

Modelled Territorial Authority Gross Domestic Product (MTAGDP)

2025 methodology

New Zealand Government

August 2025





Ministry of Business, Innovation and Employment (MBIE)

Hīkina Whakatutuki – Lifting to make successful

MBIE develops and delivers policy, services, advice and regulation to support economic growth and the prosperity and well-being of New Zealanders.

MBIE combines the former Ministries of Economic Development, Science + Innovation, and the Departments of Labour and Building and Housing.

More information

www.mbie.govt.nz

0800 20 90 20

Information, examples and answers to your questions about the topics covered here can be found on our website www.mbie.govt.nz or by calling us free on 0800 20 90 20.

Disclaimer

This document is a guide only. It should not be used as a substitute for legislation or legal advice. The Ministry of Business, Innovation and Employment is not responsible for the results of any actions taken on the basis of information in this document, or for any errors or omissions.

2253-5721

August 2025

© Crown copyright 2025 The material contained in this report is subject to Crown copyright protection unless otherwise indicated. The Crown copyright protected material may be reproduced free of charge in any format or media without requiring specific permission. This is subject to the material being reproduced accurately and not being used in a derogatory manner or in a misleading context. Where the material is being published or issued to others, the source and copyright status should be acknowledged. The permission to reproduce Crown copyright protected material does not extend to any material in this report that is identified as being the copyright of a third party. Authorization to reproduce such material should be obtained from the copyright holders.

1. Summary

OVERVIEW OF KEY POINTS

- This document describes the revised methodology for the Modelled Territorial Authority Gross Domestic Product (MTAGDP) estimates, released in 2025 and outlines the changes from previous releases.
- The main improvements introduced in this revision have been to simplify the raking method involved, updating the forecasting approach, and to use more relevant input data.

Purpose of MTAGDP

Statistics New Zealand (Stats NZ) publishes Regional Gross Domestic Product (RGDP) statistics for 15 Regional Council (RC) areas. This includes one for each council except Tasman and Nelson which are combined. Since 2015, the Ministry of Business, Innovation and Employment (MBIE) has published experimental estimates of Gross Domestic Product (GDP) further disaggregating to the level the Territorial Authorities (Modelled Territorial Authority Gross Domestic Product or MTAGDP).

While Stats NZ's Regional GDP series is an official Tier One statistic, MBIE's MTAGDP series is experimental and should be regarded as indicative only.

The main purpose of this product is to facilitate understanding of the GDP of Territorial Authorities (TAs) in terms of output over time and by industry group. The estimates are best used as a tool to help understand the industrial makeup of local economies, rather than as an annual monitoring tool. Given the proportionally large revisions that can occur in GDP estimates at the TA level, in part due to the relatively small numbers involved, they are not suitable to serve as key performance indicators or targets for local governments or agencies.

MTAGDP uses raw data from Stats NZ (both published and custom), but the methodology is developed by MBIE. Stats NZ will not be held accountable for any error, inaccurate findings or interpretation within the MTAGDP results.

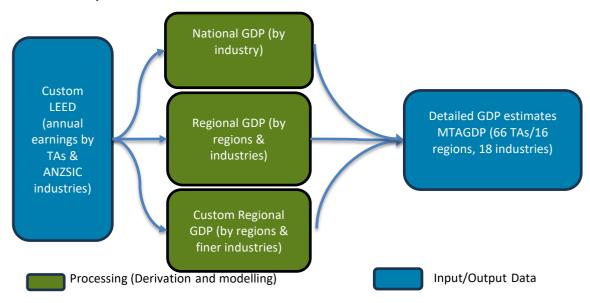
Due to the experimental nature of this product, it should be used with caution. While care and diligence have been used in developing the data for this product, MBIE cannot warranty it is error-free and will not be liable for any loss or damage resulting from its use, directly or indirectly.

2. Methodology

2.1 Overall approach

MBIE developed the experimental MTAGDP series to be a complement and extension of Stats NZ's annual Regional GDP series. This is represented in Schema 1. The Regional GDP series serves as the benchmark for the MTAGDP estimates, i.e., TA GDP estimates (and by their industry totals) must sum up to that of the Regional Council in which they are contained.

