

# Te Ōhanga Māori 2018

*The Māori Economy 2018*

# Ngā kaupapa matua – Key themes

The Māori economy is key to the wellbeing of Māori, and is a significant and increasingly important contributor to the wider economy of Aotearoa. Following are the key themes to emerge from the research.

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## The future is Māori

- There has been significant growth in the Māori population and labour force, which is set to continue. Māori will be a rising proportion of the future workforce
- The Māori asset base is increasingly diverse – the previous concentration of Te Ōhanga Māori in the primary sector has dispersed, spreading risk and increasing resilience
- Te Ōhanga Māori encompasses activity and enterprise additional to, and far beyond, Te Tiriti settlements, and more and more is an engine of growth in the economy of Aotearoa
- The businesses of Māori employers are increasingly prominent, with high numbers of skilled Māori moving into entrepreneurship and employing considerable numbers of people
- Māori collectives and businesses are delivering wellbeing across several dimensions and through a multitude of effort, including
  - Community engagement, participation, and contribution
  - Whānau and family caring
  - Paid employment
  - Unpaid voluntary work
  - Trust and business enterprise activities.

## Opportunities to tap and uncap

- Access to capital, or the ability to leverage existing assets, continues to be a barrier for Māori
- The unequal distribution of income and wealth limits delivery of wellbeing for Māori, and is exacerbated by:
  - Falling home ownership
  - In-work poverty
- Increasing skills for improved labour force engagement by Māori continues to require a multi-generational effort.

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# He kupu whakataki

## Foreword



Tēnā koutou katoa,

It is my privilege to present Te Ōhanga Māori 2018. This work has been carefully authored by the dedicated team at Business and Economic Research Limited (BERL).

Te Ōhanga Māori 2018 is a fact-based foundation for economic policy making for New Zealand's future. This report expands on BERL's 2013 work by providing a richer description of the many roles Māori play in the economy of Aotearoa.

Te Pūtea Matua – the Reserve Bank of New Zealand – sponsored this work to continue meeting our mandate. Our mission is to promote the prosperity and wellbeing of New Zealanders and contribute to a sustainable and productive economy. Te Pūtea Matua is also the kaitiaki of New Zealand's financial system.

An economy and financial system is based, first and foremost, on people. Economic prosperity arises when people produce products, deliver services, invest in businesses, employ others, and work for wages. Prosperity and wellbeing also arises when people support their whānau and community through unpaid labour.

This work reminds the reader that the Māori economy is much more than just the dollar amount of production. Like all New Zealanders, Māori engage in economic activity both inside and outside of the formal, paid labour force. We all have much to learn from one another in this regard.

The report was written during the onset of the global COVID-19 pandemic. Te Ōhanga Māori 2018 gives us a snapshot of Māori economic activity just before the pandemic. We know already that the health and economic impacts of the pandemic have been, and will continue to be, uneven across society. I hope that BERL's insights will enable all of us to make sound decisions to ensure Māori, and all New Zealanders, prosper through the pandemic and into the future.

Nāku iti nei, nā,



**Adrian Orr**

Governor, Te Pūtea Matua  
(Reserve Bank of New Zealand)

# Timatanga kōrero

## Introduction



Te Pūtea Matua – the Reserve Bank of New Zealand – commissioned Business and Economic Research Limited (BERL) to update previous research on Te Ōhanga Māori, the Māori economy.

The updated research presents financial measures of the core resources (assets) available to Māori, as well as the flows of income, expenditure, and Gross Domestic Product (GDP) received, spent, produced, and delivered by Māori in Aotearoa in the 2018 year.

However, we emphasise that there are many interactions and connections within and between Māori and the wider Aotearoa economy. Consequently, we adopt broad-ranging perspectives in line with both the Treasury Living Standards Framework, and relate a more generalised approach considering people, planet, and profits.

Where at all possible, we retain consistent definitions and categorisations with our previous 2010 and 2013 reports (Āpitihianga tahi – Appendix one). This report, though, for the first time makes maximum use of Statistics New Zealand Integrated Data Infrastructure (IDI) datasets. The more comprehensive nature of this data should be noted when comparing with findings in earlier reports. More details on use of the IDI datasets can be found in Āpitihianga rua Appendix two.

The glossary section of this report provides definitions of kupu Māori, technical terms, and abbreviations (Āpitihianga toru – Appendix three).

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## Rohe

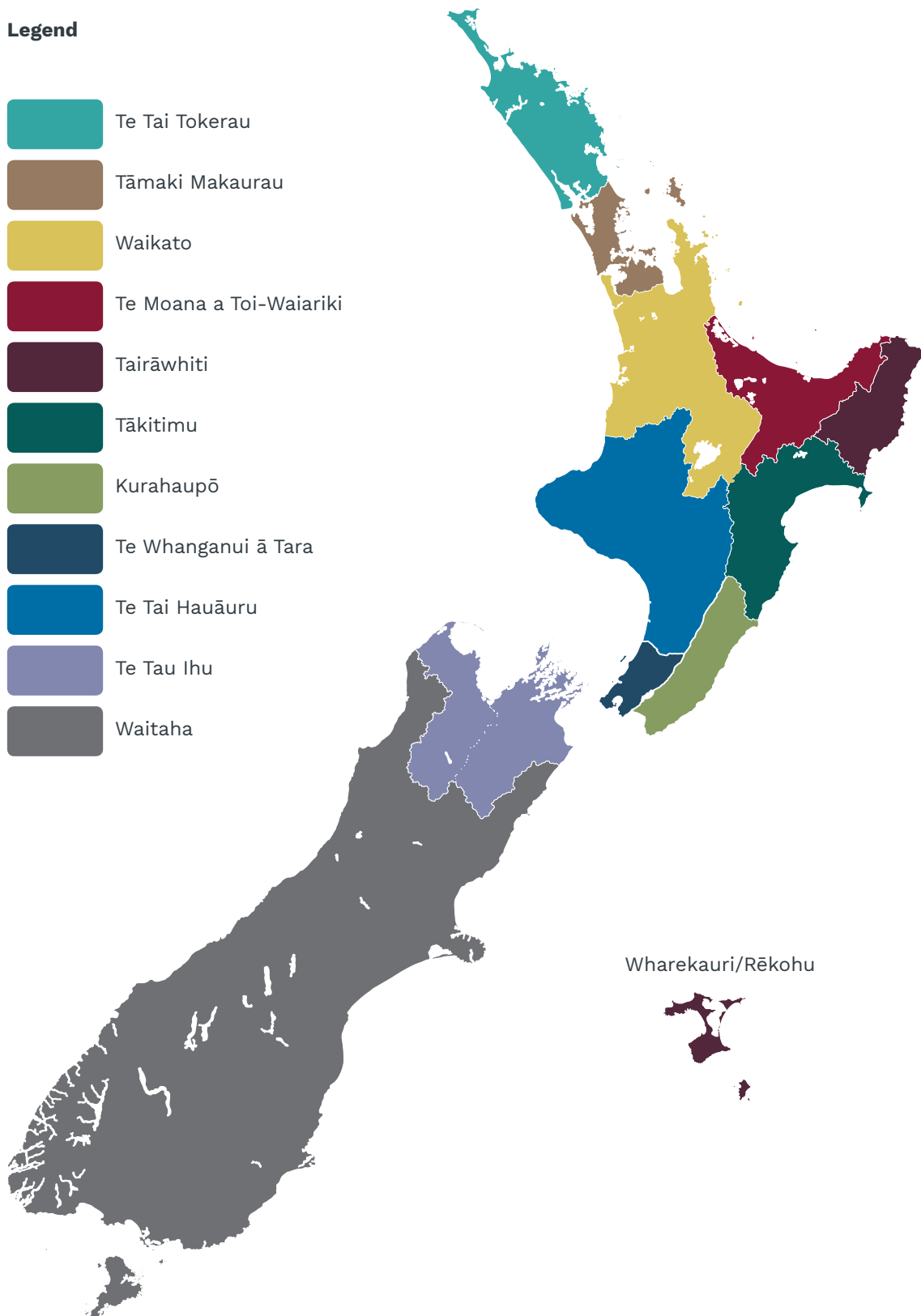
The boundary determinations of the eleven rohe in the report are depicted in Figure 1. Further details of the alignment with Te Puni Kōkiri and Māori Land Court rohe, as well as local government boundaries are provided in the appendices (Āpitihianga whā – Appendix four).



**Figure 1 Rohe disaggregation**

**Legend**

-  Te Tai Tokerau
-  Tāmaki Makaurau
-  Waikato
-  Te Moana a Toi-Waiariki
-  Tairāwhiti
-  Tākitimu
-  Kurahaupō
-  Te Whanganui ā Tara
-  Te Tai Hauāuru
-  Te Tau Ihu
-  Waitaha



# Tirohanga whānui

## Overview



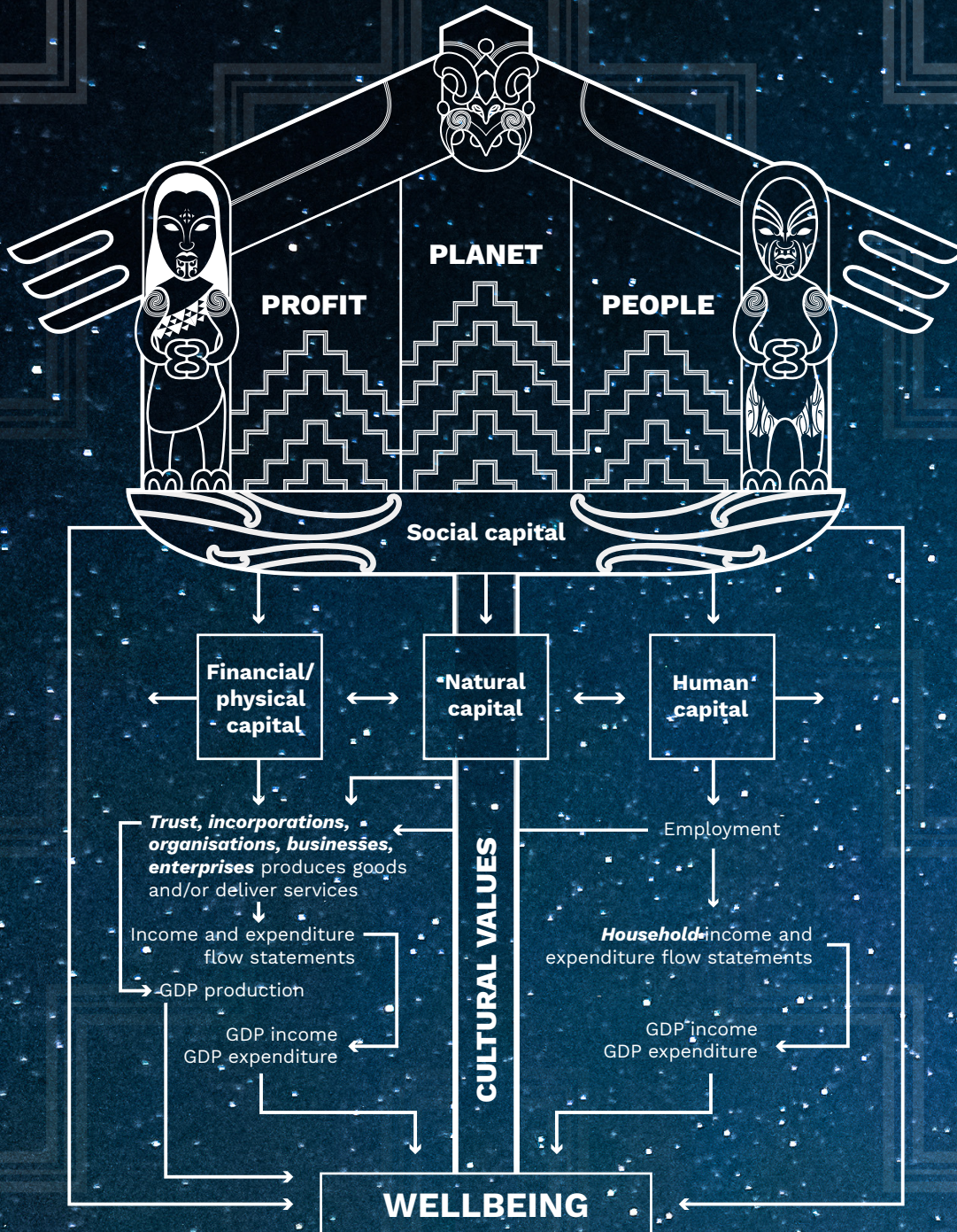
Te Ōhanga Māori is no longer a separate, distinct, and clearly identifiable segment of the Aotearoa economy. It is a closely connected component of numerous pieces of the jigsaw puzzle that together make up the economy of Aotearoa. Māori participation, contribution, and connections to this jigsaw puzzle can be seen in several areas:

- Skilled workers engaged in the production and trading activities of businesses and institutions
- Skilled workers in the many iwi/hapū/whānau trusts, Māori incorporations, and other productive Māori enterprises delivering products and services
- As whānau who whakapapa to an iwi, trust, or incorporation, and enjoy benefits in the form of owner dividends, scholarship grants and other education or training assistance, papa kāinga developments, and contributions to retirement savings, as well as many other benefits
- Managers or trustees in an iwi, trust, or incorporation overseeing multi-million dollar enterprises
- Whānau representatives setting and agreeing on kaupapa for a range of financial and natural resources
- Households that purchase goods and services for whānau
- Unpaid members of households and/or whānau engaged in nurturing and caring for members of their whānau, hapū, iwi, and/or community
- Businesses employing others to produce goods or deliver services, while competing for sales in Aotearoa and offshore markets
- Incorporations, trusts, or rūnanga enterprises and ventures, operating under Te Ture Whenua Māori Act 1993, the Incorporated Societies Act 1908, the Charities Act 2005, the Trusts Act 2019, or other legislation, while answerable to Māori communities of yesterday, today, and tomorrow
- Contracted entities delivering a broad range of health, education, training, whānau, and social services – by Māori, for Māori.

# Te horopaki – Context

These numerous forms of participation, contribution, and connection can be reflected through different approaches to describing the economic system (Figure 2).

Figure 2 Perspectives for Te Ōhanga Māori



Source: BERL

# Living Standards Framework

Viewing from the perspective of the Living Standards Framework (Treasury, 2018), the four capitals are inputs, assets, or core resources, available to maintain and sustain future wellbeing. The four capitals are described as follows:

- Natural capital – refers to all aspects of the natural environment needed to support life and human activity. Natural capital includes land, soil, water, plants, and animals, as well as minerals and energy resources
- Human capital – encompasses people’s skills, knowledge, and physical and mental health. These are the things that enable people to participate fully in work, study, and recreation, and in society more broadly
- Physical and financial capital – includes houses, roads, buildings, factories, equipment, and vehicles. These are the things that make up the country’s physical and financial assets, which have a direct role in supporting incomes and material living conditions
- Social capital – describes the norms and values that underpin society. Social capital includes things like trust, the rule of law, cultural identity, and the connections between people and communities.

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The four capitals are depictions of the stock of resources or taonga that are within our possession or under our guardianship. The application or utilisation of these resources, to generate flows of incomes, boost expenditures, and deliver wellbeing outcomes, is the essence of the economic mechanism.

A noted absence in this list of capitals is cultural capital. The unique identities of whānau, hapū, and iwi, expressed through their different tikanga, kawa, mātauranga, dialects, and whakapapa, are not easily measured by Eurocentric frameworks.

## Natural capital

Natural capital can be summarised as the land, water, fisheries, forests, and other natural resources available to Māori. Some of these resources are renewable while others are limited; some are free while many others require time, energy, or maybe the use of other resources, to replenish. Natural resources exist in ecosystems, of which people are an integral part. Ecosystem services, the benefits people gain from ecosystems, include:

- Provisioning services are those people can extract, such as drinking water, natural gas, timber, and plants that can be made into clothes, medicine, and other items
- Regulating services are benefits that regulate and mitigate natural occurrences, such as carbon storage, climate regulation, pollination, water purification, and erosion and flood
- Supporting services are the underlying processes, such as the water cycle, photosynthesis, and nutrient cycling
- Cultural services are the non-material benefits people gain from ecosystems, the knowledge and creativity that comes from interactions with nature, recreation, and cultural development and advancement (Millennium Ecosystem Assessment, 2005).

It is these ecosystem services that contribute to mātauranga Māori, to the safety and wairua of communities, to whanaungatanga, and to health and wellbeing. These wellbeing outcomes are derived from the flow of natural capital and go well beyond that described by financial valuations. Similarly, while some of these assets can be translated into financial values (although it is important to note that many are not tradable), the value of the natural capital assessed in this report, in purely financial terms, may be understated.

## Human capital

It would be highly unusual to see human capital listed in financial statements. Human capital is normally considered an expense or a cost, something to be budgeted for than invested in. Yet, it is often an organisation's greatest intangible asset. Elements of human capital, such as loyalty, education, skills, training, knowledge, creativity, innovation, punctuality, and cooperation, are essential and vital components of the economic value of labour.

Human capital also encompasses physical and mental health and wellbeing – without good levels of these, people will be limited in their participation in education or training, employment, and recreation, and in society more broadly. Additionally, without human capital, organisations cannot achieve their goals, strategies, and outcomes, nor can they develop, grow, or transform.

The wellbeing returns from nurturing, maintaining, and enhancing the many qualities of human capital are very likely understated in the market earnings of labour. The presence (or stock) of human capital enjoyed by Māori will be applied to economic endeavours across many ventures – some within the realm of Te Ōhanga Māori, others to the broader economy of Aotearoa. Moreover, there is also a flow of wellbeing from applied human capital in the form of voluntary and unpaid effort in caring and nurturing for whānau, as well as manaakitanga in the community.

## Physical and financial capital

Physical and financial capital may be tangible, as in buildings, plant, and equipment; intangible, as in software, patents, and databases; or fixed, as in cash, stocks, and shares. It can be accumulated through savings and investment, and has a direct role in improving living standards. The stock of physical and financial capital of Māori is distributed across both households and enterprises, including business, trusts, and incorporations.

Capital among the enterprises includes considerable holdings of cash (or short-term deposits) and investments in stocks and shares – as Te Tiriti settlements are reached, Post-Settlement Governance Entities enter their next phases of development. There are also numerous commercial and industrial property holdings, as well as small amounts of residential property. In some cases, commercial property has long-term tenants established in situ, providing a steady low-risk stream of income for iwi entities. This income is applied in combinations of direct payments to iwi whānau, support funds to take up training, scholarships, or other opportunities, as well as contributing to long-term retirement savings schemes. Additional wellbeing is generated where the property or cash assets are used to leverage new or expanded economic activities in their takiwā.

For households, the critical element of physical capital delivering considerable wellbeing is their whare. Wellbeing accrues not just from the provision of shelter, a sense of belonging, stability, and connection to community, but also through the opportunity to explore business ventures by leveraging equity. Unquestionably, low or falling home ownership rates progressively narrow the opportunities to enjoy such wellbeing outcomes.

## Social capital

Social capital is critical, not only in the smooth functioning of economic activity, but also in delivering wellbeing. Reliant on the presence and security of community and embedded trust in networks and institutions that guide the rules of contracts, trade, business, transactions, relationships, and exchanges, this capital remains the most difficult to measure. However, it arguably remains the most important of all. The presence and acceptance of social capital undoubtedly generates wellbeing through enabling access to opportunities for many. In contrast, the absence of social structures and norms, and the mutual trust in implicit and explicit social rules, makes the delivery of social wellbeing outcomes increasingly difficult.

For Māori, social capital is present in the whanaungatanga of communities, and in whānau, hapū, and iwi institutions. It is embedded in Māori cultural norms and behaviours, from how mana is respected and upheld, to the observation of tapu and noa in tikanga, to collective actions to support whānau, hapū, and iwi members. It is present in papa kāinga developments, in whānau volunteering on the boards of marae, kōhanga reo, and kura kaupapa, and in the 100, 500, and 1,000 year business plans, or mokopuna plans. While it may not be captured on balance sheets and in official statistics, social capital is the thread that weaves through Te Ao Māori.

# GDP – Production, income, and expenditure

While the four capitals of the Living Standards Framework focus attention on the stocks of resources or taonga to apply to deliver wellbeing, the GDP framework captures the financial flows of goods, services, incomes, and expenditures through the market economy. Capturing the financial flows of the market-based transactions provides a measure of the flow of activity in an economy over a single period of time.

Removing the double-counting inherent when totalling the incomes and expenditures of all the various entities and households, we yield measures of GDP that capture the overall flow of goods produced and services delivered in an economy. As with the capitals, there are multiple perspectives to consider. GDP from a production perspective directly measures the market value of the flow of goods produced and services delivered. These products and services are the result of the activity of entities.

