Te Puni Kōkiri
MINISTRY OF MĀORI DEVELOPMENT

Te Matapaeroa 2021

Methodology Report

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Section 1. Introduction

Te Matapaeroa 2021 is the third iteration of an insights series about Māori enterprise, published by Te Puni Kōkiri. This report provides information about the data sources, methodology and approach used to produce data for Te Matapaeroa 2021.

The report is intended to provide additional technical information to support people to understand and use the data and insights from the project. Te Matapaeroa identifies, counts, and describes Māori businesses, significant employers of Māori, and Māori sole traders.

For Te Matapaeroa 2021, we made significant changes to the methodology for identifying individual businesses and sole traders. These methodology changes have resulted in counts, proportions, and trends over time that are different to those reported in Te Matapaeroa 2020.

This paper describes the data sources and methodology we have used for this work and highlights the changes that are behind these differences.

Section 2. Data Sources

2.1 Integrated Data Infrastructure and Longitudinal Business Database

The data used in Te Matapaeroa 2021 is sourced from Stats NZ's Integrated Data Infrastructure (IDI) and Longitudinal Business Database (LBD).

The IDI is a large research database holding de-identified microdata about people and households in New Zealand. The IDI contains longitudinal data on most individuals in New Zealand spanning education, health, income, tax, and more. Similarly, the LBD is a large research database holding de-identified microdata about businesses. It is a collection of business administrative data – mainly tax data collected by Te Tari Taake | Inland Revenue (IR), and data from various business surveys. More details on the IDI and LBD and how it is being used can be found in the research paper by Jones, et al. (2022).

With these databases, we can link businesses, owners, and employees to determine the characteristics of businesses. Figure 1 illustrates the types of data sources available in the IDI and LBD, and the link between the two databases through tax data.
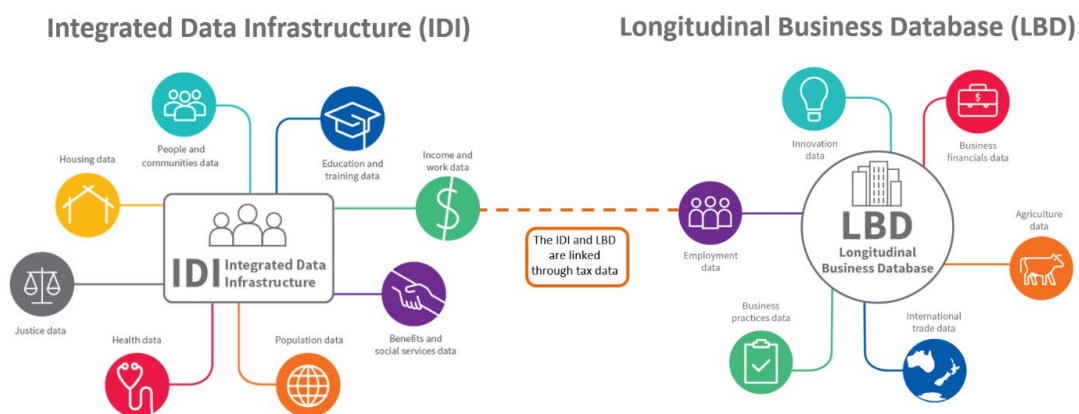

Figure 1: Schematic of the types of data in the IDI and LBD, and the link between the two databases with tax data (source: Stats NZ)

2.2 Productivity and Labour Tables

Created by Richard Fabling and Dave Maré, the Productivity and Labour tables are central to the production of Te Matapaeroa data. These tables provide a stable base business population along with financial and productivity variables such as labour productivity and sales revenue among others. A key advantage of using the Fabling-Maré tables is the "Permanent Enterprise Numbers" or "PENTs". PENTs are derived unique identifiers of businesses. These PENTs fix broken[1] 'enterprise numbers' which are unique identifiers for businesses in the LBD environment based on economic activity, location, and ownership for firms undergoing structural changes. See Fabling (2011), and Fabling and Maré (2019) for more details. This allows us to conduct longitudinal analysis on Māori-owned businesses and avoids double counting of businesses.