Schema 1: Visual representation of the GDP



This is more problematic for TAs that span (or have historically spanned) RC boundaries, i.e. Rangitikei, Rotorua, Stratford, Tararua, Taupō, Waitaki, and Waitomo. In previous releases, geographic share was used to allocate RC activity across TAs. While generally effective this method sometimes resulted in disproportionate allocations to areas with little or no population, making the results less representative. In this release, the use of population share offers a more relevant and improved approach to apportionment.

The TA GDPs sum to RC GDPs because they are made to through a mathematical method called iterative proportional fitting (IPF, also known as bi-proportional scaling or raking). Iterative proportion fitting is applied to the earnings (wages and salaries) of people employed (excluding earning of self-employed people) by TA and industry group. This data comes from a custom Annual LEED (Linked Employer-Employee Data) dataset provided by Stats NZ for the years 2000 to, at time of writing, 2023 (i.e., one year behind the 2024 year that Regional GDP currently runs to).

Earnings from the custom Annual LEED data are used to estimate the relative size of GDP by TA and industry: essentially, the proportion of total TA earnings in a particular TA industry are taken to indicate the proportion of GDP in that particular TA industry. There are strengths and weaknesses to this approach that will impact industries differently according to both how well earning shares represent GDP shares, and how these relationships between GDP and earnings differ across industries. It is also noteworthy that self-employment earnings are not included as these earnings can be negative, which will not be truly representative of GDP output. The differing relationship of earnings to GDP across industries will also impact on the different total TA GDPs in different directions.

IPF ensures that TA-level industry GDP estimates align with RC-level industry totals published by Stats NZ. MBIE also uses a custom Regional GDP table from Stats NZ that provides a finer industry

breakdown. As with the Regional GDP series, the industry breakdown is available for every year except the latest published year. The latest year for Regional GDP is considered provisional, as the full suite of underlying data for determining the value of Regional GDP is not completely available to Stats NZ at time of publication. All years, including the provisional year, can be subject to Stats NZ revisions in later releases, and which will be incorporated into future MTAGDP releases.

Due to the lack of custom Annual LEED data for the latest Regional GDP year (i.e., 2024 for this release) and that the Regional GDP series does not publish an industry breakdown for the latest published year, the MTAGDP series does not include TA GDP by industry estimates for the latest year either. To respond to this limitation, mixed model forecasting has been utilised to generate provisional total GDP estimates for each TA. These estimates are then adjusted using IPF to ensure consistency with the published Regional GDP totals.

An overview of the data sources and the level of detail associated with each include can be found in Appendix 1:

2.2 Modelling process

The modelling process starts with the custom Annual LEED table (D01) that provides the detailed earnings (wages and salaries) data for TAs and ANZSICO6 industry groups. This data is scaled up (or 'raked') to the GDP totals for the Regional Councils and industry divisions published in Stats NZ's Regional GDP series (D03) using IPF. To achieve more accurate estimates for finer industry categories, the data is also scaled to a custom Regional GDP table (D02) supplied by Stats NZ that has finer industry group disaggregation. Finally, the data is scaled to the national GDP total by ANZSICO6 detailed industry group (D11), which has even finer industry levels.

The detailed steps are:

- Prepare the custom Annual LEED earnings table (D01) to take an appropriate shape, with the TAs mapped to the published Regional GDP RCs, and the ANZSIC06 industry groups mapped to the published Regional GDP industry divisions, custom Regional GDP industry groups, and the national GDP by detailed industry groups
- 2. Rake the values (earnings) in the custom Annual LEED table (D01) to the GDP totals provided by the published Regional GDP by industry table (D03), at the RC level for the TA totals, at the published Regional GDP industry level for the industry divisions, and for each year in the published Regional GDP series. This will produce GDP estimates consistent with the published Regional GDP by RC by industry results.
- 3. Rake the values created in the previous step to the totals provided by the custom Regional GDP table (D04), at the RC level for the TAs totals, at the custom Regional GDP industry group level (32 industry categories) for industry, and for each year in the time series. This will finetune the TA GDP estimates by industry group to match the values provided by the custom Regional GDP by industry group table.
- 4. Rake the values created in the previous step to the totals provided by the national GDP by ANZSIC06 detailed industry groups (D10) at the national level, at the detailed industry group level (56 industry categories), and for each year in the time series. This will further fine-tune the TA GDP estimates by industry group to match the values provided by the national GDP by detailed industry group table.