GDP from an income perspective directly measures the market value of the financial returns (income) flowing to resource owners. In the case of the owners of natural or non-natural resources applied to market activity, the income is in the form of rents, leases, profits, or levies. In the case of labour (human capital) applied to market activity, the income is in the form of salaries, wages, or other labour compensation.

GDP from the expenditure perspective directly measures the market value of the spending by households on goods consumed or services received. Further, expenditure by overseas households and entities on products or services originating in Aotearoa are captured in this measure by their export value. Conversely, spending

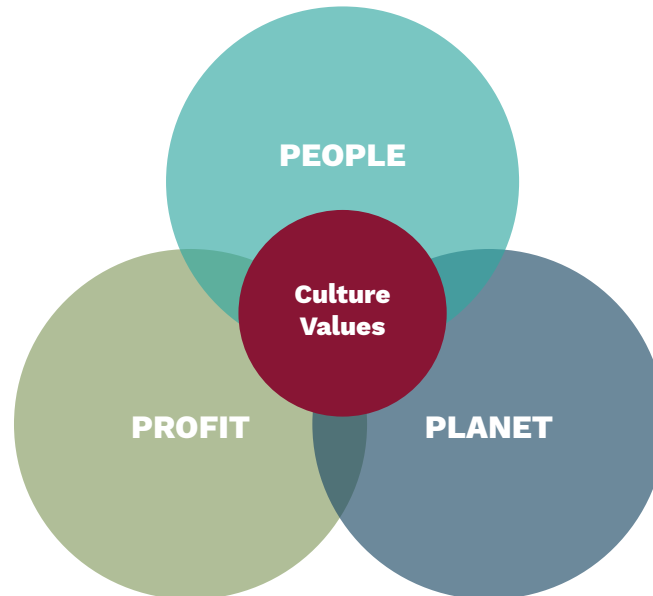
by domestic households and entities on products or services from offshore are subtracted as measured by their import value. In addition, spending by entities on the creation of new non-natural resources, along with the maintenance and improvement of both natural and non-natural resources, is captured in this measure as investment spending. This measure is different from, and should not be confused with, financial investments.

These flows, as viewed across the three perspectives of GDP, assist in delivering wellbeing outcomes. Māori are integrally connected to all three perspectives of GDP – whether engaged as households; as business, enterprises, trusts, incorporations, or other forms of economic entities; as employees or employers; as income earners; or as consumers of products or services. These flows of activity can be depicted using a Social Accounting Matrix (SAM), which is described in *Āpitihanga tahi* – Appendix one, and displayed in *Āpitihanga ono* – Appendix six.

It should be noted that the GDP measures are limited to market transactions and measure flows in financial terms over a single period of time. Consequently, GDP may exclude elements of wellbeing that require capturing impacts over several periods of time, elements unrelated to market transactions, and constructs that are not well translated into financial measures.

# People, planet, and profit

Figure 3 People, planet, and profit perspective



Source: Adapted from Elkington, 2004

Another lens through which an economic system can be viewed is a “people, planet, profit” perspective, or the triple bottom line (Elkington, 2004) (Figure 3). In a sense, this perspective transcends both stocks and flows, with both stocks of resources and flows of activity reinforced.

Culture is at the centre of the diagram because, instead of measuring culture, the model recognises that people, planet, and profit emanate from culture. As equally important aspects of an economy, each aspect has an important role in delivering wellbeing. Figure 3 shows the deep interconnection of people, planet, and profit – positively impacting one section of the economy will have flow on benefits into the other sections, and vice versa.

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## People

From this perspective, people engage with the economy through their roles as employees or employers, as well as being members of a household. In addition, people can also engage in the economy through active volunteering or unpaid nonmarket roles.

While conventional economic models view people as individuals (or in households), the importance of a community of people (or their collective value) should not be overlooked. This value acknowledges the importance of concepts such as kotahitanga, manaakitanga, and whanaungatanga. Moreover, the centrality of whakapapa (to an individual and to a

collective), provides value by establishing inclusion, belonging, and opportunity. Consequently, the people aspect of this perspective goes well beyond the provision of labour to business enterprises who produce goods and services that are then sold to individuals and households using the income reward of their labouring efforts.

The delivery of wellbeing outcomes is dependent not only on the incomes of individuals. Wellbeing outcomes are also reliant on the inclusion, belonging, and opportunity provided through collective efforts in both market and non-market activity. Whanaungatanga is central to this perspective, demonstrated in iwi and Māori businesses developing relationships locally, e.g. partnering with local and regional authorities, as well as internationally, e.g. as trading partners.



## Planet

The planet dimension captures all activity that utilises and impacts on natural resources, such as land, water, and minerals. This includes businesses and enterprises engaged in agriculture, forestry, fishing, and energy generation. The use of these resources, as well as their passive and active enjoyment, and the restoration or active management should also be included in this dimension. This activity generates production of goods, such as food, medicinal products, and energy, and the delivery of services, such as recreation and leisure opportunities, and access to cultural practices.

Māori contributions to the natural environment are multi-faceted. Through iwi, collectives, and businesses, Māori support the mauri of land, ecosystems, water, air, waterways, and oceans, providing crucial support for natural capital, and ultimately enabling wellbeing for future generations. Land and water are fundamental to Māori identity and culture through whakapapa.

As such, we recognise that in Te Ao Māori, their true value cannot be reflected on a balance sheet or in numerical values.

## Kaitiakitanga

Prior to 1840, all land was Māori land. As at June 2018, 5.7 percent of New Zealand was Māori land, almost all of which was freehold. Land sales and confiscations following the New Zealand Wars resulted in considerable loss of legal ownership of land, but this did not end the connection between Māori and the land. Māori, as tāngata whenua, exercise kaitiakitanga over significant areas of Aotearoa, including rivers, lakes, mountains, islands, and reserve areas across all rohe. This includes:

- Undertaking environmental restoration to support ecosystems
- Ongoing environmental management, including riparian planting and reforestation
- Waste reduction
- Creating climate change strategies.

Te Ao Māori, “emphasises stewardship over ownership, collective and cooperative rights over individualism, duties and obligations towards current and future generations over individual gains in the present, and alertness to the need to manage resources in a fashion that is sustainable in the longterm” (Craig et al., 2012).

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## Profit

The profit dimension captures all activity that creates, manages, improves, and utilises non-natural resources, such as equipment, buildings, transport, and communications infrastructure, to produce goods and deliver services. These products and services cover a wide range of activities, including manufacturing items, providing scientific advice, engineering services, construction projects, delivering health and education amenities and services, and recreation, leisure, and cultural opportunities.

The importance of profit here lies in its ability to encourage innovation and industry. Profit, as a return on effort, can encourage the pursuit of further opportunities, as well as enabling the maintenance and improvement of existing resources – whether they be buildings and equipment, or community resources, such as improved knowledge and enhanced mana. Managed and utilised in an appropriate manner, profit can undoubtedly lead to improved wellbeing outcomes.

## People, planet, and profit together

Through the people, planet, and profit lens, the household sector is predominantly placed in the people dimension, while businesses, enterprises, trusts, incorporations, and institutions are more focused on the planet and profit dimensions. However, there are critical overlaps.

In particular, households and people are indispensable to businesses, enterprises, trusts, incorporations, and institutions operating in the planet and profit dimensions. Whether as employees or employers in these entities, and so receiving incomes, or as households, they require and consume the products of these entities. In so doing, they engage in spending (or expenditure), which is simultaneously the flow of revenue (or income) of the entities.

Similarly, some entities predominantly situated in the profit dimension will overlap with those in the planet dimension through utilising some natural resources. Alternatively, these entities may be engaged in restoration, upkeep, or enhancement of natural resources. There are also overlaps in the other direction, with entities predominantly situated in the planet dimension requiring non-natural resources or services to undertake or deliver their activities.

These overlaps (or interactions) result in income flowing to and expenditure flowing from entities in the various dimensions.

The financial flows of income and expenditure can together assist in delivering wellbeing outcomes. This is particularly so where the inter-related and inter-dependent dimensions of people, planet, and profits are clearly recognised. One single dimension is no more important than either of the others. The maintenance, use, and enhancement of both natural and non-natural resources enables a flow of wellbeing outcomes now and into the future. Wellbeing opportunities and outcomes arising from the engagement of people – whether as employees, employers, households, or volunteers – are similarly inter-dependent on the state and nature of the utilisation and enhancement of the planet and profit dimensions.

As reflected in the earlier discussions, Māori can be seen as critically engaged across all three people, planet, and profit dimensions of this perspective. This further reinforces the importance of viewing Te Ōhanga Māori within a broad framework capturing stocks of resources and taonga, and delivering flows of activity, production, incomes, expenditures, and wellbeing outcomes.

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## Development of Māori land

Land is utilised by Māori to deliver wellbeing. An example of this is papa kāinga, which involves using land and other resources to provide housing. The ability to make use of land in this way enhances social and cultural wellbeing.

However, there are also barriers to developing Māori land, and therefore, to accessing the wellbeing the land could provide. Māori land is often held in small parcels and poorly located, being landlocked, hilly, marginal or prone to erosion. Te Puni Kōkiri identified six main interlinked barriers to the development of Māori land:

- Collective ownership
- Access to finance
- Governance/management issues
- Access to information
- Access to land
- Rating of Māori land  
(Controller and Auditor-General, 2004, p. 31).

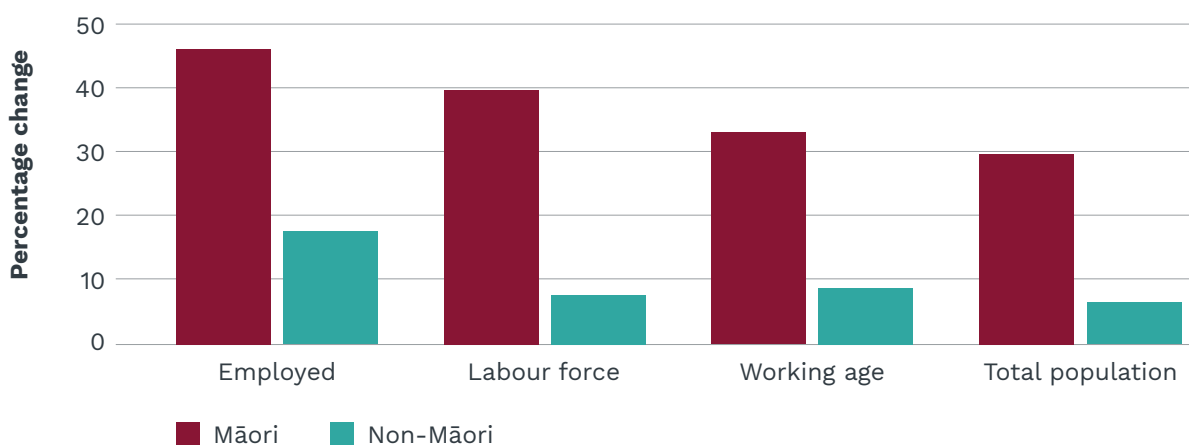
These barriers may prevent Māori from connecting to land in their ownership, using the land for housing or growing kai, or generating a financial return. As such, the ability to produce wellbeing from land is currently constrained as many Māori are prevented from realising the full potential wellbeing that land can provide.



## Labour force

There was a large change in the composition of the population and the labour force of Aotearoa between 2013 and 2018. The growth in the number of Māori was significantly greater than the number of non-Māori (Figure 4).

**Figure 4 Change in labour force and population, 2013 to 2018**



Source: Statistics New Zealand

The Māori population totalled 775,800 in 2018, an increase of 30 percent since 2013. This included 527,000 Māori of working age (15 years and over), an increase of 33 percent. The number of Māori in employment in 2018 totalled 329,200. This is an increase of over 105,200, or 47 percent, since 2013, including a 46 percent increase in the number of Māori employers. The labour force participation rate increased from 66.9 percent in 2013, to 70.6 percent in 2018.

Māori employment was recorded across a range of sectors in 2018, in particular:

- 38,600 in manufacturing
- 35,100 in construction
- 30,600 in health care
- 29,000 in education
- 27,200 in retail
- 22,500 in agriculture, forestry, and fishing
- 22,300 in accommodation and food services.

# Skill level of Māori labour force

Figure 5 Skill composition of employed Māori, 2018



Source: Statistics New Zealand

Māori in business, as either employers or self-employed, are dominated by those in the highest skill category (skill level one) (Figure 5). Over 50 percent of Māori employers and more than 40 percent of Māori self-employed are in this category.

In contrast, Māori employees are dispersed more evenly across the five skill levels. Those in the highest skilled category make up nearly one quarter of all Māori employees, with half in the two lowest skilled levels four and five.

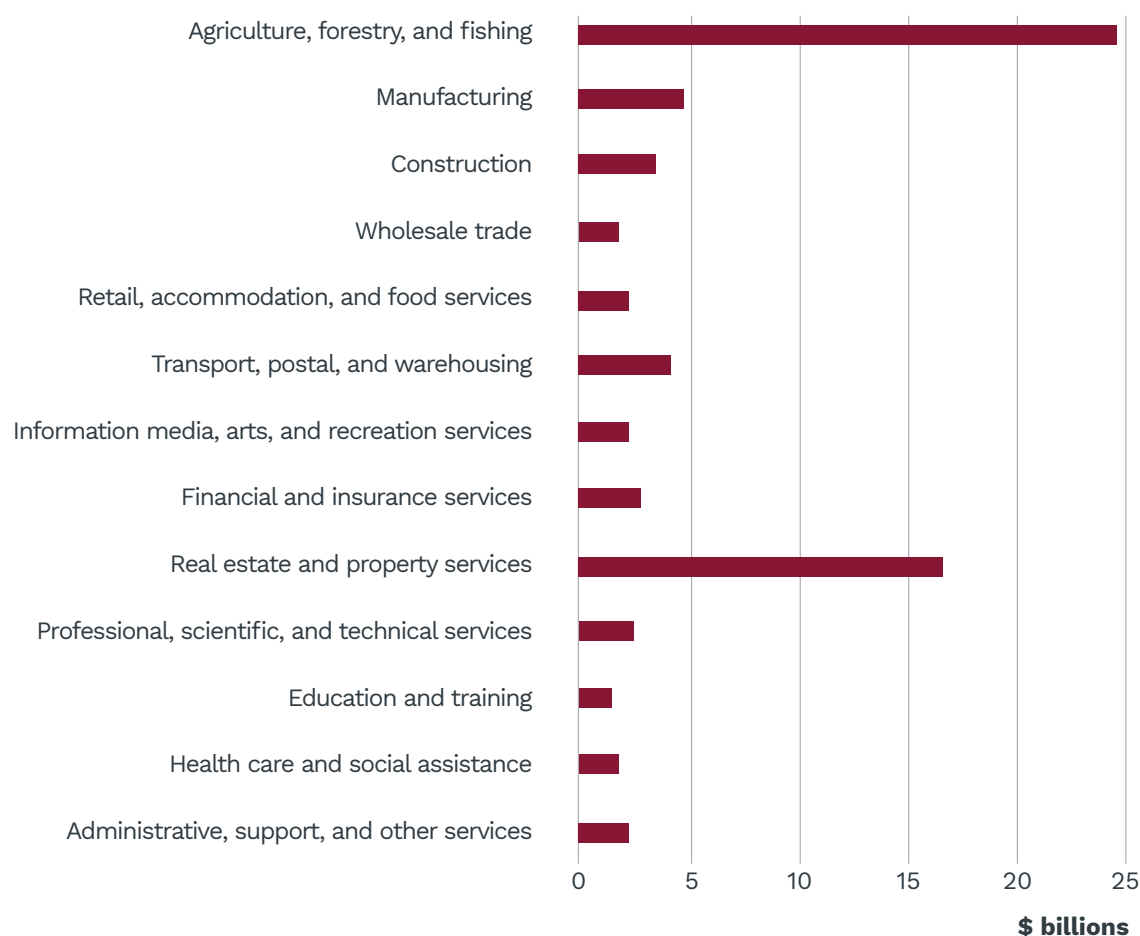
## Asset base

In 2018, the financial value of the asset base totalled \$68.7 billion comprising:

- \$39.1 billion assets in the businesses of 9,850 Māori employers
- \$21.0 billion assets in trusts, incorporations, and other Māori entities
- \$8.6 billion assets in the businesses of 18,600 self-employed Māori.

## Assets spread across range of sectors

Figure 6 Financial asset base of Te Ōhanga Māori by sector, 2018



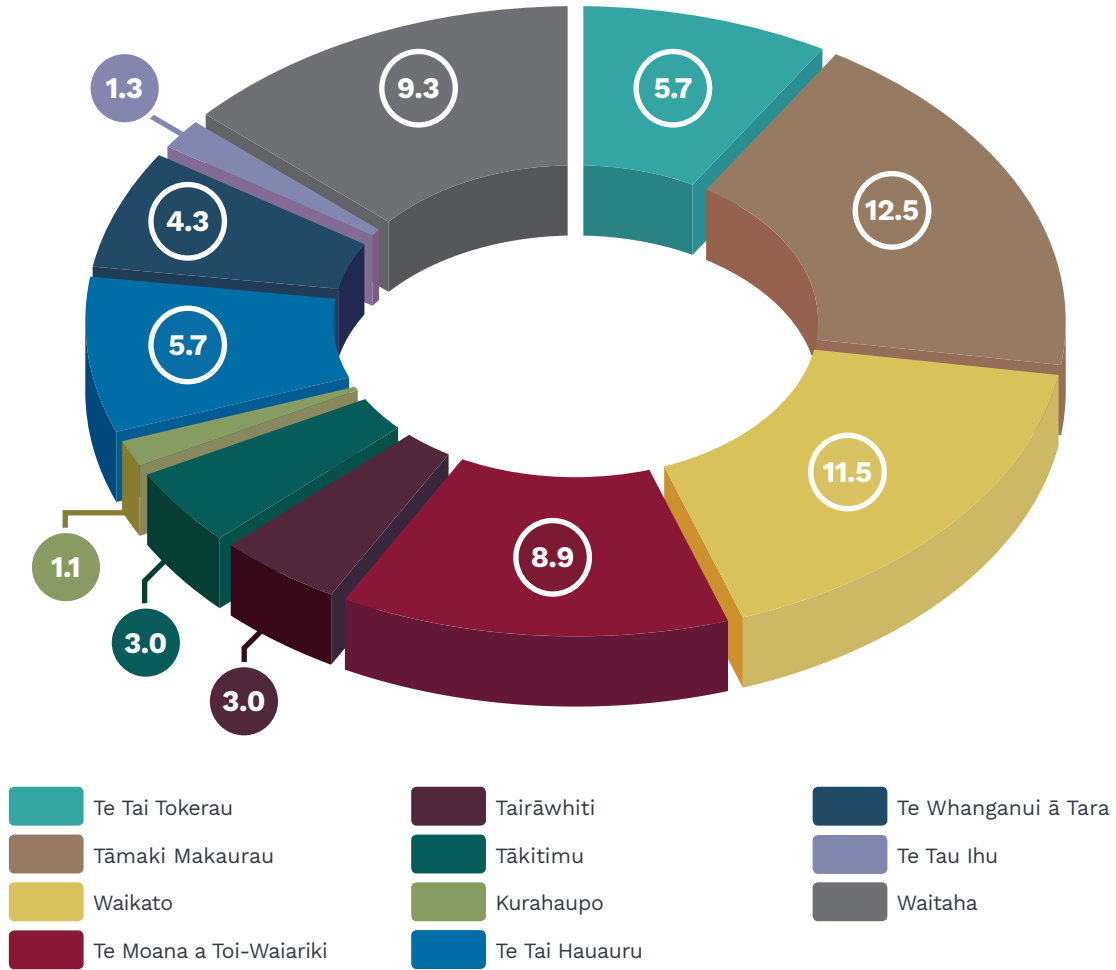
Source: BERL analysis

Natural-resource based sectors continue to dominate with assets in agriculture, fishing, and forestry totalling \$23.4 billion (Figure 6). This includes \$8.6 billion in sheep and beef farming; \$4.9 billion in dairy farming; \$4.3 billion in forestry; \$2.9 billion in fishing and aquaculture; and \$2.6 billion in other agriculture (including horticulture). Other sectors with considerable assets include:

- \$16.7 billion of assets in real estate services, including commercial, industrial, and residential property
- \$4.9 billion of assets in the manufacturing industry, including \$2.3 billion in food processing and wood and paper manufacturing
- \$4.2 billion of assets in transport
- \$3.1 billion in construction.