2.3 Te Matapaeroa Data Sources

Te Matapaeroa 2021 uses tables from the following IDI and LBD sources:

- **Fabling & Maré Labour Tables** – to identify the base business population and their employees, along with other business demographics.

- **Fabling & Maré Productivity Tables** – to access financial and performance measures for businesses.

- **Longitudinal Business Frame (LBF)** – to identify business location of activity and industry of operation.

- **IR's IR7P (Partnership Income Returns), IR4S (Shareholder Income Returns), IR3 (Self-employed Income Returns)** – to identify business owners and sole traders.

- **Stats NZ Derived Income Tables** – to gather income information on employees.

- **Stats NZ Derived Personal Details** – to gather ethnicity and gender information on owners and employees.

- **New Zealand Census of Population and Dwellings, 2013 (Census 2013) and 2018 (Census 2018)** – to gather Māori descent information for owners and employees.

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[1] *Enterprise numbers in the LBD can be "broken" by, among other things, changes in the legal status of the firm. This can result in double counting of same businesses or increased rate of entry and exit in the market. It also adds extra noise when conducting longitudinal analysis.*

Section 3. Defining Business

A business is an organisation or entity that is actively operating in Aotearoa NZ and is engaged in commercial, industrial, or professional activities. Common business types include limited liability companies, partnerships, and sole traders, amongst others. For Te Matapaeroa 2021, we classify a 'business' as an entity where the employer and employee(s) are two distinct legal entities. Most of these businesses are Companies[2] and Partnerships[3]. The business population used in Te Matapaeroa does not include 'Sole traders' as we have chosen to report on them separately.

Furthermore, for Te Matapaeroa we only report on businesses that are:

- **Economically Significant**
  A business is economically significant[4] if it meets any one of the following criteria:

    o annual expenses or sales (subject to GST) of more than $30,000; or
    o 12 month rolling mean employee count of greater than three; or
    o part of a group of businesses; or
    o registered for GST and involved in agriculture or forestry; or
    o over $40,000 of income recorded in the IR10 annual tax return (this includes some units in residential property leasing and rental).

- **Private-for-profit**
  We exclude businesses that are not private-for-profit, including Māori Authorities, iwi-owned businesses, government organisations, embassies, government or locally-owned trading entities, and charities.

- **Currently trading ("active")**
  If a business does not have any income, employment, or sale in the financial year of interest, it is deemed inactive.

When identifying **Māori-owned** and **non-Māori-owned businesses** we restrict our business population to:

- **Businesses with at least one identifiable owner actively working in the business (Working Proprietor - WP)**
  We exclude businesses that are owned by other businesses or entities, because in these cases we cannot identify if a business is Māori-owned or not. We also exclude businesses without any active owners because the LBD does not have information on inactive or non-working owners[5]. In a small proportion of businesses, where the business is partially owned by an individual and trust or business, we only consider the demographic information of the individual registered as the owner of the business.

We use a slightly different business population to identify businesses that are '**Significant Employers of Māori**', which is:

- **Businesses with at least one employee**
  We exclude businesses with no employees, as there is no "employment" aspect for these. For identifying

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[2] A company is an entity that is legally separate from the people who own and run the company. It is legislated under the Companies Act 1993.

[3] A partnership is when two or more people (partners) form a business, with a partnership agreement setting out how they will share profits, debts, and work. A Partnership is legislated under the Partnership Law Act 2019.

[4] See Economically significant enterprise

[5] In year ending March 2021, 10.31% of all businesses did not have any Working Proprietors.

'Significant Employers', we do include businesses without identifiable owners, as long as the business has employees[6].

3.1 Identifying Ethnicity and Descent

To identify ethnicity, we use Stats NZ derived Personal Details Tables, which draw upon multiple data sources to gather ethnicity information on individuals. We use 'total ethnicity' of the owners or employees, which means an individual can belong to multiple ethnic groups. If any one of those ethnic groups is Māori, then that individual is counted as Māori in our data[7].

We use a combination of Census 2013 and Census 2018 to gather Māori descent information on individuals. If an individual has said they are of Māori descent in either Census, we assign a descent identifier to that person[8].