2.3 Forecasting

The completed IPF process results in GDP totals and industry estimates for all TAs, RCs and New Zealand up to the year before the latest published Regional GDP provisional year and matching published totals. The provisional total GDP for each RC enables use of a forecasting technique to extend the total TA GDP series of MTAGDP to that latest year.

The detailed steps are:

- 1. A mixed model forecasting procedure is applied to forecast the GDP by each TA and each industry level (32 categories from the custom Regional GDP table (D04)). Then, the forecast industry values are summed to give the total TA GDP estimates for the latest available provisional year in the published Regional GDP series (i.e., the year for which industry breakdown is not published).
- 2. Eight models (exponential smoothing, ARIMA only, ARIMA with total earnings by TA, ARIMA with total earnings by industry, ARIMA with total earnings by TA and industry, Time Series regression with total earnings by TA, Time Series regression with total earnings by industry, Time Series regression with total earnings by TA and industry) are used to model each GDP series by TA and industry and the model with the best fit is selected to be the forecast. Total earnings by TA and by industry data are from D11 and D12 respectively.
- 3. The forecast 2024 total TA GDP results are raked to the published Regional GDP RC totals. The raked 2024 total TA GDP results become the provisional total TA GDP estimates for TAs.

Note that the latest year provisional estimates do not include the industry breakdowns and should be used with caution given they are based on provisional totals and do not incorporate any shift in the share of GDP between TAs (as this is provided by the custom Annual LEED earning data that is not available for the latest year).

2.4 Inflation adjustment

To produce annual real GDP estimates, industry-level deflators are calculated from the published nominal and real national GDP by industry series (D04-D07) for each year, and for each of the 32 industry groups. These are applied to the estimated industry MTAGDP totals for TAs and RCs.

Although most of the industry categories in the national GDP tables (D04-D07) match those in the custom Regional GDP table (D02), there are a few exceptions for which the following adjustments are applied:

- 1. The deflator calculated for the 'Accommodation and Food Services' industry used in the national GDP tables is used for both the 'Accommodation' and the 'Food and beverage services' industries found in the custom Regional GDP table.
- 2. The 'Local Government Administration' and 'Central Government Administration, Defence and Public Safety' industry groups in the national GDP tables are combined to calculate the deflator for the 'Public administration and safety' industry group found in Regional GDP.

Note that due to the nature of the chain-linked approach used in the official real GDP series, the additivity of industry breakdown to total GDP has been lost¹. As a consequence, some discrepancies between the total real GDP and the sum of all real GDP industry breakdowns in the real (inflation adjusted) MTAGDP series are to be expected.

¹ see <u>Chain volume measures in National Accounts</u> — "There also exist disadvantages to chainlinking. Comparisons between non-adjacent periods become more difficult to interpret. Chainlinking also causes loss of additivity in the series - the chainlinked value for an aggregate will not equal the sum of the chainlinked values of its components. This could pose serious difficulties for some users."

2.5 Per capita measures

The MTAGDP series provides estimates of both nominal GDP per capita and real GDP per capita for each TA and RC. Sub-national population estimates published by Stats NZ are used to calculate per capita values. An improvement in this release is to estimate the population at March as the mean of the June year-prior and June year-end population totals, which aligns with Stats NZ's practice for percapita RGDP. This replaces the prior use of the June year-end population totals as the per-capita denominator.

3. Changes from the previous methodology

3.1 Quarterly LEED and BDS data replaced by custom Annual LEED data (changed in 2018)

In releases prior to 2018, three published Quarterly Linked Employer-Employee Database (LEED) tables and data from the Business Demography Statistics (BDS) were used to obtain earnings data by combined RC and TA regions and ANZSICO6 industry groups. Since none of them individually reached the desired level of granularity in both regions and industries, the tables were combined to give an estimate of the earnings by TA and industry.

Data set	Description
QTR LEED	1-Way: LEED measures (total earnings) by industry (ANZSIC06 industry
Table 4	group).
QTR LEED	1-Way: LEED measures (total earnings) by Territorial Authority.
Table 37	
QTR LEED	2-Way: LEED measures (total earnings) by industry (ANZSIC06 division) and
Table 18	region (RC).
BDS	Geographic units (and employee counts) by region (RC and TA) and industry
	(ANZSICO6 group).

For the MTAGDP 2018 methodology update, a custom Annual LEED table with earnings by TA and detailed level 3 ANZSIC-06 industry group was used. This provided a more accurate and convenient data source for the subsequent modelling procedure.