# Assets spread across rohe

Figure 7 Financial asset base of Te Ōhanga Māori by rohe, \$ billion, 2018



Source: BERL analysis

Four rohe – Tāmaki Makaurau, Waikato, Waitaha, and Te Moana a Toi-Waiariki – each had more than \$8.8 billion in assets in 2018, accounting for more than 60 percent of total financial assets of Te Ōhanga Māori (Figure 7). Other rohe estimated to have between \$3 billion and \$6 billion in assets, include Te Tai Tokerau, Tairāwhiti, Tākitimu, Te Tai Hauāuru, and Te Whanganui ā Tara.

Of the natural resource based assets in agriculture, horticulture, forestry, and fishing, more than half (\$14.4 billion) are situated in four rohe: Waikato, Te Moana a Toi-Waiariki, Waitaha, and Te Tai Hauāuru.

Assets in the real estate and property services sector are dominated by the total of \$9.1 billion situated in three rohe: Tāmaki Makaurau, Te Moana a Toi-Waiariki, and Waitaha.

# Production GDP

**Figure 8 Value added of Te Ōhanga Māori by sector, 2018**



Source: BERL analysis

Real production GDP in the 2018 year from Te Ōhanga Māori totalled \$17.0 billion. This value added was spread across the range of industries, with the largest contributions reflecting the spread of the asset base, i.e. from agriculture, forestry, and fishing; and the real estate and property services sectors (Figure 8).

There are also noticeable contributions from manufacturing; construction; retail, accommodation, and food services; professional, scientific and technical services; and transport, postal, and warehousing. These reflect, in the main, the value added of the businesses of Māori employers and self-employed Māori.

Value added from education and training, and health care and social assistance sectors include those from wānanga, kura kaupapa, kōhanga reo, and whānau ora providers. The value added in other services will also include the activities of recreation services as well as attractions and facilities.

## Expenditure and income GDP

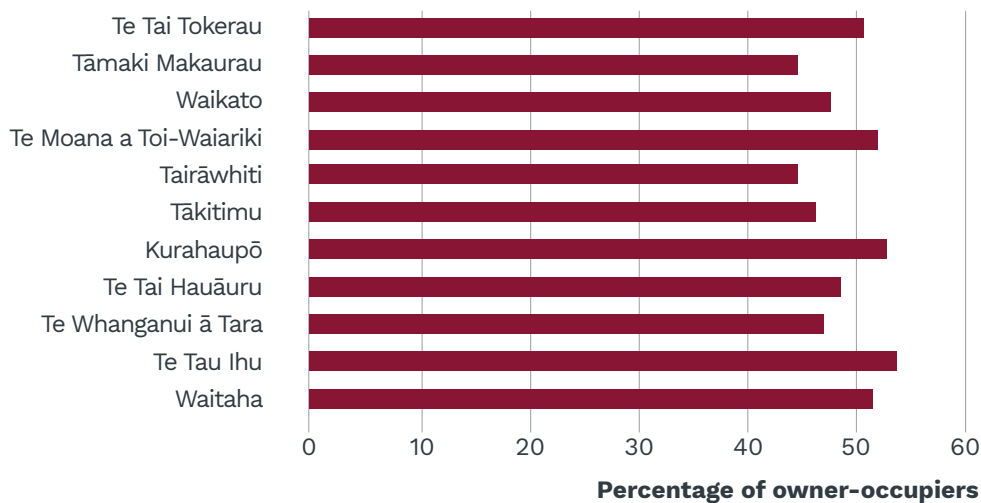
From the expenditure perspective, real GDP from Te Ōhanga Māori in 2018 totalled \$33.9 billion. This includes \$28.9 billion of consumer spending and \$1.8 billion of investment spending on new residential property by Māori households. It also includes \$3.1 billion of investment spending by Māori businesses and entities. From the income perspective, GDP from Te Ōhanga Māori in 2018 totalled \$21.5 billion.

This includes \$14.6 billion of income of Māori households, being \$13.1 billion in wages, salaries, and other employee compensation payments, and \$1.5 billion in imputed rent from owner-occupied dwellings.<sup>1</sup> This figure also includes \$6.9 billion of operating surplus in the businesses of Māori employers, employees, and other Māori entities.

## Māori households

There were 285,400 Māori households in 2018. The average household income from all sources was \$83,200; comprising an average of \$100,500 for those in their own home, and \$67,600 for those renting. Over 135,000 Māori households were owner-occupied dwellings, a home ownership rate of 47.5 percent.

**Figure 9 Home ownership rate of Māori households by rohe, 2018**



Source: BERL analysis

Across the rohe, Tāmaki Makaurau has the lowest home ownership rate (42 percent), with the highest in Te Tau Ihu (54 percent) (Figure 9). Among Māori households living in owner-occupied homes, the average income was highest in Tāmaki Makaurau (\$130,400), with the lowest in Te Tai Tokerau (\$77,500). Among Māori households renting, the average income was again highest in Tāmaki Makaurau (\$84,800), with the lowest in Kurahaupō (\$52,900).

<sup>1</sup> To retain consistency with findings of earlier reports, and with Statistics New Zealand national accounting practices, imputed (or notional) rent attributable to those living in their own homes is included in the income measure of GDP. However, again to retain consistency with earlier reports, the financial value of owner-occupied dwellings is not included in the estimates for the asset base of Te Ōhanga Māori and so is not included in the production measure of GDP. The production measure of GDP, in keeping with the method adopted in earlier reports, estimates the value added by businesses of Māori employers and self-employed, and Māori entities, but not of Māori households.



# Ngā hua

## Observations



From the highlights of the previous section, the following are the kernels of the story of Te Ōhanga Māori:

- Looking beyond Te Tiriti settlements
- Assets across many sectors
- Dramatic population and employment changes
- Broadening skill base for workforce
- Contributions to GDP across all dimensions
- Delivery of wellbeing through numerous avenues.

### Looking beyond Te Tiriti settlements

Te Tiriti settlements to date comprise approximately \$2.2 billion in cash and assets transferred from the Crown to iwi over the past 25 years. The combination of financial, natural, and cultural assets have been used by iwi to (re-)establish operations based on whenua Māori, to leverage new business ventures, and to develop sustainable enterprises across a range of sectors and services.

It is important, though, to note many businesses and enterprises, including many whānau and hapū trusts, were in existence prior to Te Tiriti settlements; and indeed continue to exist. Noticeably, of the 120 or so top Māori entities with a combined \$13.8 billion in assets, more than \$7 billion is accounted for by around 50 entities that pre-date the beginning of settlement processes in the mid-1990s. In addition, goods and services are being produced and delivered by the businesses of Māori employers and self-employed, as well as the activities of Māori households.

It is clear that any description of Te Ōhanga Māori needs to go well beyond entities or activities related to Te Tiriti settlements.

### Assets across many sectors

The financial value of assets underpinning Te Ōhanga Māori in 2018 is estimated at \$68.7 billion (Table 1). This compares with an estimated \$42.6 billion in 2013 (BERL, 2015).

Of this total, nearly \$21 billion resides within Māori trusts, incorporations, and entities, with the majority (\$14 billion) in the natural resource based sectors. Within this category, sheep and beef farming continues to dominate Māori assets in the agriculture sector, although assets in horticulture (including kiwifruit) are growing in significance. Assets in the fishing industry total \$2.4 billion, while just under \$1 billion are in forestry sector assets. There are also a considerable quantity of assets held by Māori entities in property (industrial, commercial, and residential), totalling \$4.8bn.

**Table 1 Financial asset base of Te Ōhanga Māori by sector, 2018**

| Industry   | Māori asset base 2018 \$ millions |               |               |               |
|--|-----------------------------------|---------------|---------------|---------------|
|  | Self-employed                     | Employers     | Collectives   | Total         |
| Kiwifruit growing                                | 32                                | 217           | 440           | 689           |
| Other horticulture                               | 31                                | 247           | 219           | 497           |
| Sheep and beef farming                           | 612                               | 874           | 7,114         | 8,600         |
| Dairy  | 537                               | 1,579         | 2,749         | 4,865         |
| Forestry   | 351                               | 3,000         | 991           | 4,342         |
| Fishing and aquaculture                          | 85                                | 467           | 2,377         | 2,929         |
| Other agriculture                                | 148                               | 1,136         | 167           | 1,451         |
| <b>Agriculture, forestry, and fishing</b>        | <b>1,795</b>                      | <b>7,520</b>  | <b>14,057</b> | <b>23,372</b> |
| Mining   | 0                                 | 0             | s             | 0             |
| Manufacturing                                    | 343                               | 4,290         | 263           | 4,896         |
| Electricity, gas, water, and waste services      | 0                                 | 0             | 69            | 69            |
| Construction                                     | 616                               | 2,444         | 0             | 3,060         |
| Wholesale trade                                  | 164                               | 1,777         | 0             | 1,942         |
| Retail trade                                     | 94                                | 1,122         | 97            | 1,313         |
| Accommodation and food services                  | 59                                | 879           | s             | 938           |
| Transport, postal, and warehousing               | 397                               | 3,764         | 9             | 4,169         |
| Information media and telecommunications         | 224                               | 1,338         | s             | 1,562         |
| Financial and insurance services                 | 234                               | 2,509         | 0             | 2,743         |
| Rental, hiring and real estate services          | 3,655                             | 8,228         | 4,789         | 16,672        |
| Professional, scientific, and technical services | 445                               | 1,861         | 0             | 2,306         |
| Administrative and support services              | 116                               | 606           | 295           | 1,017         |
| Public administration and safety                 | 0                                 | 0             | s             | 0             |
| Education and training                           | 31                                | 513           | 686           | 1,229         |
| Health care and social assistance                | 85                                | 951           | 434           | 1,471         |
| Arts and recreation services                     | 147                               | 649           | 36            | 831           |
| Other services                                   | 170                               | 681           | 78            | 930           |
| Not elsewhere included*                          | 0                                 | 0             | 172           | 172           |
| <b>Total</b>                                     | <b>8,575</b>                      | <b>39,130</b> | <b>20,985</b> | <b>68,689</b> |

\*Includes suppressed industry values

Source: BERL analysis

Nevertheless, the assets of the businesses of more than 9,900 Māori employers continues to make up the bulk of this asset base. In 2018, this component totalled \$39.1 billion, up from the \$23.4 billion in assets of the businesses of 6,800 Māori employers in 2013. These businesses each have an average \$4 million in assets, and 14 employees.

The assets and businesses of Māori employers are spread broadly across many sectors, including the primary industries, as well as manufacturing and service sectors. Assets in the real estate and property services sector total over \$8.2 billion, with another \$7.5 billion in agriculture, forestry, and fishing. In the latter category, forestry assets dominate at \$3 billion, with \$1.6 billion in dairy farming.

A considerable proportion of business assets of Māori employers are noticeably in manufacturing, transport, finance, construction, professional services, and trade and accommodation sectors. Construction, transport, professional services, and trade and accommodation are characterised by smaller businesses with self-financed ownership. These include builders, plumbers, electricians, drivers, lawyers, accountants and other business consultancy services, along with hospitality establishments. While there will be some larger enterprises in these sectors, many will be much smaller than the overall average of an approximately 14 employee business with \$4 million in assets.

Assets of the businesses of the nearly 18,600 self-employed Māori total \$8.6 billion. These are, by definition of no employees, much smaller enterprises. On average, these businesses each have approximately \$460,000 in assets. The spread of businesses in this category is narrower, with the majority in the primary industries, and real estate and property services. However, there are noticeable assets of self-employed in construction, transport, and professional services. This fits with the presence of sole-trader operators in these sectors.

## Dramatic population and employment changes

The Māori population is much younger than the rest of the population of Aotearoa, with 57 percent under 30 years old. This feature, and the associated higher growth in the number of Māori, flows through to dramatic contrasts in population, workforce, and employment growth over the 2013 to 2018 period. The Māori population has increased at a much larger rate than non-Māori – between 2013 and 2018, the population grew by 180,000 (29.6 percent). Projections by Statistics New Zealand suggested growth of this size would take until 2038.

**Figure 10 Change in population and employment, 2013 to 2018**



Source: BERL analysis

Māori are a growing part of the workforce and will make up a much larger share of the working age population in the future. Figure 10 shows the number of Māori under 15 years old grew 23.0 percent compared to 1.7 percent growth in the same age group for non-Māori. From Census 2013 to Census 2018, the Māori labour force grew by over 106,000 people, from 11.4 percent to 14.3 percent of the New Zealand labour force. This includes growth in Māori employers (45.8 percent) and self-employed Māori (24.9 percent).

The overall working age population of Māori increased by over 130,000 people (33.0 percent). The working age population captures all those aged 15 years or over. It is the total of the number employed (47.0 percent growth), the number unemployed (3.5 percent growth), and the number not in the labour force (18.4 percent growth). In comparison, the non-Māori population grew by 7.7 percent, the working age population by 9.0 percent, and the labour force by 8.3 percent.

The increase in rangatahi Māori is vital in considering the future workforce of Aotearoa, and for ensuring the current education and training interventions are fit-for-purpose. Research on the education outcomes for rangatahi Māori showed that systemic bias is embedding inequality (BERL, 2019). Focusing on improving rangatahi Māori skill levels through more effective secondary and tertiary education, and better completion of trades training is imperative to future proofing for Māori and for Aotearoa.

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## Broadening skill base for workforce

Māori in Aotearoa are increasingly being employed in high-skill jobs. Skill level is determined by the Australia and New Zealand Standard Classification of Occupations (ANZSCO), which calculates skill level based on the relevant qualifications or equivalent experience required to obtain employment in a given occupation. Jobs that require a bachelor's degree or higher are classified as skill level one. Skill level five indicates formal qualifications and relevant prior experience are generally not required.

High-skill jobs often offer higher employment stability, high incomes, and are typically more resilient to automation. Since the 2006 Census, the number of Māori in high-skill jobs in Aotearoa has increased 83 percent, from 47,500 to nearly 87,200 in 2018. With this rapid growth, 27 percent of Māori are now employed in high-skill jobs. Even with this growth, there is still a significant opportunity to create pathways of skills development for Māori, with just over half of all Māori in work being in jobs with skill levels of four or five.

Table 2 presents the skill level of Māori in each employment status. A breakdown of this table by industry of occupation is presented in *Āpitihanga rima* – Appendix five.

**Table 2 Māori occupational skill level by employment status, 2018**

| Employment status | Skill level (1= highest) |               |               |               |               |
|-------------------|--------------------------|---------------|---------------|---------------|---------------|
|                   | 1                        | 2             | 3             | 4             | 5             |
| Employees         | 73,945                   | 29,293        | 34,704        | 82,360        | 76,119        |
| Self-employed     | 8,090                    | 1,364         | 4,123         | 2,798         | 2,198         |
| Employers         | 5,153                    | 1,267         | 1,648         | 1,093         | 708           |
| <b>Total</b>      | <b>87,188</b>            | <b>31,924</b> | <b>40,476</b> | <b>86,251</b> | <b>79,025</b> |

Source: BERL analysis

## Employees

Of the 300,000 Māori employees in Aotearoa, 74,000 are employed in high-skill jobs, representing one quarter of all Māori employees. Of those in high-skill occupations, 40 percent are employed in two industries – health care and social assistance, and education and training. This reflects the high level of investment of Māori individuals in areas with long standing Māori equity challenges.

The category of self-employed Māori covers a very wide range of different types of work. Individuals may start a small business working in the community, or work as a contractor for larger businesses. Contracting roles include a number of delivery drivers, or postal workers, but also includes high-skill consulting jobs or other roles requiring technical expertise. Of those Māori operating a business as a sole-trader, 44 percent are high-skill occupations, with one third of these within the construction industry, or the professional, scientific, and technical services industries.

## Employers and self-employed

For Māori operating their own businesses, either as sole-traders or employers of others, the skill level of the occupations are much higher, with close to half (44 percent) being in high-skill jobs. As the ANZSCO classification does not include information of employers or self-employed, this information likely under-rates the skill level of these individuals, as they will have to manage their small businesses on top of their role, including managing staff, cash flow, and projects.

More than half of the Māori employers have a high-skill occupation. However, operating a business and managing staff would typically be classified as skill level one (high-skill), though the employment status is not captured in their occupation classification. Of the self-employed Māori in high-skill occupations, 38.0 percent are in the construction industry, or agriculture, forestry, and fishing industries.

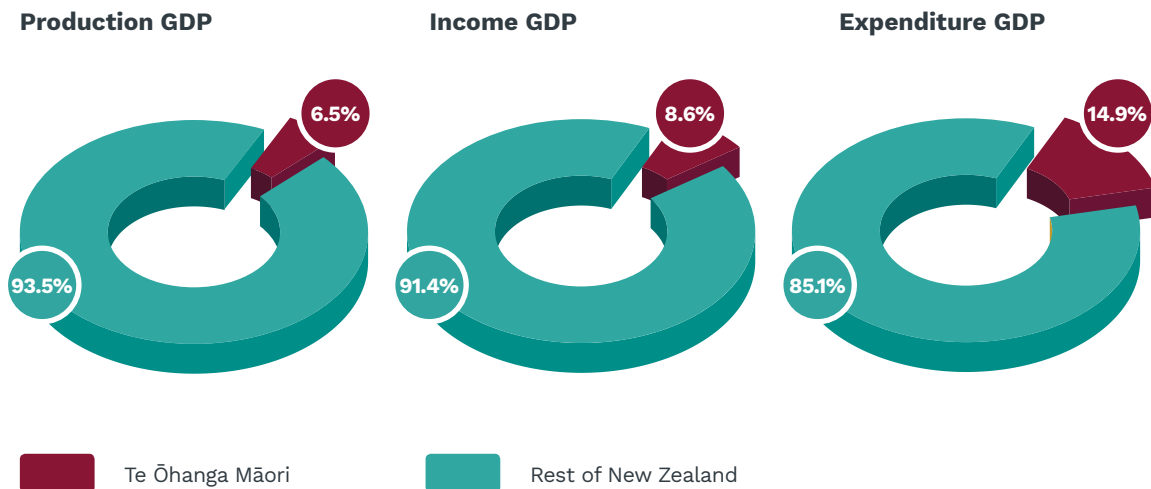
# Contributions to GDP across all dimensions

Figure 11 demonstrates how Te Ōhanga Māori contributes to GDP across all three dimensions:

- Value added produced by Māori organisations (the production measure)
- Income (wages and profits, also known as operating surplus) received by Māori individuals (the income measure)
- Spending of Māori households (the expenditure measure).

Each of these measures provides a different insight into the participation of Māori in the economy of Aotearoa. Across the three dimensions, Te Ōhanga Māori ranges from 6.5 percent to nearly 15 percent of the activity in 2018 in the economy of Aotearoa.

**Figure 11 Three perspectives of GDP from Te Ōhanga Māori, 2018**



Source: BERL analysis

## Production measure of GDP

The production measure of GDP focuses on the value added of the activities of Māori entities (organisations, trusts, incorporations), as well as businesses of Māori employers and self-employed Māori. It measures the value added in the activities of these enterprises in producing goods or delivering services. In the 2018 year, Te Ōhanga Māori value added totalled \$17 billion, compared to \$263 billion for all Aotearoa.

## Income measure of GDP

The income measure of GDP estimates the incomes received by individuals (for example, wages) and organisations (for example, profits). This income results from individual's employment, and organisational operations in the production and delivery of goods and services. In the 2018 year, the income measure of GDP from Te Ōhanga Māori totalled \$21.5 billion. The comparable figure for all Aotearoa was \$251 billion.<sup>2</sup>

## GDP exclusions

Not all spending on goods and services is included in the expenditure measure of GDP. In particular, excluded is spending by firms on intermediate materials that are used up in the production of other goods and services.

For example, a furniture-making firm's purchase of timber would not be included. This would be incorporated in the expenditure measure of GDP when the final piece of furniture is purchased.

Also excluded is spending on goods produced or services delivered overseas.

## Expenditure measure of GDP

The expenditure measure of GDP estimates the spending of households, businesses, government, and overseas entities on goods produced and services delivered in Aotearoa. From this perspective, the spending of Māori households and businesses in the 2018 year totalled \$33.9 billion. The comparable figure for all Aotearoa was \$227 billion.<sup>3</sup>

<sup>2</sup> Consistent with the Statistics New Zealand national accounting practices, this also includes the operating surplus (imputed or notional rent) of Māori households residing in their owner-occupied housing.

<sup>3</sup> This comparison excludes spending by government and on exports (i.e. spending by overseas entities).

# Delivery of wellbeing through numerous avenues

In the face of enduring income and wealth inequality, Māori entities are investing in people and communities. Māori entities employ Māori workers, and pay out millions in grants for secondary and tertiary education, and for kaumātua grants, health care, and tangihanga. Thousands of kilograms of seafood is provided for tangihanga from fisheries quota each year. Tonnes of firewood are delivered to kaumātua, and fresh vegetable parcels are distributed to whānau from community gardens.