The ethnicity and descent information on individuals is fixed by how it appears in the most recent records for the period of analysis i.e., 2001 - 2021. For example, if someone identifies as Māori descent in Census 2018, that demographic information applies to that individual for all years of our analysis, even prior to 2018 – any business that they might own in, say, 2003 will be classified as Māori-owned.

3.2 Māori-Owned Businesses

Māori-owned businesses are identified using the ethnicity and descent of the working proprietors (WP) - the owners of the business who actively[9] work in the business.

We identify Māori-owned business in several ways:

Māori Business Definition 1: A business where at least one WP is of Māori ethnicity or descent and receives a non-zero ownership income in a financial reporting year. This definition includes businesses where a WP may have identified with one or more other ethnicities, such as Pasifika, European, Asian, or Middle Eastern Latin American African (MELAA), or may have no identified ethnicity at all, but were of Māori descent in one or more Census years.

Māori Business Definition 2: A business where 50% of ownership income is earned by individuals of Māori ethnicity or descent in a financial reporting year. The only difference between definition one and two is the requirement for 50% ownership income.

Wahine Māori Business: A business where at least one working proprietor is a wahine and of Māori ethnicity or descent and receives a non-zero ownership income in a financial reporting year.

As a comparison, we also report on all **Wāhine Businesses** where at least one owner is a wahine[10] with any ethnicity and receives non-zero ownership income in a financial reporting year.

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[6] In year ending March 2021, 61.67% of all businesses (regardless of identifiable owner) have at least one employee.

[7] The same owner/employee can also be identified as, for example, 'European' if the individual reported as being of both Māori and European ethnicity.

[8] Following internal consultation, a choice was made to combine 'yes' responses associated with Māori descent from both Censuses rather than only use one Census year. This may overinflate Māori descent numbers since people's responses to this question may vary over time for various reasons. See _Māori descent (information about this variable and its quality)_ for more information regarding completeness and imputation used in Census 2018.

[9] We classify owners as 'active' if they are drawing upon ownership income from the business. Currently, there is no data in the LBD and IDI on owners who might be active but do not pay themselves ownership income.

[10] Wahine here refers to the WP reporting themselves as 'female'.

We have also produced data using a variation of the definitions described above, which uses ethnicity alone. With this definition, a business would be considered Māori-owned if an owner has Māori ethnicity, regardless of whether or not that person identifies as being of Māori descent.

3.3   Challenges with the 50% Ownership Definition

Te Matapaeroa 2020 used the 50% ownership criteria (definition 2) to identify Māori businesses. However, implementing this definition accurately using data in the IDI and LBD is challenging.

As stated earlier, businesses mainly fall into two categories – companies and partnerships. Companies are owned by shareholders who may or may not be working in the business, i.e., some shareholders can be WPs.

Companies also have directors, who operate the business but may or may not own the business. Both directors and shareholders, if working, receive wages. In their tables, Fabling and Maré have attempted to remove individuals who are directors only, therefore identifying shareholder population.

Shareholders receive wages that are a combination of labour they provide to the company and the proportion of the company that they own. To classify a business as being 50% owned by someone of Māori ethnicity (and/or descent), we need to measure the ownership component only, excluding the labour input. Currently the wage data available in the IDI does not provide a breakdown between wages based on ownership and those based on labour input. Because of these limitations it is not possible to accurately identify whether 50% of ownership income is going to someone of Māori ethnicity (and/or descent) for some companies. This is an issue for companies with more than one WP.

