (2012). *A fair Go For All? Rite tahi tātou katoa? Addressing Structural Discrimination in Public Services.* Wellington: New Zealand, Humans Rights Commission, p. 28.

837 Nana et al. (2020); Haar, J., Roche, M. & Brougham, D. (2020). *A Kaupapa Māori Approach to Human Resource Management Practices in Aotearoa Workplaces.* Auckland, New Zealand: New Zealand Work Research Institute. https://workresearch.aut.ac.nz/__data/assets/pdf_file/0004/450463/Nga-Pae-HPWS-Māori-Finalupdate.pdf; Ruckstuhl, K., Haar, J., Hudson, M., Amoamo, M., Waiti, J., Ruwhiu, D., & Daellenbach, U. (2019). Recognising and valuing Māori innovation in the high-tech sector: A capacity approach. *Journal of the Royal Society of New Zealand, 49*(sup1), 72–88.; Haar et al. (2021); Mrabure, R. H. O., Ruwhiu, D., & Gray, B. (2021). Indigenous entrepreneurial orientation: A Māori perspective. *Journal of Management & Organization, 27*(1), 62-86.

838 Haar, Roche et al. (2019).

839 Haar, Roche, et al. (2019); Ruckstuhl et al. (2019); Haar et al. (2021); Mrabure et al. (2021); Mika, J. P., & O'Sullivan, J. G. (2014). A Māori approach to management: Contrasting traditional and modern Māori management practices in Aotearoa New Zealand. Journal of Management & Organization, 20(5), 648–670; Henry, E., & Wolfgramm, R. (2015). Relational leadership—An indigenous Māori perspective. *Leadership, 14*(2), 203–219; Roche, M. A., Haar, J. M., & Brougham, D. M. (2018); Ruru, S., Roche, M., & Waitoki, W. W. (2017). Māori women's perspectives of leadership and wellbeing. *Journal of Indigenous Wellbeing, 2*(1), 5–14; Spiller, C., Erakovic, L., Henare, M., & Pio, E. (2010). Relational wellbeing and wealth: Māori business and an ethic of care. *Journal of Business Ethics, 98*(1), 153–169; Spiller, C., & Stockdale, M. (2013). Managing and leading from a Māori perspective: Bringing new life and energy to organisations. In J. Neal (Ed.), *Handbook of Faith and Spirituality in the Workplace* (pp. 149–173). New York, NY: Springer.; Henry, E., & Dana, L. P. (2019). Māori indigenous research: Impacting social enterprise and entrepreneurship. In A. de Bruin, & S. Teasdale (Eds.), *A Research Agenda for Social Entrepreneurship* (pp. 128–135). Cheltenham, UK: Edward Elgar Publishing.

840 Haar, J. & Brougham, D. (2022). Work antecedents and consequences of work-life balance: A two sample study within New Zealand. *The International Journal of Human Resource Management, 33*(4), 784-807; Haar, J., & Brougham, D. (2016). Organisational-based self-esteem: A within country comparison of outcomes between Māori and New Zealand Europeans. *Journal of Management*

& Organization, 22(5), 720–735; Haar, J. M., & Ghafoor, A. (2021). Indigenous peoples' perspectives and wellbeing in organisational life. In T. Wall, C. Cooper, & P. Brough (Eds.), *The SAGE Handbook of Organisational Wellbeing* (pp. 494–508). Sage; Haar et al. (2014).

841 Haar, J. & Martin, W. J. (2021).

842 Haar, J. M., Roche, M., & Taylor, D. (2012). Work–family conflict and turnover intentions of indigenous employees: The importance of the whanau/family for Māori. *The International Journal of Human Resource Management, 23*(12), 2546–2560.

843 Ibid.

844 Ibid.

845 Haar, J. & Brougham, D. (2013). An indigenous model of career satisfaction: Exploring the role of workplace cultural wellbeing. *Social Indicators Research, 110*(3), 873-890.

846 Haar, J. & Brougham, D. (2016); Brougham et al. (2015); Haar, J. & Cordier, J. (2020). Testing the psychometric properties of the short work-family enrichment scale on under-represented samples. *International Journal of Selection and Assessment, 28*, 112–116.

847 Haar, J. & Brougham, D. (2016); Haar et al. (2014).

848 Haar, J. & Brougham, D. (2016).

849 Ibid.

850 Te Puni Kōkiri. (2002). *He tirohanga ō kawa ki te Tiriti o Waitangi: A guide to the principles of the Treaty of Waitangi as expressed by the Courts and the Waitangi Tribunal*. Wellington, New Zealand: Te Puni Kōkiri.

851 Haar, J. M., Roche, M., & Brougham, D. (2020); Haar, J. (2022c). The future of the Māori workforce is now. *Human Resources*, Winter, 12-15. https://issuu.com/hrnz.magazine/docs/2022_hrnz_winter_magazine_issuu/s/15982485.

852 Datta, Guthrie, and Wright (2005, p. 135).

853 Combs, J., Liu, Y., Hall, A., & Ketchen, D. (2006). How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. *Personnel Psychology, 59*(3), 501-28.; Subramony, M. (2009). A meta-analytic investigation of the relationship between HRM bundles and firm performance. *Human Resource Management, 48*(5), 745-768.; Zhai, X., & Tian, X. (2020). Do performance measures matter in the relationship between high-performance work system and organizational performance? *International Journal of Manpower, 41*(3), 241-225.

854 Haar, J. & Mowat, R. (2021). Are Human Resource Practices the key to managing job burnout in New Zealand nurses? Testing a path model. *Journal of Clinical Nursing, 00*, 1–10. https://doi.org/10.1111/jocn.16077; Haar, J. & Harris, C. (2021). A moderated mediation study of high performance work systems and insomnia on New Zealand employees: Job burnout mediating and work-life balance moderating. *The International Journal of Human Resource Management.* https://doi.org/10.1080/09585192.2021.1961161.

855 e.g., Yalabik, Z. Y., Chen, S. J., Lawler, J., & Kim, K. (2008). High-Performance Work System and Organizational Turnover in East and Southeast Asian Countries. *Industrial Relations: A Journal of Economy and Society, 47*(1), 145-52.

856 Smith, L. T. (1999). *Decolonizing Methodologies: Research and Indigenous People*. London: Zed Books Ltd

857 Combs et al. (2006); Haar, J. & Mowat, R. (2021); Haar, J. & Harris, C. (2021).

858 Haar, J. & Mowat, R. (2021); Haar, J. & Harris, C. (2021).

859 Haar et al. (2020).

860 Delery, J. E., & Roumpi, D. (2017). Strategic human resource management, human capital and competitive advantage: Is the field going in circles? *Human Resource Management Journal 27*(1), 1-21.

861 Boxall, P. (1998). Achieving competitive advantage through human resource strategy: Towards a theory of industry dynamics. *Human Resource Management Review, 8*(3), 265–88.

862 Boxall, P. (1996). The strategic HRM debate and the resource-based view of the firm. *Human Resource Management Journal, 6*(3), 59-75.

863 Boxall, P. (1996, 1998).

864 Boxall, P. (1998)

865 Haar et al. (2020).

866 Ibid.

867 Cited in Families Commission, Kōmihana ā Whānau (2011, p. 31).