Māori entities also provide health, education, social, and environmental services to communities, improving wellbeing and outcomes for Māori and non-Māori whānau in the following ways:

- Health and social services
  - Delivering care for new mothers and pēpi, including distributing pēpi packs and delivering Tamariki Ora Well Child programmes
  - Providing suicide prevention wānanga, mental health and addiction services, and counselling
  - Whānau Ora providers, delivering navigation support for whānau
  - Undertaking kaumātua research wellbeing programmes
- Education for all ages
  - Educating tamariki through early childhood centres, kōhanga reo, and kura kaupapa Māori, and providing school starter packs
  - Offering financial mentoring, young driver courses, and road safety initiatives
  - Running business workshops and mentoring programmes to help Māori grow business ideas
  - Providing tertiary education in and on te reo, tikanga, toi, hauora, and indigenous business to thousands of people in Aotearoa
- Developing Māori media with locally made and fluent content on radio and televisions, and in print and cinemas
- Supporting arts, language, and cultural programmes through targeting strategies and activities, locally, nationally, and internationally
- Developing, promoting, and protecting mātauranga Māori
- Providing scholarships from secondary to tertiary education, and trades training
- Community wellbeing
  - Improving digital equity by supporting fibre laying, and running shared, open learning facilities, tech hubs, and incubators
  - Running papa kāinga toolkit workshops and other programmes for home ownership
  - Providing social housing
- Kaitiakitanga of natural assets
  - Regenerating native vegetation on marginal land, native nurseries, worm farms, riparian plantings, protecting kauri from dieback, managing native forests and reserves, and other whenua restoration activities
  - Joint management of waterways and lakes, including monitoring water quality
  - Developing climate change strategies
  - Advocating for legal personhood of Whanganui River and Te Urewera, and other legal protections of land and water.



# Te kō

## Diving a bit deeper



In this section, some selected aspects of Te Ōhanga Māori are explored further. In particular:

- Employment of Māori by sector and by rohe
- Māori households income and spending
- Production GDP by sector of Māori entities
- Asset base of 2018 Te Ōhanga Māori
- Income and expenditure GDP measures.

## Employment of Māori

One of the most noticeable shifts over the past few years in Te Ōhanga Māori has been the dramatic increase in the number of Māori in employment. This shift is also reflected in the spread across sectors as well as rohe of where Māori are employed.

### By sector

Of the close to 330,000 Māori in employment (Table 3), two-thirds are concentrated in the following industries:

- Manufacturing – twelve percent
- Construction – eleven percent
- Health – nine percent
- Education – nine percent
- Hospitality and tourism related employment, including retail (eight percent), accommodation (seven percent), and arts and recreation services (two percent)
- Primary sector – seven percent.

The construction sector also has 19 percent of self-employed Māori sole-traders, and 23 percent of Māori employers (2,300 employers). There are also a large number of entrepreneurial Māori in professional, scientific, and technical services (830 employers and 1,900 self-employed). Over 1,200 Māori are self-employed in health care as well.

While the number of Māori in entrepreneurial roles of employers and self-employed grew between 2013 and 2018 (45.8 percent and 24.9 percent growth respectively), Māori still remain relatively under-represented in these roles.

**Table 3 Māori in workforce by sector, 2018**

| <b>Industry</b>                                  | <b>Number employed</b> |
|--|------------------------|
| Kiwifruit growing                                | 738                    |
| Other horticulture                               | 3,108                  |
| Sheep and beef farming                           | 3,213                  |
| Dairy  | 4,059                  |
| Aquaculture                                      | 222                    |
| Forestry   | 2,244                  |
| Fishing and aquaculture                          | 822                    |
| Other agriculture                                | 8,052                  |
| <b>Agriculture, forestry, and fishing</b>        | <b>22,458</b>          |
| Mining   | 117                    |
| Meat processing                                  | 9,402                  |
| Dairy processing                                 | 1,926                  |
| Other food manufacturing                         | 5,619                  |
| Wood and paper manufacturing                     | 5,301                  |
| Fabricated metal products                        | 9,537                  |
| Other manufacturing                              | 6,795                  |
| <b>Manufacturing</b>                             | <b>38,580</b>          |
| Electricity, gas, water, and waste services      | 2,784                  |
| Construction                                     | 35,103                 |
| Wholesale trade                                  | 12,321                 |
| Retail trade                                     | 27,240                 |
| Accommodation and food services                  | 22,275                 |
| Transport, postal, and warehousing               | 17,769                 |
| Information media and telecommunications         | 3,654                  |
| Financial and insurance services                 | 5,532                  |
| Rental, hiring and real estate services          | 4,752                  |
| Professional, scientific, and technical services | 16,098                 |
| Administrative and support services              | 19,632                 |
| Public administration and safety                 | 19,578                 |
| Education and training                           | 28,992                 |
| Health care and social assistance                | 30,561                 |
| Arts and recreation services                     | 6,453                  |
| Other services                                   | 10,980                 |
| Not elsewhere included*                          | 3,378                  |
| <b>Total</b>                                     | <b>329,175</b>         |

Source: BERL analysis

## Primary and manufacturing sector employment

The wide spread of employees across sectors is indicative of a wide-ranging engagement of Māori in economic activity. Within the primary (natural resource based) sectors, employment is predominantly dairy, and sheep and beef farming is supplemented by significant contributions in horticulture, as well as forestry. However, employment in the other agriculture category is the largest, and includes contract shearers, pickers, and forestry support services, such as planting, pruning, thinning, and nursery operations.

Outside the primary sectors, employment across a broad range of manufacturing industries is prominent. Large numbers of Māori are employed in the primary sector-related meat, dairy, and other food processing industries. In addition, Māori employment in the forestry related wood and paper manufacturing industry reinforces the links to natural resource based activities.

In contrast, there are a large number of Māori employed in metal product manufacturing. This includes basic steel and aluminium production, along with the more processed sheet metal and other metal products, coatings, and finishings, as well as higher value transport, electrical, and other machinery and equipment manufacturing. Employment across this range of industries has enabled Māori to become less reliant on primary industries. This reduction of the previous exposure to a narrow set of sectors improves resilience to economic or external influences that potentially impact on those sectors.

## Wider sector employment

Beyond the primary and manufacturing sectors, there is further evidence of Māori employment across a broad range of sectors. The construction and transport sectors are prime examples, while numbers across tourism and hospitality-related retail, accommodation, and arts and recreation services are also significant. Māori employment in the public administration, health, and education sectors also adds to resilience, given the main drivers for this employment are demographic growth and government spending programmes.

The number of Māori employed in the professional, scientific, and technical services sector is also particularly significant – from both a resilience perspective, but also from a high-wage perspective. This sector records incomes well above the economy-wide average.<sup>4</sup> This sector includes engineering, architecture, design, surveying, legal, accounting, management, associated business services, scientific research, and computer system design and related services.

In contrast is the administrative and support sector. Employment in this sector is at the other end of the spectrum in terms of both resilience and wage levels. This sector is dominated by labour-hire type organisations, including services such as cleaners, call centre operators, and clerical activities. Māori employed in this sector remain highly vulnerable to the short-term business cycle, inferior pay and employment conditions,<sup>5</sup> reduced training opportunities and longer-term influences around mechanisation and robotics.

However, adding to the resilience of Māori is employment in the other services sector. In a similar vein to the builders and drivers in the construction and transport sectors, other services includes many small-to-medium enterprises (SMEs) engaged in repair and maintenance activities, as well as personal care services. This sector includes electronic and machinery equipment repair, domestic appliance and vehicle repairs, and hairdressing.

<sup>4</sup> The mean annual income for Māori employers in this sector was \$128,300, compared to an economy-wide average for Māori employers of \$72,100. For Māori employees in this sector the figure was \$62,200, compared with \$47,000 economy-wide for all Māori employees.

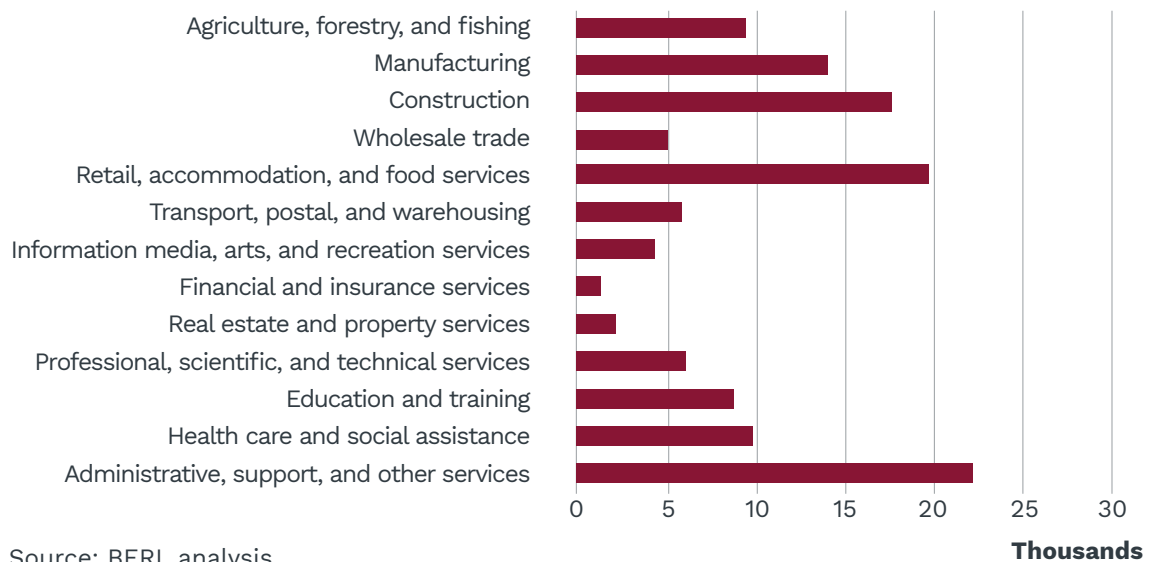
<sup>5</sup> The mean annual income for Māori employees in this sector was \$31,300.

## Changes in employment since 2013

Since 2013, the largest growth in Māori employment has been in administrative, support, and other services with over 22,200 more Māori employed in that sector. Large increases of over 10,000 were also recorded in each of the retail, accommodation and food services sectors, and construction and manufacturing (Figure 12). These increases reflect a combination of the economy-wide drivers over that period, in particular infrastructure investment spending, retail spending, and tourism and related hospitality activities.

Increases in employment in health, education, and public administration sectors reflect government spending drivers. Of note are the sizable increases in employment in administrative support and other services, as well as the manufacturing sector. These reinforce a continuation of the broadening base of the Te Ōhanga Māori. Similarly, increases in employment across transport, professional services, and (to a lesser degree) other services represent the increasing importance of SMEs, and associated employer and self-employed Māori in Te Ōhanga Māori.

**Figure 12 Increase in number of Māori in employment by sector, 2013 to 2018**

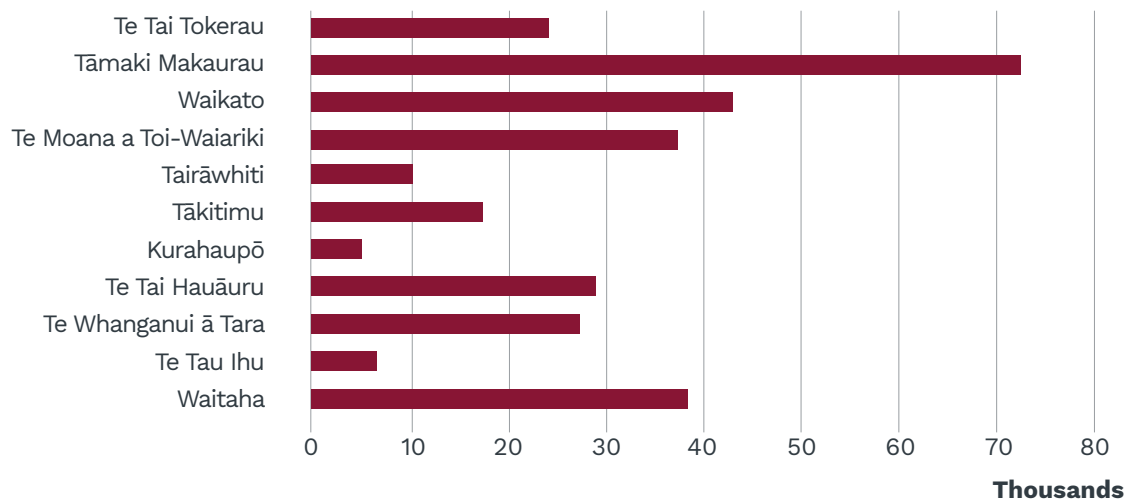


Source: BERL analysis

## By rohe

On a regional level, Tāmaki Makaurau by far has the largest proportion of the Māori workforce with 24 percent of the employers, 27 percent of self-employed, and 24 percent of employees. Waikato has the next highest number of Māori employees (14 percent), but Waitaha has a greater proportion of Māori employers (17 percent) and self-employed (13 percent).

**Figure 13 Māori employees by rohe, 2018**



Source: BERL analysis

Figure 13 and Figure 14 confirm that Tāmaki Makaurau is also the largest rohe in terms of absolute numbers of Māori in employment. This observation also holds for each of the employee, self-employed and employer categories.

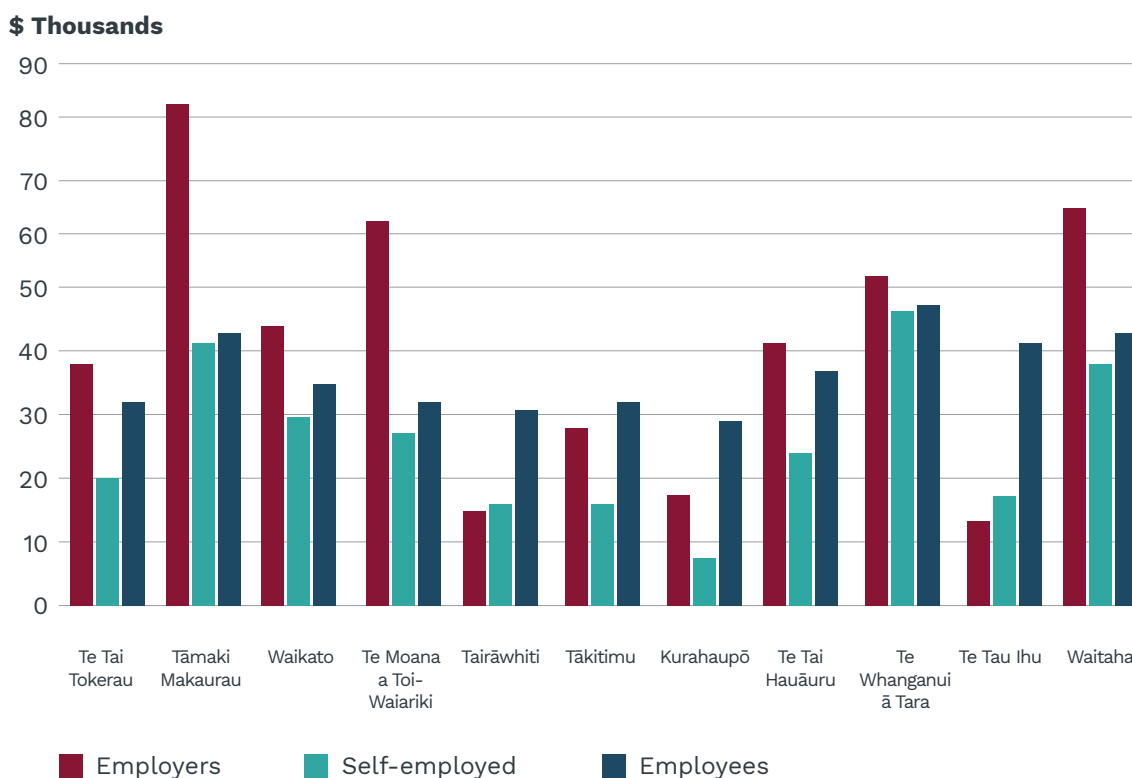
**Figure 14 Māori self-employed and employers by rohe, 2018**



Source: BERL analysis

However, the spread of incomes casts a different light. In particular, Figure 15 shows the highest mean income for Māori employees and self-employed is in Te Whanganui ā Tara (\$44,700 and \$43,200 respectively). This can be partially explained by the predominance of employment in the public administration and professional services sectors in Te Whanganui ā Tara. The highest mean income for Māori employers is in Tāmaki Makaurau (\$82,200). These figures are still all lower than the highest mean incomes for non-Māori employees, employers, and self-employed (\$58,300, \$84,300, and \$54,600 in turn), further evidence of the income gap.

**Figure 15 Mean income for employed Māori by rohe, 2018**



Source: BERL analysis

Of additional interest is the difference between incomes of Māori employers and Māori self-employed. Across almost all rohe, the mean income of Māori self-employed is noticeably less than that of Māori employers. The exceptions are Tairāwhiti and Te Tau Ihu. In turn, the absolute number of Māori employers and self-employed in each of these rohe is relatively small, and leads to concern as to the robustness of the data.<sup>6</sup>

However, our general observation is that it is clear employers enjoy higher incomes than self-employed. Further, it is noticeable that the incomes of self-employed Māori across all rohe are less than that of Māori employees. This difference magnifies the difficulties faced in building from a self-employed enterprise into one that offers employment to others. The transition from self-employed to becoming an employer requires considerable support in terms of financial capital, as well as capability building. This challenge is apparent across all rohe.

<sup>6</sup> A significant number in the datasets indicate zero income. For similar reasons, we have concerns regarding self-employed income in Kurahaupō.

# Māori households income and expenditure

Total Māori household income of \$27.9 billion was largely due to \$13.1 billion of wages and \$9.6 billion social security transfers (Table 4). Spending on consumer goods and services, which increased 84 percent in the five year period, exceeded household income by \$1.0 billion, as Māori households spent more than they earned. This has led to a considerable worsening of the net savings position of Māori households in 2018 with an estimated \$9.0 billion shortfall. This is over twice as much as the 2013 deficit of \$4.0 billion, and compares to a net savings position for non-Māori households of a \$5.8 billion deficit.

**Table 4 Household sector income and expenditure, 2018**

| Household sector (\$ m)  | Māori         | Other          | Total          |
|--|---------------|----------------|----------------|
| <b>Income</b>  |               |                |                |
| Wages  | 13,119        | 109,571        | 122,690        |
| Social security and assistance benefits                                    | 9,637         | 16,777         | 26,414         |
| Entrepreneurial and dividend income  | 2,266         | 32,962         | 35,228         |
| Operating surplus in owner-occupied dwellings                              | 1,495         | 10,344         | 11,839         |
| Interest, pension fund earnings and insurance receipts                     | 1,249         | 24,763         | 26,012         |
| Overseas transfers   | 113           | 544            | 657            |
| <b>Sub-total</b>   | <b>27,878</b> | <b>194,962</b> | <b>222,840</b> |
| <b>LESS Outlays</b>  |               |                |                |
| Consumer expenditure   | 28,886        | 136,167        | 165,053        |
| Income and other taxes, social security contributions, fines and penalties | 4,361         | 34,551         | 38,912         |
| Interest on consumer debt and housing                                      | 850           | 5,882          | 6,732          |
| Net investment by households   | 1,845         | 12,766         | 14,611         |
| Pension fund contributions   | 797           | 10,911         | 11,708         |
| Overseas transfers   | 99            | 476            | 575            |
| <b>Sub-total</b>   | <b>36,838</b> | <b>200,754</b> | <b>237,591</b> |
| <b>Net savings</b>   | <b>-8,959</b> | <b>-5,792</b>  | <b>-14,751</b> |

Source: BERL analysis

## Social security

Social security nearly trebled between 2013 and 2018, increasing 196.0 percent. At the same time, social security transfers for non-Māori decreased 15.7 percent. However, Māori unemployment only increased by 1,455 people. Additionally, the number of Māori in receipt of Sole Parent Support decreased by 4,778 between December 2014 and December 2019. This indicates that the increase in social security transfers is due to working Māori receiving additional government support.

Studies in 2017 and 2020 by BERL, Tokona te Raki (Te Rūnanga o Ngāi Tahu) and Waikato-Tainui, explored the income gap faced by Māori in Aotearoa based on Census 2013 and Census 2018 data (BERL, 2017; BERL, 2020a). These studies found that Māori earned substantially below the average income for their age group, and closing this gap would result in Māori earning an additional \$2.6 billion per year. The difference between Māori and non-Māori income remained constant between 2013 and 2018 on a percentage level.