Figure 2 shows the distribution of WPs in companies in Financial Year 2021. A majority (62.8% of all companies or 48.3% of all businesses in our population) of the companies have a single WP. A further 34.9% of companies (26.8% of businesses in our population) have 2 WP with only 2.3% of companies (1.8% of all businesses in our population) with 3 or more WP. This means that for 37.2% of companies (28.6% of all businesses in our population), it is not currently possible to accurately identify whether 50% or more of ownership income is going to Māori.
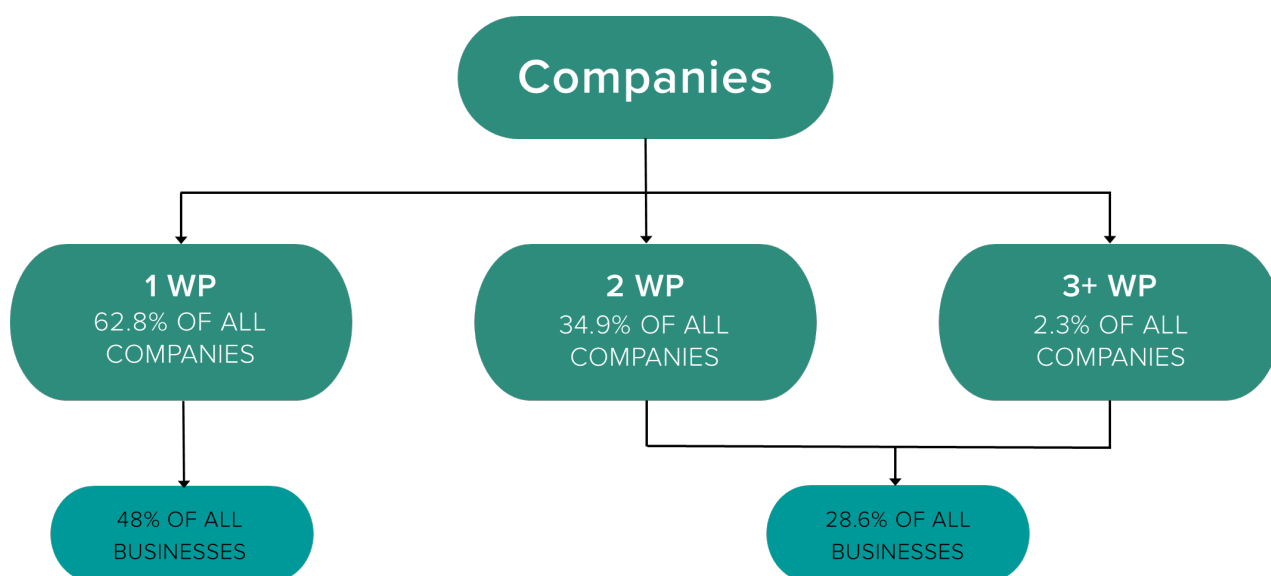

Figure 2: Distribution of working proprietors in companies

In Partnerships, however, partners may or may not be WPs in the business. Partners receive partnership salary, which is based on the proportion of the business they own as set out in the partnership agreement. This means that it is possible to easily identify proportional ownership based on income for these businesses.

3.4 Significant Employers of Māori

Significant Employers of Māori are an important part of the Māori economy. They are businesses where a significant proportion of employees identify as Māori. We identify Significant Employers of Māori in several ways:

Significant Employer of Māori: A business where above a certain threshold of full-time equivalent employees[11] in the financial year of reporting, are of Māori ethnicity or descent. We collect the data on 75%, 50% and 25% thresholds separately, to allow users to choose the threshold that best meets their needs. The main report uses the 50% threshold for analysis.

Significant Employer of Wāhine Māori: Where 25% of full-time equivalent employees are wāhine and of Māori ethnicity or descent, in the financial year of reporting.

We also report on **Significant Employers of Wāhine**, where wāhine represent 25% of full-time equivalent employees for a business in the financial year of reporting.

A business can be a significant employer of Māori regardless of ownership. Significant employers of Māori include Māori and non-Māori-owned businesses, as well as businesses without identifiable owners.

Section 4. Sole Traders

A sole trader is an individual enterprise where the enterprise is not a legally separate entity from the individual, instead considered an extension of the owner. We identify Sole traders using a combination of Fabling-Maré Labour tables and IR3 Self-employed tax returns data.

Identifying sole traders through just IR3 Self-employed tax returns covers a wide range of activity – from an individual who carries out a one-off contract, someone who has a 'side-gig' to their main employment, right through to people whose primary source of earnings is sole trading.