The enduring ethnic income gap has contributed to an epidemic of in-work poverty (where people are employed but still experience poverty) (Plum et al., 2019). Systemic and persistent inequity is reinforced by a lack of effective policies to address labour market failures, leaving Māori in low-skill, low-security, and low-paid occupations increasingly seeking financial assistance. These jobs include carers and aides, sales assistants and salespersons, cleaners and laundry workers, food preparation assistants, hospitality workers, and farm, forestry, and garden workers. In 2018, nearly 50 percent (162,756 people) of the Māori workforce were in these types of roles, an increase of 58,473 people from 2013.

## Māori home ownership

Across the country, Māori home ownership rates range from 42 percent (Tāmaki Makaurau) to over 50 percent - Te Tau Ihu (54 percent), Waitaha (53 percent), and Kurahaupō (52 percent). By comparison non-Māori home ownership rates are upwards of 62 percent (Tāmaki Makaurau) to a high of 75 percent (Te Tau Ihu and Kurahaupō). The low home ownership rates for Māori are evidence of the income gap translating into an enduring wealth gap.

Wealth inequality contributes to unequal outcomes across health, justice, and education, negatively affects economic growth by limiting innovation and productivity, and is detrimental to social cohesion. The wealth gap also limits Māori access to entrepreneurship as initial capital is necessary for further wealth-creation. In 2018, entrepreneurial and dividend income increased 67 percent from 2013, but there is less entrepreneurial and dividend income as a proportion of total income. There is also less interest and pension fund income, due to low savings and investments by Māori households.



# Value added GDP from Te Ōhanga Māori

**Table 5 Production GDP (value added) from Te Ōhanga Māori, 2018**

| <b>Production Gross Domestic Product (GDP) by sector</b> | <b>\$ million</b> |
|--|-------------------|
| Agriculture, forestry and fishing                        | 2,400             |
| Manufacturing  | 1,855             |
| Construction   | 1,452             |
| Wholesale trade  | 660               |
| Retail, accommodation, and food services                 | 1,343             |
| Transport, postal, and warehousing                       | 979               |
| Information media, arts, and recreation services         | 860               |
| Financial and insurance services                         | 855               |
| Real estate and property services                        | 2,216             |
| Professional, scientific, and technical services         | 1,217             |
| Education and training                                   | 1,414             |
| Health care and social assistance                        | 872               |
| Administrative, support, and other services              | 1,012             |
| <b>Total</b>   | <b>17,047</b>     |
| <i>Tourism</i>   | 975               |

Source: BERL analysis

The production measure of GDP from Te Ōhanga Māori producers totalled \$17 billion in the 2018 year (Table 5). This figure represents a continuous broadening of Māori value added to the economy, with an increase across a range of sectors including processing and manufacturing, tourism, property, education, health and social service provision, along with SMEs in building and construction, manufacturing, retail, transport, and other services sectors.

The GDP contribution is still dominated by the primary sector, but real estate and property services contributions are noticeable, followed by manufacturing, construction, tourism and hospitality related-retail, accommodation and food services sectors, and education and training, and professional services.

The land and natural resource based primary sector enterprises, contributed \$2.4 billion to GDP. However, real estate services have increased significantly (from \$1.3 billion in 2013 to \$2.1 billion in 2018) and its contribution to value added is close to that from the primary sector.

The primary sector GDP contributions are predominantly from trust, incorporations, and other collectively-owned Māori organisations. In contrast, the manufacturing, construction, and transport sector's GDP contributions are mainly from enterprises of individual Māori employers and self-employed Māori.

For Māori, the value generated by asset holdings lies more in the ability to create better outcomes and improved wellbeing, higher incomes and more jobs for iwi, hapū, and whānau Māori. GDP is generally used by economists as a broad measure for this. Admittedly this is a blunt measure, and it is clear that broader indicators of wellbeing need to be considered.

## Tourism

The tourism sector is not separately identified in standard classifications of industries.

Rather, the tourism sector is defined as a combination of some of the activities in various sectors, for example, retail trade, accommodation, transport, and art and recreation. Statistics New Zealand's Tourism Satellite Accounts specifies the proportions of these, and other, sectors that together make up the tourism sector.

Using these proportions, our estimates suggest GDP from Māori economy tourism sector activities totals just over \$975 million.

## GDP since 2013

GDP from Te Ōhanga Māori has increased from \$11 billion in 2013 to \$17 billion in 2018 (Table 6). Overall this increase in Te Ōhanga Māori GDP translates to 37 percent in real growth. This growth outcome compares with national growth in GDP of 20 percent in real terms over the same period. In other words, Te Ōhanga Māori GDP is estimated to have grown considerably faster than that in the overall economy over the 2013 to 2018 period. In broad terms, the growth across Te Ōhanga Māori has been driven by the growth in the manufacturing and construction sector, along with noticeable growth across the other services sector.

**Table 6 Value added percentage change by industry, 2013-2018**

| <b>Value added by industry</b> | <b>2013<br/>\$ million</b> | <b>2018<br/>\$ million</b> | <b>Percentage<br/>change</b> | <b>GDP deflator<br/>percentage<br/>change</b> | <b>Real growth<br/>percentage<br/>change</b> |
|--------------------------------|----------------------------|----------------------------|------------------------------|---|--|
| Primary sector                 | 1,728                      | 2,400                      | 34.7                         |   |  |
| Manufacturing and construction | 1,971                      | 3,308                      | 67.8                         |   |  |
| Other                          | 7,221                      | 11,339                     | 57.0                         |   |  |
| Māori economy                  | 10,975                     | 17,047                     | 55.3                         | 13.2  | 37.2   |
| Other enterprises*             | 171,154                    | 230,318                    | 34.6                         | 13.2  | 18.8   |
| <b>Total*</b>                  | <b>182,129</b>             | <b>247,365</b>             | <b>35.8</b>                  | <b>13.2</b>                                   | <b>19.9</b>                                  |

\* Excluding government administration and defence sector

Source: BERL analysis

## Māori enterprises income and spending

The gross output, or total trading revenue, of all entities across Te Ōhanga Māori totalled just over \$36 billion in 2018 (Table 7). The gross output measure is akin to the turnover, or total revenue of a business. After deducting wages for the use of labour and other production costs, the operating surplus of Māori enterprises totalled \$6.9 billion.

**Table 7 Producer sector income and expenditure, 2018**

| Producer enterprises sector                                       | \$ million    |                |                |
|---|---------------|----------------|----------------|
|   | Māori         | Other          | Total          |
| <b>Gross output of enterprises</b>                                | <b>36,152</b> | <b>491,428</b> | <b>527,580</b> |
| LESS Costs of production  |               |                |                |
| Compensation of employees   | 7,798         | 114,892        | 122,690        |
| Intermediate and other input costs                                | 19,951        | 256,431        | 276,382        |
| <b>Sub-total</b>  | <b>27,749</b> | <b>371,323</b> | <b>399,072</b> |
| <b>Gross output less costs of production</b>                      | <b>8,403</b>  | <b>120,105</b> | <b>128,508</b> |
| LESS Surplus in own dwellings                                     | 1,495         | 10,344         | 11,839         |
| <b>Operating surplus of enterprises</b>                           | <b>6,908</b>  | <b>109,761</b> | <b>116,669</b> |
| Other income - insurance claims                                   | 99            | 778            | 877            |
| Other income - overseas   | 0             | 6,848          | 6,848          |
| <b>Sub-total</b>  | <b>7,007</b>  | <b>117,387</b> | <b>124,394</b> |
| <b>LESS Outlays</b>   |               |                |                |
| Distributions to households: entrepreneurial income and dividends | 2,266         | 32,962         | 35,228         |
| Corporate tax   | 533           | 13,321         | 13,854         |
| Overseas payments   | 0             | 14,815         | 14,815         |
| Capital spending  | 3,126         | 44,680         | 47,806         |
| <b>Sub-total</b>  | <b>5,925</b>  | <b>105,779</b> | <b>111,704</b> |
| <b>Net savings</b>  | <b>1,082</b>  | <b>11,608</b>  | <b>12,690</b>  |

Source: BERL analysis

There are three principal outlays for the Māori enterprise sector. Of similar magnitudes are distributions of dividends and income to households, and capital investment spending, while the third category of corporate tax payments is of a smaller magnitude. Dividends and income to households from the Māori enterprise sector constitute, in the main, the proceeds of the businesses of self-employed Māori, as well as payments from trusts and incorporations. Capital investment spending by the Māori enterprise sector comprises spending on new or replacement machinery or equipment, as well as spending to maintain or improve the value of land and other assets.

Total investment spending by Māori enterprises is proportionately similar to that for other enterprises at \$3.1 billion. This is an estimated 8.6 percent of the gross output of the Māori enterprise sector, compared to the \$44.7 billion that is 9.1 percent for other enterprises. Consequently, there is little evidence suggesting investment in Te Ōhanga Māori asset base is significantly lacking or below that for the wider economy.

In contrast to the household sector, the enterprise sector recorded positive net savings in 2018. The enterprise sector recorded positive savings of just over \$1 billion in 2018 for Māori producers. This compares with a net savings figure totalling just under \$13 billion for all Māori and non-Māori producer enterprises.

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## Asset base of 2018 Te Ōhanga Māori

### Diversified primary sector

Māori are actively involved in the primary sector, generating revenue, employment, and economic independence. The primary sector (agriculture, forestry, and fishing) makes up \$23 billion of the Māori asset base. This is an increase of \$12 billion, up from \$11 billion in 2013. The asset base of self-employed, employers, and collectives remain proportionately similar to 2013. It is encouraging that the increase has been across the board, as this highlights an increase in businesses in the primary sector, not just collectives.

In terms of industries, the largest proportion of the asset base is in sheep and beef farming (\$8.6 billion), and the second largest is dairy (\$4.9 billion). There has been a significant increase in horticulture, including kiwifruit, wine, honey and other horticulture. Since 2006, there has been a 300 percent growth of Māori in horticulture (BERL, 2020b). Land used for horticulture is still low compared to other industries, however it has had substantial growth. The Māori horticulture asset base is now \$1.2 billion. There has also been movement into aquaculture driven predominately from employers.

The asset base is also moving up the value chain to processing. Meat processing, dairy processing, other food manufacturing, and wood and paper manufacturing make up \$2.3 billion of the Māori asset base. Of this, \$1.9 billion belongs to employers, while only \$260 million belongs to collectives, largely relating to dairy.

The market share of Māori entities in the primary sector ranges between eight percent and 63 percent. Māori have a large market share in fishing (63 percent) due to fishing quota. The Māori asset base in fishing is \$2.9 billion, with 81 percent of this asset base owned by the collectives. A large portion of collectives own the assets, but they are not involved in fisheries processing, with companies such as Moana undertaking this activity.

There is a similar story in sheep and beef, and dairy farming. Overall, there has been a 108 percent growth in the primary sector asset base since 2013. However, there has only been a 35 percent value added growth since 2013. Sheep and beef, and dairy farms are large contributors to this. Dairy has provided a return on asset of six percent, and sheep and beef provided a nine percent return on asset. Collectives own the majority of the asset base in these industries, and the lower returns indicate that many farms are leased to others to operate.

Forestry, other agriculture, and horticulture are currently providing better returns of 15 percent, 15 percent, and 13 percent respectively. Moving up the value chain to manufacturing services provides even greater returns on assets. Other food manufacturing has provided a 66 percent return, and meat processing has provided a 54 percent return.

The primary sector creates employment for 22,500 Māori. The bulk of this number are employees (87 percent), with the remaining split between self-employed (seven percent), and employers (six percent). Many work in the dairy industry (18 percent), closely followed by horticulture (17 percent). Related manufacturing creates employment for 22,300 Māori, again the majority are employees (97 percent). Most of these workers are in the meat processing industry. Employers and self-employed in the primary sector are largely in high-skill roles, whereas employees are in low-skill positions. This may contribute to employers needing to import seasonal workers.

## Primary sector – Low-emissions economy

The impact of climate change is affecting the primary sector across Aotearoa, and will continue to do so. It will be important that Māori are involved in developing primary sector adaptation plans to support climate resilience. Another positive benefit of Māori in the primary sector is the provision of food security as a form of climate resilience. Mitigation is the other side of the climate change coin; Māori need to be supported to develop their own mitigation projects. The Productivity Commission low-emissions economy report (2018) stated that what Māori do with their land will have a significant impact on New Zealand's transition to a low-emissions economy. The report also outlines how reducing greenhouse gas emissions from land use will protect land, forests, and waterways.

Using taonga resources for primary sector production has supported growth in the Māori economy. Land and water use has enabled revenue creation, employment, movement into related manufacturing, and skills and training. This, in turn, has provided economic opportunities, economic independence, and self-determination. The positive impacts are not limited to the financial capital; human and social capital are also enhanced, as well as natural capital, depending on the practices used. There are still opportunities that can be seized (e.g. horticulture, operating farms rather than leasing, fisheries processing), and the involvement of Māori in climate change adaptation and mitigation.

## Assets across rohe

Across the rohe, the largest primary sector asset base in absolute terms is in the Waikato rohe (Figure 16). Waikato has approximately a quarter of the primary sector Te Ōhanga Māori asset base. Waikato is heavily involved in sheep and beef, dairy, and forestry, with the primary sector encompassing close to one-half of the Waikato Māori asset base.

**Figure 16 Asset base by broad sector and rohe, 2018**



Source: BERL analysis

In relative terms, though, the asset base is overwhelmingly dominated by the primary sector in Tairāwhiti and Kurahaupō. Additionally, its dominance in Te Tai Tokerau is also noticeable.

In contrast, other services including property is dominant in the asset base of Tāmaki Makaurau, and noticeably important in Te Moana a Toi-Waiariki, Waitaha, and Te Whanganui ā Tara. The asset base in the manufacturing and construction sector is most prominent in Tāmaki Makaurau, Waikato, Te Moana a Toi-Waiariki, Waitaha, and Te Tai Hauāuru. Assets in the public and professional services sector are also most prominent in Tāmaki Makaurau, although their presence is also noticeable in Waikato, Te Whanganui ā Tara, Te Moana a Toi-Waiariki, and Waitaha.

The spread of assets across rohe reflects the composition of the wider economy in the area, as well as whānau and hapū cultural assets, Te Tiriti settlements, and the efforts of Māori in business and enterprise. The broadening spread across sectors in each rohe is indicative of the growing connections between Te Ōhanga Māori, and the economy of Aotearoa and beyond.

# Income and expenditure

## GDP measures

The breakdown of GDP, from either income or spending perspectives, further reflect the connections between Te Ōhanga Māori and the economy of Aotearoa. The interactions of government across production, income, and expenditure activities along with those of the financial and overseas sector, further reinforce the importance of these connections.

None of these various components can exist in isolation to each other, while the depth and breadth of the connections can assist in improving the delivery of wellbeing and increase resilience to changes and external influences. The innumerable connections between these components are depicted in tabular form in the Social Accounting Matrix (SAM) provided in the appendices (Āpitianga ono – Appendix six). A summary of this information is provided in the composition of GDP table (Table 8), and also in the summary of the net savings position of each component (Table 9).

From the expenditure perspective, the spending of Māori households and enterprises totals a contribution to GDP of just under \$34 billion. From the income perspective, Māori households and enterprises generate a total GDP of \$21.5 billion (Table 8).

**Table 8 GDP by income and expenditure, 2018**

| <b>Gross Domestic Product (GDP) measures</b>           | <b>\$ million</b> |
|--|-------------------|
| <b>Composition of GDP by expenditure</b>               |                   |
| Spending by Māori households                           | 30,731            |
| Spending by non-Māori households                       | 148,934           |
| Government consumption spending                        | 51,912            |
| Capital spending by Māori enterprises                  | 3,126             |
| Capital spending by other enterprises                  | 44,680            |
| Other capital spending (government and finance sector) | 6,494             |
| Exports  | 79,455            |
| <b>Sub-total</b>                                       | <b>365,332</b>    |
| LESS Imports   | 76,228            |
| <b>Total</b>   | <b>289,104</b>    |
| <b>Composition of GDP by income</b>                    |                   |
| Māori household GDP income                             | 14,614            |
| Non-Māori household GDP income                         | 119,915           |
| Operating surplus of Māori enterprises                 | 6,908             |
| Operating surplus of other enterprises                 | 109,761           |
| Government indirect tax and other income               | 37,906            |
| <b>Total</b>   | <b>289,104</b>    |

Source: BERL analysis

**Table 9 Net savings of components of economy of Aotearoa, 2018**

| <b>Sector reconciliation</b>          | <b>\$ million</b> |
|---------------------------------------|-------------------|
| Māori household net savings           | -8,959            |
| Other households net savings          | -5,792            |
| <b>Total households net savings</b>   | <b>-14,751</b>    |
| Māori enterprises                     | 1,082             |
| Other enterprises                     | 11,608            |
| <b>Total enterprises net savings</b>  | <b>12,690</b>     |
| Financial sector net savings          | -14,375           |
| Government sector net savings         | 8,924             |
| Overseas sector net savings           | 7,512             |
| <b>Total other sector net savings</b> | <b>2,061</b>      |
| <b>Total balance</b>                  | <b>0</b>          |

Source: BERL analysis

The household sector of Aotearoa remains in a negative position in terms of net savings; that is, income is less than spending (Table 9). This is reflected in the total net position of both Māori households and non-Māori households.

In contrast, enterprises are in a position of positive net savings with similar positions for both Māori enterprises and other enterprises. The financial sector continues in a position of negative savings, while both government and the overseas sector record positive savings.

Depending on where you start with these connections, this picture reflects households and the financial sector borrowing funds to finance expenditure, with these funds being provided by a combination of producer enterprises in Aotearoa, overseas lenders, and government.



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# Āpiti hanga tahi – Appendix one

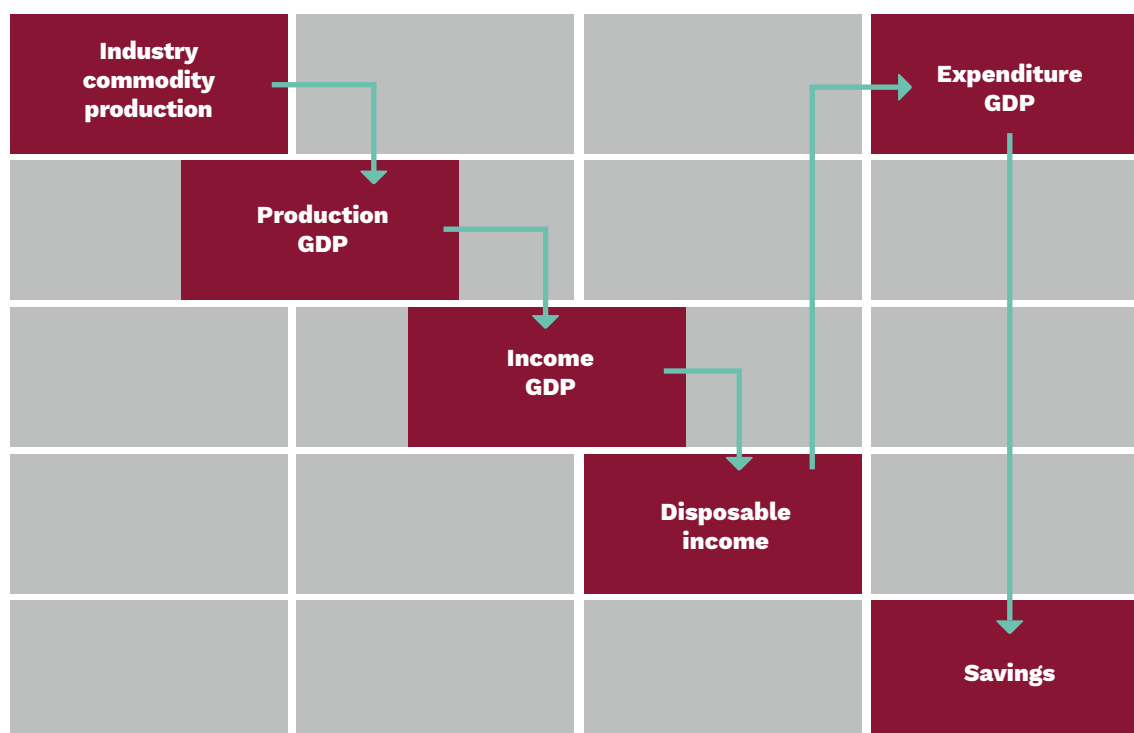
## Methodology

### Social Accounting Matrix (SAM)

A Social Accounting Matrix (SAM) summarises the many payments or transactions in an economy. These transactions or payments may involve a person, an industry, a household, an enterprise, government, a foreign customer, or a supplier. The SAM summarises the source and destination of these transactions, i.e. who are making and who are receiving the payments. Table 10 illustrates the payments or relationships representing the core transactions.

A matrix is another word for a table of numbers. In general, each column of the table represents payments by a person, and each row of the table represents payments received by that person. For example, take the case of a household paying income tax. This transaction will be represented by an appropriate figure in the intersection of the household column and the government row of the matrix.

**Table 10 Schematics of a SAM**



Source: BERL analysis

There are other entries in the matrix. For example, there are some figures representing transfers within sectors and other notional transactions. In a more formal sense, a SAM comprises a combination of an inter-industry transactions (or input-output) table, and the accounting flows of income and outlays for particular institutional sectors of an economy.

## Inter-industry transactions and production GDP

Transactions between the various industries of the economy form the basis of the production component of the SAM. For example, the fish processing industry buys the raw fish catch from the fishing industry along with other inputs from other industries (e.g. energy from the electricity industry) in order to make its fish product, or commodity. Thereafter, the processing industry is also likely to purchase transport services from the transport industry in order to convey its product to its final customer (whether to an export port ready for foreign customers or for internal distribution to retail consumers or other domestic users).

Of course, industries do more than just purchase and sell between them. They combine both the raw and material inputs they purchase from other industries and in such transformations they add value to the products or commodities they ultimately produce. Such value added is, in an economic sense, equivalent to the GDP contribution of each production industry.

This value added constitutes the payments (or returns) to the primary resources used in the production of each commodity. In its simplest form, primary resources (or factors of production) are limited to labour and physical capital. Consequently, production GDP is captured in the SAM as payments by industries to the owners of labour and capital – that is, wage and profit payments.

These wage transactions are listed in the SAM at the intersection of the relevant industry columns and the owners of labour row. Similarly the profit transactions are placed at the intersection of the relevant industry columns and the owners of capital row. The sum of these wage and profit payments is conceptually equivalent to the total value added contributed by the producers in an economy and is termed the production measure of GDP.

Thus, the value added of the fishing industry, for example, is equivalent to the wage payments to those employed in the industry and the surplus of the industry. The latter represents payments to the owners of the machinery, equipment, and buildings used in the industry.

## Income GDP and disposable income

From the production segment of an economy, we move on to the income segment. In this context, the SAM firstly captures the conceptual transactions that translate the income of labour and capital owners, into income of households and those of the producer enterprises owners.

The entries in the SAM have, for example, figures at the intersection of the owners of labour column and the household row. Other income payments received by households from the owners of capital row, would include returns to self-employed persons in their role as business owners across the various industries. The income of enterprises, predominantly at the intersection of the producer enterprises column and the owners of capital row, represent the conceptual transfer of the surplus of industries into profits of producer enterprises.

<sup>7</sup> Notional transactions are those recorded for economic or accounting purposes, but do not take place as a real world transaction. For example, the notional payment by those residing in their own home to themselves reflects the economic rental value of their owner-occupied property. This is included by Statistics New Zealand to ensure that the economic operation of rental and owner-occupied property is treated equally in the National Accounts.

It is true that the translation of the incomes of the factors of production (labour and capital) into the incomes of households and enterprises captures, in the main, notional rather than actual transactions. Nevertheless, this segment of the SAM enables an economy's value added to be expressed in an alternative form – namely, income GDP.

Consequently, we can capture another dimension to the participation of Māori in the Aotearoa economy, i.e. the participation via the income measure of GDP of Māori households.

Very generally, for example, the wage payments of those employed in the fishing industry are likely to be predominantly translated into household income. Similarly, the surplus of this industry is likely to form the basis of the income of producer enterprises.

## Disposable income

Having established the income GDP of households and producer enterprises, the SAM moves on to summarise the transactions that lead to the disposable income of these components of the economy.

In contrast to the previous segment of the SAM, the majority of these transactions are actual rather than notional. In particular, entries in this segment include income and corporate tax payments to government by households and producer enterprises, as well as social security and benefit payments from government to households. In addition, mortgage and other debt interest payments by households are recorded here in the financial institutions row. Household receipts from financial institutions represent interest as well as superannuation income along with insurance pay-outs.

## Expenditure GDP and net savings

Given the disposable income of households and producer enterprises, the final set of core transactions captured by the SAM are the expenditure on goods and services (i.e. the commodities) that are produced by industries. The expenditure by households on consumer goods would be included in the intersection of the household column and the row for the industry producing each consumer commodity. For example, purchases of fish products by the household are likely to be predominantly in the row of the fish processing industry (noting that the household is unlikely to be purchasing the raw fish catch of the fishing industry). Other consumer spending, like fuel (purchased from the fuel retailing industry), to enable consumers to drive to the supermarket to purchase fish products will also be included here.

Expenditure by producer enterprises on goods and services predominantly involves capital expenditure (investment) on machinery, equipment and buildings. This expenditure is required to maintain and expand the physical resources available to the industry for use in its production processes. For example, the purchase of a fishing boat by a producer enterprise active in the fishing industry would appear in the producer enterprise column and the row relating to the marine equipment making industry. This set of transactions also includes government purchases of goods and services for example, the purchase of health services from the health services industry.

The remaining set of transactions here are the purchases by overseas customers of the goods and services produced by Aotearoa industry. These export transactions are captured in the intersection of the overseas column and the relevant industry row. Conversely, there will be a set of transactions representing the purchase by Aotearoa households and industries of goods and services produced abroad. These import transactions will be represented by figures in the overseas row across the various columns for the range of households and industries.

For example, the petroleum refining industry will be purchasing crude oil imports, which gets translated into petrol purchased by a household via transactions with the fuel retailing industry. Similarly, the purchase of a fishing boat by a producer enterprise active in the fishing industry is likely to require the purchase of a variety of mechanical and electrical components from abroad by the marine equipment making industry.

The total of the expenditure in this segment of the SAM, net of imports, is equivalent to the expenditure measure of GDP. Consequently, a further dimension to the Māori participation in the Aotearoa economy can be described – namely, through the expenditure of Māori households.

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## Net balance or savings

Finally, the SAM enables the calculation of the net balance position of the household, government and producer enterprise sectors. This is calculated directly from the calculated disposable income of each of the sectors minus their expenditure.

In addition, the net balance of transactions with the overseas sector can also be calculated from the figures contained in the SAM. Note, as well as exports and imports of commodities, other transactions with the overseas sector are also included in the SAM. In particular, interest, profits and/or dividends from producer enterprises active in Aotearoa industries may be remitted to foreign owners. This will be shown in the intersection of the producer enterprise column and the overseas row.

Similarly, transfers or other transactions from the overseas sector to, for example, Aotearoa households, will be shown in the intersection of the relevant row and the overseas column in the SAM. Consequently, the net balance of transactions with the overseas sector is equivalent to the balance on the current account of the Balance of Payments. This balance comprises the balance on trade flows (i.e. export revenue minus import payments), as well as the balance on financial transactions (i.e. interest, profits and other asset income and payments) with the rest of the world.

A cross-check of the net savings figure is provided by the macro-economic identity. This states that the sum of the net savings of all these domestic sectors plus the net balance of transactions with the overseas sector must equal zero. In other words, if the balance of the overseas sector is a positive (i.e. surplus or savings), then the sum of the balances of all the domestic sectors would have to be a negative (i.e. deficit or dissaving) of the same magnitude.

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## Enterprises

### Output and income

Gross output of producer enterprises begins with the estimate of gross output from the input-output tables.

### Costs of production

The costs of production for each industry, including compensation of employees, purchase of intermediate commodities (including imports) and other input costs arise from the input-output inter-industry transactions table. In generating these costs, their proportions in relation to each industry's gross output are set the same as those implied by the input-output table.

## Outgoings

Distributions to households in the form of entrepreneurial and dividend income are the converse of those in the household account. All entrepreneurial income accruing to Māori households are assumed to source from Māori producer enterprises. However, the proportion of the dividend distribution from Māori producer enterprises allocated to the Māori household sector is equal to the Māori proportion reporting income from the interest, dividend, rent or other property income category in the 2018 Census.

Corporate tax from the Government Financial Statements is allocated to Māori enterprises according to the proportion of gross output in Māori enterprises to total gross output. The proportion of the total for capital spending from the input-output table allocated to Māori enterprises is calculated as the Māori proportion in the consumption of fixed capital in industries from the input-output table.

## Households

The majority of the components of income are derived from a division of the income listed in the Household Income and Outlay Accounts. In all cases, where relevant, figures from the input-output table are retained for consistency with industry data. The division between Māori and non-Māori households is undertaken using appropriate proportions from the 2018 Census and/or other sources.

## Income

The income for Māori households is obtained by applying the Māori proportion of the income earned by paid employees as reported in the 2018 Census. Social security assistance and benefits for all households is from Household Income and Outlay Accounts. The income for Māori households is obtained by applying the Māori proportion reporting income in the 2018 Census from the following sources: New Zealand Superannuation or Veterans Pension, Unemployment Benefit, Sickness Benefit, Domestic Purposes Benefit, Invalids Benefit, or Student Allowance.

Entrepreneurial income and dividend income for all households is accessed from Household Income and Outlay Accounts. Entrepreneurial income for Māori households is obtained by applying the Māori proportion of income earned by self-employed from the 2018 Census. Dividend income is split according to the proportion reporting income from the interest, dividend, rent, or other property income category in the 2018 Census.

Operating surplus accruing from ownership of owner-occupied dwellings is from the input-output table. The income for Māori households is obtained by applying the Māori proportion from the 2018 Census reporting those that live in owner-occupied dwellings.

Pension fund benefits including equity changes and interest and insurance receipts is from the Household Income and Outlay Accounts. The former component is split according to the Māori proportion reporting income from the Other Superannuation, Pensions, Annuities category in the 2018 Census. The latter component is split according to the Māori proportion reporting income from the interest, dividend, rent, or other property income category in the 2018 Census.

Overseas transfers are from the Household Income and Outlay Accounts. This is split according to the Māori proportion in the number of households from the 2018 Census.

## Outgoings

Determining the outgoings from the household sector accounted for by Māori households was achieved, predominantly, by using appropriate shares from Census data. Consumer expenditure from the input-output tables is split according to the Māori proportion in the number of households, and adjusted by the relative average household income from the 2018 Census.

Income tax, other current taxes, social security contributions, and fines and penalties are from Household Income and Outlay Accounts. These are split according to the Māori proportion of total individual employment income from the 2018 Census.

Interest on consumer debt and interest on housing are from Household Income and Outlay Accounts. These are split according to the Māori proportion from the 2018 Census reporting they live in their own dwellings.

Investment in owner-occupied dwellings is from the input-output tables. This is split according to the Māori proportion from the 2018 Census reporting they live in their own dwellings.

Pension fund contributions are from Household Income and Outlay Accounts. This is split according to the Māori proportion reporting income from the Other Superannuation, Pensions, Annuities category in the 2018 Census.

Overseas transfers are from Household Income and Outlay Accounts. This is split according to the Māori proportion in the number of households from the 2018 Census.

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## Net savings reconciliation

The Household Income and Outlay Accounts indicate net savings. The difference between these two estimates can be attributed to data limitations, as well as conceptual differences between input-output and National Accounts information.

# Āpitihanga rua – Appendix two

## Scope and limitations

### Scope

Based on the methodology established in BERL (2011), a broad definition of the Te Ōhanga Māori was retained to ensure that all entities and enterprises that self-identify as part of the Te Ōhanga Māori is included. This report presents:

- An updated calculation of the 2018 contribution to Aotearoa GDP from Te Ōhanga Māori enterprises
- An updated SAM (Social Accounting Matrix) to depict the 2018 income and expenditure flows within the Te Ōhanga Māori and between the Te Ōhanga Māori and the wider Aotearoa economy
- An update of the asset base of Te Ōhanga Māori enterprises
- An expansion of this information base to a broad regional breakdown of the above
- An expansion of the supporting narrative (and measures) to describe broader objectives and outcomes that are being enabled through Māori trusts, incorporations, enterprises, iwi settlement entities, and businesses.

The coverage of enterprises from the source data has effectively broadened through the inclusion of more comprehensive Māori Land Court data, as well as more detailed information from Charities Services. A discussion of the robustness of the data and the comparability of the estimates follows.



## Data sources, robustness, and comparability

This report has been compiled using a variety of data sources, supplemented by modelling. The data has been obtained from the best available sources, such as official statistics, as well as other information, such as annual reports.

As noted above, the methodology adopted and the data sources used are similar to those used in the 2011 report by BERL. In particular, core data used from Statistics New Zealand (StatsNZ) include:

- 2013 and 2018 Censuses
- Annual Enterprise Survey
- Consumer Price and Capital Goods Price Indices, various dates
- Business Demography Statistics
- Household Sector Income and Outlay Accounts
- National Accounts
- Inter-industry Transactions.

However, the combination of administrative data used (in particular from Māori Land Court and Charities Services), necessarily calls into question the validity and comprehensiveness of the resultant estimates. We are aware that our estimates would be unlikely to meet the rigorous standards for official status. Further, we would not wish our estimates to be portrayed as such.

The range of data we have secured, along with BERL's experience and knowledge of Te Ōhanga Māori activities, ensures we are confident of the robustness of our indicative estimates at the headline level. However, the greater the degree of disaggregation in the estimates, the greater the margins for error and inaccuracy. Hence, the more disaggregated estimates should be treated with appropriate caution.

All the data and tables in this publication have been estimated by BERL using a variety of official and unofficial sources. Estimates have been rounded and also aggregated to ensure confidential information is not released. Consequently, the sum of the components may not add precisely to the totals shown. All data, unless otherwise stated, refer to the year ended March 2019.

We use the Australian New Zealand Standard Industrial Classification (ANZSIC) to present industry data, as detailed in Table 11. The 2006 version of the ANZSIC classification is used, which is the most recent version. Due to changes in the classifications (the BERL 2011 report used the 1993 version of ANZSIC), the comparability of industry estimates is not straight forward. At the broad industry level we have described some comparisons that we believe are valid.

More comprehensive and detailed information from the Māori Land Court and Charities Services provided greater robustness, as well as adding to the richness of our estimates. Despite these additions, we believe comparability with the headline estimates in BERL (2011) has not been compromised.

While the Māori Land Court data did entail a greater number of land holdings to be included in our estimates, these additions were small in area. Further, given the lack of details, these areas were given imputed highly conservative values through the modelling process, similar to the process adopted in the 2011 report.

Charities Services data provided better information on the activities undertaken of many Māori enterprises in the broader services sector. We believe this has improved the allocation of Māori enterprises to appropriate ANZSIC sectors, and has assisted in generating the regional dimension to our estimates. However, our earlier note regarding caution in using the more disaggregated information remains.

**Table 11 Industry definitions and other abbreviations**

| <b>Abbreviation</b>       | <b>ANZSIC code</b>      | <b>Industry description</b>                   |
|---------------------------|-------------------------|---|
| A1A2                      | A012-A013               | Horticulture                                  |
| A3                        | A014                    | Sheep and beef farming                        |
| A4                        | A016                    | Dairy   |
| A5A7                      | A02+A04                 | Fishing and aquaculture                       |
| A6                        | A03                     | Forestry                                      |
| A8                        | A011+A015+A017-A019+A05 | Other agriculture and services to agriculture |
| B                         | B                       | Mining  |
| C1                        | C111                    | Meat processing                               |
| C2                        | C113                    | Dairy processing                              |
| C3                        | C112+C114-C119          | Other food manufacturing                      |
| C4                        | C14-C15                 | Wood and paper manufacturing                  |
| C5                        | C21-C25                 | Fabricated metal products                     |
| C6                        | C12-C13+C16-C20         | Other manufacturing                           |
| D                         | D                       | Electricity, gas, water, and waste services   |
| E                         | E                       | Construction                                  |
| F                         | F                       | Wholesale trade                               |
| G                         | G                       | Retail trade                                  |
| H                         | H                       | Accommodation and food services               |
| I                         | I                       | Transport, postal, and warehousing            |
| J                         | J                       | Information media and telecommunications      |
| K                         | K                       | Finance and insurance services                |
| L                         | L                       | Rental, hiring, and real estate services      |
| M                         | M                       | Professional, scientific, technical services  |
| N                         | N                       | Administrative and support services           |
| O                         | O                       | Public administration and safety              |
| P                         | P                       | Education and training                        |
| Q                         | Q                       | Health care and social assistance             |
| R                         | R                       | Arts and recreation services                  |
| S                         | S                       | Other services                                |
| <b>Other abbreviation</b> |                         | <b>Description</b>                            |
| COE                       |                         | Compensation of employees                     |
| OPS                       |                         | Operating surplus                             |
| OTX                       |                         | Indirect taxes                                |
| MHD                       |                         | Māori households                              |
| NMH                       |                         | Other households                              |
| FII                       |                         | Financial institutions                        |
| MPE                       |                         | Māori enterprises                             |
| NMP                       |                         | Other enterprises                             |
| GOV                       |                         | Government                                    |

## Data limitations

Using data from a variety of sources causes difficulty when ensuring consistency of treatment. If we limit ourselves to one data source, we can obtain a large degree of sector disaggregation, but at the expense of less than comprehensive coverage of transactions. Using a variety of sources may improve the coverage of the information available, but the sector detail of this information is likely to be more highly aggregated.

For this reason, industry and sector definitions have been kept broad to reduce the degree of detail required to be extracted from the data. For similar reasons, many of the non-core transactions between and within sectors have not been explicitly identified in the SAM developed for this project.

The use of Census data has advantages in its comprehensive coverage. However, information here is obtained from the perspective of individual details, rather than business details. Where appropriate we have had to imply relevant variables from individual data rather than from business data. This has limitations in that obtaining data relevant to businesses distinguished by ethnicity is difficult, except, for example, the income of Māori and non-Māori self-employed businesses.

Of particular importance in the generation of this SAM, and the consequential estimates for Māori participation, is the calculation of the Māori asset base.

Due to the lack of reliable information, we have not attempted to disaggregate the export dimension of producer enterprises by the ethnicity of these businesses. This reduces the analysis that can be supported by the SAM. Thus, any survey of businesses should also look to extract information on the export orientation of comparative businesses (ideally, Māori compared with other businesses).

The primary aim was to obtain a credible picture of the Māori participation in the Aotearoa economy. To do this, we established a reliable and robust data plan to support the estimated core transactions identified in Table 10. We believe we have been successful in this aim.

## Use of Integrated Data Infrastructure (IDI) data from Statistics New Zealand

Access to the data used in this study was provided by Statistics New Zealand (StatsNZ) under conditions designed to give effect to the security and confidentiality provisions of the Statistics Act 1975. The results presented in this study are the work of the author, not StatsNZ.

The results in this report are not official statistics; they have been created for research purposes from the IDI, managed by StatsNZ.

The opinions, findings, recommendations, and conclusions expressed in this report are those of the authors, not StatsNZ, Ministry for Social Development, and the Inland Revenue Department (IRD).

Access to the anonymised data used in this study was provided by StatsNZ in accordance with security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, household, business, or organisation, and the results in this report have been confidentialised to protect these groups from identification.

Careful consideration has been given to the privacy, security, and confidentiality issues associated with using administrative and survey data in the IDI. Further detail can be found in the privacy impact assessment for the IDI available from [www.stats.govt.nz](http://www.stats.govt.nz).

The results are based in part on tax data supplied by IRD to StatsNZ under the Tax Administration Act 1994. This tax data must be used only for statistical purposes, and no individual information may be published or disclosed in any other form, or provided to IRD for administrative or regulatory purposes.

Any person who has had access to the unit record data has certified that they have been shown, have read, and have understood section 81 of the Tax Administration Act 1994, which relates to secrecy. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes, and is not related to the data's ability to support IRD's core operational requirements.