4.1 Māori Sole Traders

Te Matapaeroa 2019 and 2020 reported on all individuals with any self-employed income as sole traders. For Te Matapaeroa 2021, we identify and report on '*established*' sole traders – individuals who pass a threshold in sales which leads to them being "birthed" onto the Business Register. Once they pass this threshold, they are legally required to report on their location of business and classify their industry, two fundamental characteristics for understanding enterprise.

Sole Traders are assigned a legal entity status by Stats NZ if they meet at least one of the following criteria:

- annual expenses or sales subject to GST of more than $30,000; or

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[11] See Fabling & Maré, *Addressing the absence of hours information in linked employer-employee data*, 2015

- 12-month rolling mean employee count of greater than three; or

- part of a group of enterprises; or

- over $40,000 of income recorded in the IR10 annual tax return (this includes some units in residential property leasing and rental).

In Te Matapaeroa 2021 we identify several types of sole traders:

Māori Sole Trader: A sole trader of Māori ethnicity or descent who receives non-zero sole trader income in a financial reporting year.

Wahine Māori Sole Trader: A wahine sole trader of Māori ethnicity or descent who receives non-zero sole trader income in a financial reporting year.

As a comparison, we also report on **Wāhine Sole Traders** where the sole trader is a wahine and receives non-zero sole trader income in a financial reporting year.

As with our Māori-owned business definitions, we have also produced data for a variation to the definitions described above, which defines Māori sole traders by Māori ethnicity alone. With this definition, a sole trader would be considered a Māori sole trader only if they have Māori ethnicity, regardless of whether or not they identify as being of Māori descent.

Section 5. Key Descriptors for Businesses and Sole Traders

The section below provides technical details on the key variables for Māori-owned businesses and sole traders. This information is included to aid in the interpretation of the datasets, and the Te Matapaeroa insights report.

5.1 Location and Industry

Industry and location are two key characteristics of any enterprise (business or sole trader). The Fabling-Maré Labour Tables provide a permanent industry and location for enterprises based on economic activity of the business. For Te Matapaeroa, we want to report on all the locations and industries Māori businesses are operating in so we can track and report on the movement within these. To do this, we use the plant[12] level data from the Longitudinal Business Frame (LBF). The majority of enterprises only have one location and industry, but larger businesses often have more than one plant, which may be undertaking different activities. Te Matapaeroa reports on all the active[13] locations and industries for businesses and sole traders.

We report on Industry using the Australian and New Zealand Standard Industrial Classification (ANZSIC)[14], 2006. We report geographic data using Stats NZ defined Regional Councils and Territorial Authorities, and by Te Puni Kōkiri Region.

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[12] An enterprise comprises one or more geographic units (geo) or 'plants', which are operations undertaken at a single location. Each plant has a unique location and industry based on the activity undertaken.

[13] "Active" means that the plant must have some economic activity, unless a business has no active plans, in which case we chose the last active plant to report on industry and location.

[14] See ANZSIC

5.2 Firm Size

We calculate 'firm size' using full-time equivalent (FTE) total labour input of the employees and the WPs. The FTE data comes directly from Fabling-Maré Labour Tables (Fabling & Maré, 2015).

5.3 Activity Age (Firm Age)

We calculate 'activity age' of an enterprise based on the number of years the enterprise has been active since its last entry to the market. An enterprise can go through phases of being active and inactive. For each financial year, we check all the available past data to determine when the enterprise was active. The earliest available data goes back to 2001. For all businesses that were active from 2001 onwards, we assign the LBF reported birth[15] year as the start year of the business.

For example, a business birthed in 1999 and active until 2005, will have an activity age of 6 years in 2005. If the business was then inactive for 3 years until 2008, it will have an activity age of 1 year in the 2009 Financial Year.

5.4 First Birth

First birth is the first time an enterprise appears in any of the datasets. We assign birth year to an enterprise based on the earliest year they appear in any of the datasets noted in data sources section except the Fabling-Maré Labour Tables. If a business does not appear in any of the datasets, then we assign the earliest year from the Fabling-Maré Labour Tables.

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[15] See *LBF Birth*

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