# Āpitihanga toru – Appendix three

## Glossary

### Kupu Māori

| Kupu Māori         | English   |
|--------------------|---|
| Hapū               | A social unit comprised of related families based in a geographical area, who whakapapa to a common ancestor, although people affiliated to a hapū may not live in that area.   |
| Hauora             | Health, wellness, vigour.   |
| Iwi                | A number of related hapū sharing a territory, a confederation of tribes.  |
| Kaitiaki           | Guardian.   |
| Kaitiakitanga      | Guardianship, stewardship, and protection of the environment.   |
| Kaumātua           | An older person within a whānau.  |
| Kawa               | Protocol and customs for particular events, such as opening of new houses or on the marae.  |
| Kōhanga reo, Te    | Preschool operating under Māori cultural customs and using te reo Māori as the language medium.   |
| Kotahitanga        | Unity, togetherness, and collective action.   |
| Kura kaupapa Māori | Primary school operating under Māori cultural customs and using te reo Māori as the language medium. Wharekura are immersion secondary schools.   |
| Mana               | Prestige, status, authority, mandate.   |
| Manaakitanga       | Hospitality, generosity, showing respect and care for others.   |
| Marae              | Meeting place for where formal greetings are exchanged and discussion takes place. Can be more generally thought of complex of buildings surrounding this meeting place. Can also be broader term to encompass the institution combining community, physical, and spiritual support for Māori, culture, language, identity. |

**Kupu Māori****English**

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|                  |  |
|------------------|--|
| Mātauranga Māori | Māori body of knowledge that arises from a worldview based upon kinship relationships between people and the natural world. Humans are not seen as superior to the natural order but rather as existing within it (Royal Society). |
| Mauri            | Life force, vital essence - the essential quality and vitality of a being or entity. Also used for a physical object, individual, ecosystem or social group in which this essence is located.                                      |
| Mokopuna         | Child or grandchild of a son, daughter, nephew, niece, etc., or descendant.  |
| Noa              | To be free from the extensions of tapu, unrestricted, ordinary.  |
| Ora              | Health, wellbeing, vitality.   |
| Papa kāinga      | Communal Māori land.   |
| Pēpi             | Baby, infant.  |
| Rohe             | District or region, or area of land.   |
| Rūnanga          | Council, tribal council or assembly.   |
| Takiwā           | District, area, territory.   |
| Tamariki         | Children.  |
| Tangata whenua   | Local people, hosts, indigenous people - people born of the whenua, i.e. of the placenta and of the land where the people's ancestors have lived and where their placenta are buried.  |
| Tangihanga       | Funeral rites for the dead – one of the most important institutions in Māori society, with strong cultural imperatives and protocols.  |
| Taonga           | Something of value, may include goods or possessions, resources, ideas, and valuable items (culturally, socially, or financially).   |
| Tapu             | To be sacred, restricted, set apart.   |
| Te Ao Māori      | The Māori World.   |
| Te Ōhanga Māori  | The Māori economy.   |
| Te Reo Māori     | The Māori language.  |

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**Kupu Māori****English**

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|                |  |
|----------------|--|
| Tikanga        | The correct procedure, custom, way, protocol - the customary system of values and practices that have developed over time and are deeply embedded in the social context. |
| Toi            | Art, knowledge.  |
| Urupā          | Burial ground, cemetery.   |
| Wairua         | The non-physical spirit or soul, separate from the body and the mauri (life force).  |
| Wānanga        | Educational forum, learning, tertiary institution that caters for Māori learning needs.  |
| Whakapapa      | Lineage, genealogical descent.   |
| Whānau         | Family.  |
| Whanaungatanga | Family connections, kinship rights and obligations, close and reciprocal relationships.  |
| Whare          | House, home, building.   |
| Wharekai       | Dining hall, usually in context of a marae.  |
| Whenua         | Land, ground, country.   |

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Source: Adapted from [www.maoridictionary.co.nz](http://www.maoridictionary.co.nz)

## Technical terms

*Italics* within a definition signals the term is defined elsewhere within this glossary.

| Term                         | Definition   |
|------------------------------|--|
| Assets                       | Land, buildings, machinery, equipment, vehicles, cash, shares that can be used to produce goods and services. Includes fishing quota, forest cutting rights, exploration and mining rights.  |
| Compensation of employees    | Payments to employees working in an enterprise, including wages, salaries, overtime payments, bonuses, and other remuneration.   |
| Consumption spending         | Spending by households on goods and services, for example food, clothing, motor vehicles and servicing, petrol, electricity, gas and other energy, entertainment, visits to doctor and other medical supplies, insurance. Includes notional rent paid by owner-occupiers to themselves (refer <i>owner-occupied housing</i> ). Contrast with investment spending.  |
| Enterprises                  | Organisations that engage in producing goods and services for others to consume. Includes trusts, incorporations, businesses, service providers (profit and not for profits), iwi holding companies, rūnanga, Mandated Iwi Organisations (MIOs), Post-Settlement Governance Entities (PSGEs) and other similar entities.   |
| Expenditure                  | Equivalent to spending. Sometimes termed outlays.  |
| Final goods and services     | Goods and services produced by enterprises that are purchased by or supplied to households, government, or foreigners. Also includes goods and services purchased by or supplied to enterprises as a result of their <i>investment spending</i> . Contrast with intermediate goods and services.   |
| Gross Domestic Product (GDP) | A measure of the total <i>value added</i> generated by all <i>enterprises</i> in an area, region, or country. GDP is equivalent to the sum of all <i>compensation of employees</i> and <i>operating surplus</i> (including all forms of profits) earned by workers and owners engaged in all <i>enterprises</i> in an area. Strictly speaking, GDP also includes indirect taxes levied on production. This is also equivalent to the total expenditure on <i>final goods and services</i> produced by enterprises in the area. |
| Income                       | For <i>enterprises</i> , this is equivalent to the total revenue gained through the sale of their goods and services. For households, this includes <i>compensation of employees</i> ; interest or dividends received; social security benefit or other welfare payment transfers; superannuation payments.  |



| Term                            | Definition   |
|---------------------------------|--|
| Industry                        | All <i>enterprises</i> in an area (region or country) that produce similar goods, or deliver similar services. They can be defined broadly (e.g. primary), narrowly (agriculture), or precisely (apples). Industry data for this study is based on Statistics New Zealand's Australian New Zealand Standard Industrial Classification (ANZSIC), as detailed in Table 11.   |
| Intermediate goods and services | Goods and services produced by <i>enterprises</i> that are purchased by or supplied to other <i>enterprises</i> to be used in the production of other goods and services. For example, the purchase by a meat processor of a sheep carcass from a farmer who then processes the carcass into meat products. Contrast with final goods and services.  |
| Investment spending             | Spending by enterprises on goods and services that are new assets. Includes spending on maintaining assets or on improving their value; for example, research activities aimed at restoring the nutrient balance in pastoral land; rewiring school buildings to improve computer network connections.  |
| Labour force                    | Comprises all those employed (part-time or full-time), or those <i>unemployed</i> . Note to be unemployed the individual must be available for and be actively seeking work. The measure of the labour force will exclude those retired, studying or otherwise not available for work. The labour force is a subset of the <i>working age population</i> .   |
| Nominal growth                  | The rate at which the sales of <i>final goods and services</i> increases. For example, if sales in one year totalled \$100 and then \$105 the next year, then nominal growth is said to be five percent per year (or 5% p/a). Note this growth includes the effect of changes in prices, as well as changes in the quantity, of final goods and services produced. Contrast with <i>real growth</i> .  |
| Not in the labour force         | The subset of the <i>working age population</i> that are not employed, and are not available for work. Includes those retired, studying, at home looking after relatives, or otherwise not available for work.   |
| Operating surplus               | Total revenue from sales of an <i>enterprise</i> less payments for <i>intermediate goods and services</i> and <i>compensation of employees</i> . This is equivalent to the income return to the owners of the assets being used by the <i>enterprise</i> . While not strictly precise, this can be thought of as akin to profit. A component of this return will be the equivalent of consumption of fixed capital (akin to depreciation), being the portion of assets that have been used up during the period. |
| Owner-occupied housing          | <i>Industry</i> defined as householders living in residential property that they themselves own. This is included in measures of GDP so that its treatment is consistent with that of landlords renting residential property to others.  |

| Term                           | Definition  |
|--------------------------------|---|
| Productivity                   | A measure of how well assets are being used in the production of goods and services. An improvement in productivity occurs where more goods and services are produced this period (year) from the same group of assets than were produced last period (year). Equivalently, productivity can improve if fewer assets are required this period (year) to produce the same quantity of goods and services than were used the previous period (year). This definition, more correctly, relates to what is termed capital productivity. There is a parallel definition for labour productivity, e.g. how well labour is being used in the production of goods and services. Further, if we consider the use of assets and labour together, then there is a concept with a parallel definition termed total factor productivity. |
| Real growth                    | The rate at which the quantity produced of <i>final goods and services</i> increases. For example, if the quantity of items produced was 100 in one year then 103 the next year, then real growth is said to be three percent per year (or 3% p/a). Note, this growth excludes the effect of changes in prices and so is a measure of the change in production. Contrast with <i>nominal growth</i> .   |
| Resources                      | Equivalent to <i>assets</i> .   |
| Social Accounting Matrix (SAM) | A table summarising the payments or transactions within or between enterprises, industries, households, government and/or foreigners.   |
| Sector                         | Equivalent to <i>industry</i> .   |
| Value added                    | The result of the production processes or service delivery activities of <i>enterprises</i> . This is total revenue from sales less payments for <i>intermediate goods and services</i> used in their processes or activities. Value added is the equivalent of the <i>compensation of employees</i> plus the <i>operating surplus</i> generated by enterprises. Closely related to <i>GDP</i> .  |
| Unemployed                     | Those who are without a job, but who are available for and are actively seeking work. The unemployed are a subset of the <i>labour force</i> .  |
| Wealth                         | Equivalent to <i>assets</i> .   |
| Wellbeing                      | Holistic perspective (or measure) of standard of living.  |
| Working age population         | The resident, non-institutionalised, civilian population aged 15 or more years old.   |

## Abbreviations

| Abbreviation | Definition                |
|--------------|---------------------------|
| GDP          | Gross Domestic Product.   |
| SAM          | Social Accounting Matrix. |

# Āpitihanga whā - Appendix four

## Rohe disaggregation

| <b>Rohe</b>     | <b>Te Puni Kōkiri regions</b> | <b>Māori Land Court area</b> | <b>Local government boundaries</b>  |
|-----------------|-------------------------------|------------------------------|---|
| Te Tai Tokerau  | Te Tai Tokerau                | Taitokerau                   | Far North District<br>Kaipara District<br>Whangarei District  |
| Tāmaki Makaurau | Tāmaki Makaurau               | Taitokerau                   | Auckland City   |
| Waikato         | Waikato-Waiariki              | Waikato-Maniapoto            | Hamilton City<br>Hauraki District<br>Matamata-Piako District<br>Otorohanga District<br>South Waikato District<br>Taupō District<br>Thames-Coromandel District<br>Waikato District<br>Waipa District<br>Waitomo District |

| <b>Rohe</b>             | <b>Te Puni Kōkiri regions</b> | <b>Māori Land Court area</b> | <b>Local government boundaries</b>   |
|-------------------------|-------------------------------|------------------------------|--|
| Te Moana a Toi-Waiariki | Waikato-Waiariki              | Waiariki                     | Kawerau District<br>Ōpōtiki District<br>Rotorua District<br>Tauranga City<br>Western Bay of Plenty District<br>Whakatane District  |
| Tairāwhiti              | Ikaroa-Rāwhiti                | Tairāwhiti                   | Gisborne District<br>Chatham Islands District  |
| Tākitimu                | Ikaroa-Rāwhiti                | Tākitimu                     | Central Hawke's Bay District<br>Hastings District<br>Napier City<br>Wairoa District  |
| Kurahaupō               | Ikaroa-Rāwhiti                | Tākitimu                     | Carterton District<br>Masterton District<br>South Wairarapa District   |
| Te Tai Hauāuru          | Te Tai Hauāuru                | Aotea                        | Horowhenua District<br>Manawatu District<br>New Plymouth District<br>Palmerston North City<br>Rangitikei District<br>Ruapehu District<br>South Taranaki District<br>Stratford District<br>Whanganui District |

| <b>Rohe</b>         | <b>Te Puni Kōkiri regions</b> | <b>Māori Land Court area</b> | <b>Local government boundaries</b>  |
|---------------------|-------------------------------|------------------------------|---|
| Te Whanganui ā Tara | Te Tai Hauāuru                | Aotea                        | Hutt City<br>Kapiti Coast District<br>Porirua City<br>Upper Hutt City<br>Wellington City  |
| Te Tau Ihu          | Te Tai Hauāuru                | Te Waipounamu                | Marlborough District<br>Nelson City<br>Tasman District  |
| Waitaha             | Te Waipounamu                 | Te Waipounamu                | Ashburton District<br>Buller District<br>Central Otago District<br>Christchurch City<br>Clutha District<br>Dunedin City<br>Gore District<br>Grey District<br>Hurunui District<br>Invercargill City<br>Kaikoura District<br>Mackenzie District<br>Queenstown-Lakes District<br>Selwyn District<br>Southland District<br>Timaru District<br>Waimakariri District<br>Waimate District<br>Waitaki District<br>Westland District |

# Āpiti hanga rima - Appendix five

## Skill levels by industry

This section presents a breakdown of Table 2 in the Ngā hua section on the skill level of Māori in each employment status, by industry of occupation.

**Table 12 Māori occupational skill level by industry, 2018 – Employees**

| Industry   | Skill level (1= highest) |               |               |               |               |
|--|--------------------------|---------------|---------------|---------------|---------------|
|  | 1                        | 2             | 3             | 4             | 5             |
| Agriculture, forestry, and fishing               | 4,084                    | 656           | 1,686         | 4,567         | 8,552         |
| Manufacturing                                    | 4,868                    | 1,696         | 5,609         | 11,148        | 13,469        |
| Construction                                     | 5,924                    | 2,187         | 8,705         | 7,070         | 5,351         |
| Wholesale trade                                  | 2,375                    | 900           | 1,023         | 4,445         | 2,813         |
| Retail, accommodation, and food services         | 3,015                    | 5,988         | 3,516         | 11,963        | 22,334        |
| Transport, postal, and warehousing               | 1,908                    | 789           | 993           | 9,805         | 2,981         |
| Information media, arts, and recreation services | 2,930                    | 969           | 1,293         | 2,060         | 1,422         |
| Financial and insurance services                 | 1,518                    | 765           | 447           | 1,956         | 498           |
| Real estate and property services                | 789                      | 438           | 669           | 972           | 855           |
| Professional, scientific, and technical services | 6,222                    | 1,680         | 1,203         | 2,523         | 1,725         |
| Education and training                           | 17,392                   | 1,938         | 1,200         | 5,099         | 2,007         |
| Health care and social assistance                | 11,532                   | 5,049         | 1,209         | 9,105         | 2,085         |
| Administrative, support, and other services      | 11,388                   | 6,240         | 7,152         | 11,646        | 12,027        |
| <b>Total</b>                                     | <b>73,945</b>            | <b>29,295</b> | <b>34,705</b> | <b>82,359</b> | <b>76,119</b> |

**Table 13 Māori occupational skill level by industry, 2018 – Employers**

| <b>Industry</b>                                  | <b>Skill level (1= highest)</b> |              |              |              |            |
|--|---------------------------------|--------------|--------------|--------------|------------|
|  | <b>1</b>                        | <b>2</b>     | <b>3</b>     | <b>4</b>     | <b>5</b>   |
| Agriculture, forestry, and fishing               | 964                             | 64           | 94           | 191          | 64         |
| Manufacturing                                    | 392                             | 51           | 138          | 61           | 83         |
| Construction                                     | 1,023                           | 177          | 762          | 210          | 120        |
| Wholesale trade                                  | 206                             | 29           | 18           | 38           | 15         |
| Retail, accommodation, and food services         | 416                             | 598          | 114          | 96           | 129        |
| Transport, postal, and warehousing               | 195                             | 30           | 12           | 171          | 54         |
| Information media, arts, and recreation services | 163                             | 25           | 21           | 21           | 0          |
| Financial and insurance services                 | 56                              | 25           | 6            | 9            | 0          |
| Real estate and property services                | 102                             | 36           | 66           | 18           | 18         |
| Professional, scientific, and technical services | 696                             | 48           | 39           | 30           | 18         |
| Education and training                           | 194                             | 21           | 21           | 36           | 15         |
| Health care and social assistance                | 253                             | 39           | 18           | 51           | 9          |
| Administrative, support, and other services      | 494                             | 123          | 338          | 159          | 183        |
| <b>Total</b>                                     | <b>5,154</b>                    | <b>1,266</b> | <b>1,647</b> | <b>1,091</b> | <b>708</b> |

**Table 14 Māori occupational skill level by industry, 2018 – Self-employed**

| <b>Industry</b>                                  | <b>Skill level (1= highest)</b> |              |              |              |              |
|--|---------------------------------|--------------|--------------|--------------|--------------|
|  | <b>1</b>                        | <b>2</b>     | <b>3</b>     | <b>4</b>     | <b>5</b>     |
| Agriculture, forestry, and fishing               | 947                             | 54           | 167          | 253          | 225          |
| Manufacturing                                    | 359                             | 65           | 321          | 175          | 136          |
| Construction                                     | 1,208                           | 123          | 1,628        | 333          | 282          |
| Wholesale trade                                  | 186                             | 42           | 60           | 78           | 93           |
| Retail, accommodation, and food services         | 429                             | 300          | 210          | 189          | 216          |
| Transport, postal, and warehousing               | 141                             | 30           | 48           | 390          | 222          |
| Information media, arts, and recreation services | 681                             | 66           | 208          | 188          | 60           |
| Financial and insurance services                 | 141                             | 45           | 27           | 24           | 15           |
| Real estate and property services                | 167                             | 68           | 435          | 51           | 68           |
| Professional, scientific, and technical services | 1,440                           | 123          | 129          | 138          | 84           |
| Education and training                           | 666                             | 60           | 120          | 153          | 69           |
| Health care and social assistance                | 719                             | 150          | 66           | 214          | 63           |
| Administrative, support, and other services      | 1,006                           | 237          | 705          | 613          | 664          |
| <b>Total</b>                                     | <b>8,090</b>                    | <b>1,363</b> | <b>4,124</b> | <b>2,799</b> | <b>2,197</b> |



# Āpitihanga ono - Appendix six

## Social Accounting Matrix

**Table 15 Māori economy SAM, 2018 (\$ million)**

|                    | COMMODITY SUPPLY |        |        |       |       |       |        |        |        |        |       |        |         |       |
|--------------------|------------------|--------|--------|-------|-------|-------|--------|--------|--------|--------|-------|--------|---------|-------|
|                    | A1A2             | A3     | A4     | A5A7  | A6    | A8    | B      | C1     | C2     | C3     | C4    | C5     | C6      |       |
| COMMODITY USE      | A1A2             | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | A3               | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | A4               | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | A5A7             | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | A6               | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | A8               | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | B                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | C1               | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | C2               | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | C3               | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | C4               | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | C5               | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | C6               | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | D                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | E                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | F                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | G                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | H                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | I                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
|                    | J                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       | 0     |
| K                  | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| L                  | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| M                  | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| N                  | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| O                  | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| P                  | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| Q                  | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| R                  | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| S                  | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| INDUSTRY OUPUT     | A1A2             | 360    | 13     | 12    | 0     | 0     | 14     | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | A3               | 208    | 1,438  | 115   | 0     | 6     | 63     | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | A4               | 5      | 22     | 575   | 0     | 0     | 3      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | A5A7             | 0      | 0      | 0     | 313   | 0     | 0      | 0      | 509    | 0      | 0     | 0      | 0       |       |
|                    | A6               | 3      | 1      | 0     | 0     | 1,760 | 1      | 0      | 0      | 0      | 0     | 1      | 0       |       |
|                    | A8               | 30     | 23     | 19    | 9     | 46    | 332    | 0      | 1      | 0      | 0     | 0      | 1       |       |
|                    | B                | 0      | 0      | 0     | 0     | 0     | 0      | 1      | 0      | 0      | 0     | 0      | 0       |       |
|                    | C1               | 1      | 6      | 0     | 30    | 0     | 3      | 2      | 1,268  | 1      | 61    | 0      | 0       |       |
|                    | C2               | 0      | 0      | 82    | 0     | 0     | 0      | 0      | 5      | 765    | 51    | 0      | 0       |       |
|                    | C3               | 0      | 0      | 0     | 0     | 0     | 0      | 5      | 18     | 11     | 705   | 0      | 0       |       |
|                    | C4               | 0      | 0      | 0     | 0     | 0     | 0      | 4      | 0      | 0      | 0     | 471    | 2       |       |
|                    | C5               | 0      | 0      | 0     | 0     | 0     | 0      | 42     | 0      | 0      | 0     | 0      | 365     |       |
|                    | C6               | 0      | 0      | 0     | 0     | 0     | 0      | 68     | 8      | 0      | 9     | 4      | 38      |       |
|                    | D                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | E                | 0      | 0      | 0     | 0     | 0     | 0      | 4      | 0      | 0      | 0     | 3      | 16      |       |
|                    | F                | 1      | 0      | 0     | 0     | 3     | 0      | 39     | 52     | 0      | 71    | 56     | 22      |       |
|                    | G                | 10     | 0      | 0     | 0     | 0     | 0      | 1      | 149    | 0      | 15    | 32     | 13      |       |
|                    | H                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 1     | 0      | 0       |       |
|                    | I                | 0      | 1      | 0     | 0     | 0     | 5      | 2      | 0      | 0      | 0     | 0      | 5       |       |
|                    | J                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| K                  | 0                | 0      | 0      | 1     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      |         |       |
| L                  | 0                | 27     | 0      | 0     | 0     | 6     | 0      | 0      | 0      | 0      | 0     | 0      |         |       |
| M                  | 0                | 0      | 0      | 0     | 1     | 3     | 27     | 0      | 0      | 0      | 0     | 0      |         |       |
| N                  | 1                | 1      | 0      | 0     | 3     | 127   | 10     | 0      | 0      | 0      | 0     | 0      |         |       |
| O                  | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      |         |       |
| P                  | 0                | 0      | 0      | 1     | 1     | 1     | 1      | 0      | 0      | 0      | 2     | 1      |         |       |
| Q                  | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 2     | 0      |         |       |
| R                  | 1                | 0      | 0      | 0     | 0     | 3     | 0      | 0      | 0      | 0      | 0     | 0      |         |       |
| S                  | 0                | 0      | 0      | 0     | 0     | 1     | 1      | 0      | 0      | 0      | 0     | 0      |         |       |
| REST               | 5,559            | 8,583  | 17,891 | 797   | 4,407 | 5,207 | 13,279 | 13,857 | 16,960 | 17,099 | 8,378 | 10,564 | 49,776  |       |
| INC GEN            | COE              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | OPS              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | OTX              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| INC ALLOC PRIM     | MHD              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | NMH              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | FII              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | MPE              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | NMP              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | GOV              | 413    | 511    | 290   | 114   | 485   | 193    | 1,733  | 726    | 317    | 1,684 | 275    | 918     | 8,292 |
| INC ALLOC SEC'DY   | MHD              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | NMH              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | FII              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | MPE              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | NMP              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | GOV              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| USE OF DISP INCOME | MHD              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | NMH              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | FII              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | MPE              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | NMP              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | GOV              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| CAPITAL ACCOUNT    | MHD              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | NMH              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | FII              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | MPE              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | NMP              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
|                    | GOV              | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| EXTERNAL           | 784              | 1      | 0      | 75    | 7     | 95    | 7,635  | 556    | 253    | 5,432  | 340   | 3,140  | 43,698  |       |
| FINANCE            | 0                | 0      | 0      | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0     | 0      | 0       |       |
| TOTAL              | 7,377            | 10,627 | 18,986 | 1,340 | 6,717 | 6,056 | 22,856 | 17,149 | 18,307 | 25,130 | 9,566 | 15,084 | 104,440 |       |



|                    | INDUSTRY OUTPUT |       |     |      |       |     |     |       |     |     |     |     |       |     |  |
|--------------------|-----------------|-------|-----|------|-------|-----|-----|-------|-----|-----|-----|-----|-------|-----|--|
|                    | A1A2            | A3    | A4  | A5A7 | A6    | A8  | B   | C1    | C2  | C3  | C4  | C5  | C6    | D   |  |
| COMMODITY USE      | A1A2            | 8     | 45  | 24   | 0     | 4   | 21  | 0     | 20  | 0   | 61  | 0   | 0     | 0   |  |
|                    | A3              | 3     | 284 | 8    | 0     | 0   | 1   | 0     | 601 | 0   | 0   | 0   | 0     | 26  |  |
|                    | A4              | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 596 | 0   | 0   | 0     | 0   |  |
|                    | A5A7            | 0     | 0   | 0    | 52    | 0   | 14  | 0     | 25  | 0   | 0   | 0   | 0     | 0   |  |
|                    | A6              | 0     | 0   | 0    | 2     | 590 | 8   | 0     | 0   | 0   | 0   | 58  | 0     | 1   |  |
|                    | A8              | 73    | 150 | 48   | 0     | 0   | 50  | 0     | 79  | 0   | 7   | 0   | 0     | 0   |  |
|                    | B               | 2     | 1   | 1    | 0     | 0   | 4   | 0     | 10  | 4   | 15  | 7   | 37    | 500 |  |
|                    | C1              | 0     | 0   | 0    | 144   | 0   | 1   | 0     | 90  | 2   | 14  | 0   | 0     | 6   |  |
|                    | C2              | 0     | 5   | 0    | 0     | 0   | 1   | 0     | 1   | 4   | 8   | 0   | 0     | 2   |  |
|                    | C3              | 0     | 11  | 20   | 0     | 0   | 13  | 0     | 16  | 12  | 115 | 1   | 0     | 3   |  |
|                    | C4              | 10    | 26  | 0    | 15    | 0   | 4   | 0     | 10  | 1   | 14  | 120 | 1     | 17  |  |
|                    | C5              | 1     | 24  | 8    | 0     | 0   | 1   | 0     | 6   | 2   | 24  | 13  | 127   | 102 |  |
|                    | C6              | 59    | 282 | 88   | 193   | 39  | 42  | 0     | 44  | 34  | 48  | 57  | 37    | 484 |  |
|                    | D               | 5     | 20  | 16   | 6     | 1   | 5   | 0     | 21  | 13  | 9   | 33  | 40    | 35  |  |
|                    | E               | 2     | 20  | 9    | 2     | 59  | 7   | 0     | 2   | 0   | 2   | 3   | 1     | 9   |  |
|                    | F               | 0     | 0   | 0    | 1     | 6   | 2   | 0     | 0   | 0   | 1   | 0   | 0     | 2   |  |
|                    | G               | 9     | 20  | 9    | 72    | 38  | 24  | 0     | 34  | 3   | 12  | 15  | 8     | 45  |  |
|                    | H               | 0     | 1   | 0    | 2     | 0   | 2   | 0     | 1   | 0   | 2   | 0   | 1     | 4   |  |
|                    | I               | 16    | 40  | 6    | 45    | 259 | 9   | 0     | 87  | 37  | 33  | 36  | 12    | 63  |  |
|                    | J               | 2     | 16  | 7    | 4     | 1   | 3   | 0     | 3   | 0   | 2   | 2   | 1     | 14  |  |
| K                  | 13              | 69    | 24  | 7    | 10    | 9   | 0   | 10    | 3   | 4   | 6   | 2   | 15    |     |  |
| L                  | 22              | 37    | 12  | 99   | 88    | 19  | 0   | 34    | 13  | 33  | 7   | 12  | 61    |     |  |
| M                  | 7               | 42    | 22  | 15   | 48    | 20  | 0   | 33    | 11  | 70  | 11  | 15  | 69    |     |  |
| N                  | 14              | 0     | 1   | 1    | 1     | 0   | 1   | 5     | 5   | 5   | 3   | 1   | 8     |     |  |
| O                  | 0               | 0     | 0   | 1    | 2     | 0   | 0   | 0     | 0   | 0   | 2   | 0   | 1     |     |  |
| P                  | 0               | 0     | 0   | 1    | 0     | 2   | 0   | 0     | 0   | 1   | 3   | 0   | 2     |     |  |
| Q                  | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| R                  | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| S                  | 0               | 1     | 0   | 0    | 0     | 1   | 0   | 7     | 5   | 0   | 1   | 0   | 0     |     |  |
| INDUSTRY OUTPUT    | A1A2            | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | A3              | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | A4              | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | A5A7            | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | A6              | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | A8              | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | B               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | C1              | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | C2              | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | C3              | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | C4              | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | C5              | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | C6              | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | D               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | E               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | F               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | G               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | H               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | I               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | J               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
| K                  | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| L                  | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| M                  | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| N                  | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| O                  | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| P                  | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| Q                  | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| R                  | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| S                  | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| REST               | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| INC GEN            | COE             | 72    | 108 | 55   | 95    | 118 | 111 | 0     | 185 | 120 | 114 | 100 | 77    | 454 |  |
|                    | OPS             | 74    | 539 | 232  | 224   | 507 | 102 | 1     | 57  | 45  | 153 | 55  | 54    | 369 |  |
|                    | OTX             | 14    | 105 | 17   | 6     | 19  | 3   | 0     | 11  | 15  | 9   | 7   | 2     | 26  |  |
| INC ALLOC PRIM     | MHD             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | NMH             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | FII             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | MPE             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | NMP             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
| GOV                | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| INC ALLOC SECY     | MHD             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | NMH             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | FII             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | MPE             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | NMP             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
| GOV                | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| USE OF DISP INCOME | MHD             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | NMH             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | FII             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | MPE             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | NMP             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
| GOV                | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| CAPITAL ACCOUNT    | MHD             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | NMH             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | FII             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | MPE             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
|                    | NMP             | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
| GOV                | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     |     |  |
| EXTERNAL           | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
| FINANCE            | 0               | 0     | 0   | 0    | 0     | 0   | 0   | 0     | 0   | 0   | 0   | 0   | 0     | 0   |  |
| TOTAL              | 407             | 1,845 | 607 | 986  | 1,791 | 480 | 1   | 1,393 | 929 | 760 | 539 | 428 | 2,319 | 33  |  |



|                    | INCOME GENERATION |         |         | INCOME ALLOCATION PRIMARY |         |         |        |         |        | INCOME ALLOCATION SECONDARY |         |         |       |        |        |
|--------------------|-------------------|---------|---------|---------------------------|---------|---------|--------|---------|--------|-----------------------------|---------|---------|-------|--------|--------|
|                    | COE               | OPS     | OTX     | MHD                       | NMH     | FII     | MPE    | NMP     | GOV    | MHD                         | NMH     | FII     | MPE   | NMP    |        |
| COMMODITY USE      | A1A2              | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | A3                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | A4                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | A5A7              | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | A6                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | A8                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | B                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C1                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C2                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C3                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C4                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C5                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C6                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | D                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | E                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | F                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | G                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | H                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | I                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | J                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
| K                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| L                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| M                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| N                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| O                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| P                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| Q                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| R                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| S                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| INDUSTRY OUPUT     | A1A2              | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | A3                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | A4                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | A5A7              | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | A6                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | A8                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | B                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C1                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C2                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C3                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C4                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C5                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | C6                | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | D                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | E                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | F                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | G                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | H                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | I                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | J                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
| K                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| L                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| M                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| N                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| O                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| P                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| Q                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| R                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| S                  | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| REST               | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     |        |        |
| INC GEN            | COE               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | OPS               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | OTX               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
| INC ALLOC PRIM     | MHD               | 13,119  | 1,495   | 0                         | 0       | 0       | 293    | 2,266   | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | NMH               | 109,571 | 10,344  | 0                         | 0       | 0       | 11,689 | 0       | 32,962 | 0                           | 0       | 0       | 0     | 0      |        |
|                    | FII               | 0       | 0       | 0                         | 850     | 5,882   | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | MPE               | 0       | 6,908   | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | NMP               | 0       | 109,761 | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | GOV               | 0       | 0       | 11,983                    | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
| INC ALLOC SECDY    | MHD               | 0       | 0       | 0                         | 16,323  | 0       | 0      | 0       | 0      | 171                         | 0       | 956     | 0     | 0      |        |
|                    | NMH               | 0       | 0       | 0                         | 0       | 158,684 | 0      | 0       | 0      | 0                           | 828     | 13,074  | 0     | 0      |        |
|                    | FII               | 0       | 0       | 0                         | 0       | 0       | -8,104 | 0       | 0      | 797                         | 10,911  | 0       | 0     | 0      |        |
|                    | MPE               | 0       | 0       | 0                         | 0       | 0       | 0      | 4,641   | 0      | 0                           | 0       | 99      | 0     | 0      |        |
|                    | NMP               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 68,832 | 0                           | 0       | 778     | 0     | 0      |        |
|                    | GOV               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 37,906                      | 4,361   | 34,551  | 1,151 | 533    | 13,321 |
| USE OF DISP INCOME | MHD               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 21,659                      | 0       | 0       | 0     | 0      |        |
|                    | NMH               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 142,598 | 0       | 0     | 0      |        |
|                    | FII               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | -12,454 | 0     | 0      |        |
|                    | MPE               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 4,208 | 0      |        |
|                    | NMP               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 56,289 |        |
|                    | GOV               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
| CAPITAL ACCOUNT    | MHD               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | NMH               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | FII               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | MPE               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | NMP               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
|                    | GOV               | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
| EXTERNAL           | 0                 | 0       | 0       | 0                         | 0       | 4,263   | 0      | 14,815  | 0      | 99                          | 476     | 0       | 0     | 0      |        |
| FINANCE            | 0                 | 0       | 0       | 0                         | 0       | 0       | 0      | 0       | 0      | 0                           | 0       | 0       | 0     | 0      |        |
| TOTAL              | 122,690           | 128,508 | 11,983  | 17,173                    | 164,566 | 8,141   | 6,908  | 116,609 | 37,906 | 27,087                      | 189,363 | 3,604   | 4,740 | 69,610 |        |

| USE OF DISPOSABLE INCOME |        |         |         |       |        |        | CAPITAL ACCOUNT |        |         |       |        |        | EXTERNAL | TOTAL     |
|--------------------------|--------|---------|---------|-------|--------|--------|-----------------|--------|---------|-------|--------|--------|----------|-----------|
| GOV                      | MHD    | NMH     | FII     | MPE   | NMP    | GOV    | MHD             | NMH    | FII     | MPE   | NMP    | GOV    |          |           |
| 0                        | 273    | 1,263   | 0       | 0     | 0      | 0      | 2               | 11     | 2       | 3     | 39     | 4      | 2,278    | 7,377     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | -8              | -53    | -8      | -13   | -185   | -19    | 476      | 10,627    |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 2               | 16     | 2       | 4     | 56     | 6      | 0        | 18,986    |
| 0                        | 17     | 78      | 0       | 0     | 0      | 53     | 0               | 2      | 0       | 0     | 5      | 1      | 471      | 1,340     |
| 0                        | 17     | 80      | 0       | 0     | 0      | 0      | 9               | 64     | 10      | 16    | 225    | 23     | 2,275    | 6,717     |
| 0                        | 55     | 256     | 0       | 0     | 0      | 13     | 0               | 1      | 0       | 0     | 2      | 0      | 493      | 6,056     |
| 0                        | 20     | 97      | 0       | 0     | 0      | 0      | -3              | -21    | -3      | -5    | -75    | -8     | 4,030    | 22,856    |
| 0                        | 731    | 3,439   | 0       | 0     | 0      | 0      | 8               | 54     | 8       | 13    | 189    | 19     | 9,735    | 17,149    |
| 0                        | 384    | 1,823   | 0       | 0     | 0      | 0      | -13             | -90    | -14     | -22   | -315   | -32    | 15,774   | 18,307    |
| 0                        | 2,295  | 10,728  | 0       | 0     | 0      | 0      | 6               | 43     | 6       | 11    | 150    | 15     | 5,798    | 25,130    |
| 0                        | 24     | 113     | 0       | 0     | 0      | 0      | 0               | -3     | 0       | -1    | -11    | -1     | 2,795    | 9,566     |
| 0                        | 46     | 217     | 0       | 0     | 0      | 0      | 8               | 57     | 9       | 14    | 198    | 20     | 2,287    | 15,084    |
| 0                        | 4,389  | 20,827  | 0       | 0     | 0      | 804    | 537             | 3,715  | 559     | 910   | 13,003 | 1,331  | 15,106   | 104,440   |
| 0                        | 1,081  | 5,135   | 0       | 0     | 0      | 835    | 0               | 0      | 0       | 0     | 0      | 0      | 35       | 26,863    |
| 0                        | 28     | 134     | 0       | 0     | 0      | 1,043  | 889             | 6,150  | 926     | 1,506 | 21,524 | 2,203  | 47       | 55,932    |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 287      | 924       |
| 0                        | 453    | 2,112   | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 670      | 10,898    |
| 0                        | 1,997  | 9,258   | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 3,838    | 16,086    |
| 0                        | 1,572  | 7,398   | 0       | 0     | 0      | 320    | 0               | 0      | 0       | 0     | 0      | 0      | 4,837    | 33,337    |
| 0                        | 1,237  | 6,095   | 0       | 0     | 0      | 383    | 43              | 297    | 45      | 73    | 1,039  | 106    | 1,392    | 17,707    |
| 0                        | 1,545  | 6,893   | 0       | 0     | 0      | 110    | 0               | 0      | 0       | 0     | 0      | 0      | 882      | 16,237    |
| 0                        | 8,890  | 41,999  | 0       | 0     | 0      | 793    | 192             | 1,331  | 200     | 326   | 4,659  | 477    | 1,719    | 82,357    |
| 0                        | 152    | 719     | 0       | 0     | 0      | 713    | 173             | 1,198  | 180     | 293   | 4,194  | 429    | 1,952    | 29,623    |
| 0                        | 18     | 82      | 0       | 0     | 0      | 5      | -1              | -4     | -1      | -1    | -15    | -2     | 30       | 4,175     |
| 0                        | 83     | 453     | 0       | 0     | 0      | 17,947 | 0               | 0      | 0       | 0     | 0      | 0      | 146      | 19,274    |
| 0                        | 597    | 2,906   | 0       | 0     | 0      | 10,540 | 0               | 0      | 0       | 0     | 0      | 0      | 1,619    | 16,084    |
| 0                        | 1,401  | 6,601   | 0       | 0     | 0      | 17,265 | 0               | -1     | 0       | 0     | -3     | 0      | 63       | 25,460    |
| 0                        | 938    | 4,536   | 0       | 0     | 0      | 920    | 0               | 0      | 0       | 0     | 0      | 0      | 363      | 6,871     |
| 0                        | 645    | 2,926   | 0       | 0     | 0      | 168    | 0               | 0      | 0       | 0     | 0      | 0      | 54       | 4,265     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 407       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 1,845     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 607       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 986       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 1,791     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 480       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 1         |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 1,393     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 929       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 760       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 539       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 428       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 2,319     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 33        |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 4,493     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 1,220     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 1,479     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 818       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 2,317     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 877       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 1,414     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 3,083     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 1,983     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 1,377     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 0         |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 1,951     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 1,336     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 801       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 484       |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 491,428   |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 122,690   |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 128,508   |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 11,983    |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 17,173    |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 164,566   |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 1,409    | 8,141     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 6,908     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 6,848    | 116,609   |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 37,906    |
| 9,637                    | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 27,087    |
| 16,777                   | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 189,363   |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 3,604     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 4,740     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 69,610    |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 91,823    |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 113      | 21,771    |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 544      | 143,142   |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | -12,454   |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 4,208     |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 56,289    |
| 65,409                   | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 65,409    |
| 0                        | -7,114 | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | -7,114    |
| 0                        | 0      | 6,975   | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 6,975     |
| 0                        | 0      | 0       | -12,454 | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | -12,454   |
| 0                        | 0      | 0       | 0       | 4,208 | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 4,208     |
| 0                        | 0      | 0       | 0       | 0     | 56,289 | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 56,289    |
| 0                        | 0      | 0       | 0       | 0     | 0      | 13,497 | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 13,497    |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | 0               | 0      | 0       | 0     | 0      | 0      | 0        | 95,881    |
| 0                        | 0      | 0       | 0       | 0     | 0      | 0      | -8,959          | -5,792 | -14,375 | 1,082 | 11,608 | 8,924  | 7,512    | 0         |
| 91,823                   | 21,771 | 143,142 | -12,454 | 4,208 | 56,289 | 65,409 | -7,114          | 6,975  | -12,454 | 4,208 | 56,289 | 13,497 | 95,881   | 2,593,669 |

# Ngā ata – Icons



## Kupu whakataki

The icon design represents Ranginui and Papatūānuku, drawing connection to the beginning of the known world and of humanity, as the space in between housed the pantheon. The scenery within the theme also draws on the idea of the “dawn” of the world.

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## Timatanga kōrero

The icon design represents the separation of Ranginui and Papatūānuku through Tāne Mahuta, the God of forests and birds bringing forth the age of man. It depicts the ideas of new life and growth.

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## Tirohanga whānui

The icon design depicts a ruru, ruru have long been associated with knowledge and observational prowess.

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## He tātai

The icon design represents te kāhui whetu, and how Tāne scattered them across the sky to adorn his father. The design is inspired by pacific voyaging star maps.

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## Ngā hua

The theme depicts the growth of kākano, either physically or metaphorically, as an idea or person.

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## Te kō

The theme depicts the depths of the ocean in the tab, and the icon depicts kō, a tool used for digging and excavating the ground.

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- Te Puni Kōkiri
- Te Tai Ōhanga – The Treasury
- Hikina Whakatutuki – Ministry of Business, Innovation, and Employment
- Māori Economic Development Advisory Board (MEDAB)
- Federation of Māori Authorities (FOMA).

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*Tē tōia, tē haumatia*

*Nothing can be achieved without a plan,  
workforce, and a way of doing things*

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Sam Green, Hannah Riley

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Hanuere 2021



# Te Ōhanga Māori 2018

*The Māori Economy 2018*



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