3.2 Remove the input from Business Demography Statistics (BDS) (changed in 2018)

In releases prior to 2018, employee numbers in the Business Demography Statistics (BDS) were used for more granular allocations within industries when earnings were not available at the necessary level of a granularity.

For the MTAGDP 2018 methodology update, the level of granularity provided in the custom LEED table was sufficient, and the BDS table was no longer needed.

3.3 Remove the commuter correction procedure (changed in 2018)

Another change enabled by the use of the custom Annual LEED table provided by Stats NZ is that its earnings are allocated to the territorial authorities where the business locates, removing the need to apply a commuter correction. The removal of this procedure creates a variation between pre-2018

MTAGDP series and the post-revision methodology MTAGDP results for some TAs where high commuter flows are a factor. This change more accurately allocates GDP to the TAs where it belongs.

3.4 Changes in the reported industry categories (changed in 2018)

In pre-2018 releases, two classifications of industry categories were used: one consistent with the 18 higher level industry categories published in the Regional GDP series, and another one with the then 56 industry categories published in Stats NZ's National accounts (e.g. National Accounts - SNA 2008 - SNE: Series, GDP(P), Nominal, Actual, ANZSICO6 detailed industry groups (Annual-Mar) in Infoshare).

In releases from 2018, the number of categories in the higher-level industry classification increased one to 19, reflecting the Regional GDP breakdown of "Accommodation and Food Services" into two separate categories: "Accommodation" and "Food and Beverage Services".

The other, 56-industry classification, is replaced by a classification with 32 industry categories to be consistent with the custom Regional GDP dataset provided to MBIE by Stats NZ, and is at similar level as the 'ANZSIC06 industry groups' of Stats NZ National accounts (industry production and investment) (32 industry categories, as shown in Infoshare table 'National Accounts - SNA 2008 - SNE: Series, GDP(P), Nominal, Actual, ANZSIC06 industry groups (Annual-Mar)').

3.5 Additional benchmark GDP data (changed in 2025)

In previous releases, the custom Annual LEED earnings table (D01) was raked to match with the GDP totals provided by the published Regional GDP by industry table (D03), at the RC level for the TA totals, at the published Regional GDP industry level for the industry divisions, and for each year in the published Regional GDP series, and the totals provided by the custom Regional GDP table (D04), at the RC level for the TAs totals, at the custom Regional GDP industry group level (32 industry categories) for industry, and for each year in the time series.

In this release, in addition to matching with the D03 and D04, the custom Annual LEED earnings table (D01) is raked to match with the totals provided by the national GDP by ANZSIC06 detailed industry groups (D10) at the national level, at the detailed industry group level (56 industry categories), and for each year in the time series. This will fine-tune the TA GDP estimates by industry group to match the values provided by the national GDP by detailed industry group table.

3.6 TA proportion to regional council (changed in 2025)

In the previous release, for TAs that cross several RC boundaries, geographic share was used to apportion TAs to multiple RCs if they cross RC boundaries.

In this release, population share is used, which is a better proxy for economic activities then geographic share.

3.7 New forecast method for extending TA GDP (changed in 2025)

In the previous release (2024), an autoregressive integrated moving average (ARIMA) forecasting procedure is applied to forecast the total TA GDP estimates to the latest available provisional year in published Regional GDP (the year for which industry breakdown is not published).

In this release, a mixed model forecasting procedure is applied to forecast the GDP by each TA and each industry level (32 categories from the custom Regional GDP table (D04)). Then, the forecast values are summed to the total TA GDP estimates to the latest available provisional year in published Regional GDP (the year for which industry breakdown is not published).

The improved method uses the total earning by TA and by industry (D11 and D12) as external regressors to provide better forecasting models as well as more flexible forecasting methods for different series.

3.8 New population estimates (changed in 2025)

Prior releases used the June year-end population totals for calculation of per-capita measures. This led to marked differences in the releases' Regional per-capita GDP to Stats NZ's published per-capita RGDP.

In this release, the population at March (i.e., the period which GDP is reported at) is estimated as the mean of the June populations for the year-end and year-prior. This change in reference period will align our process used by Stats NZ and with the release of the regional GDP.

4. Definitions and concordances for geographical area and industry

One of the key elements in the derivation of MTAGDP lies in concording different levels of geographical area and industry group to those used in Stats NZ published data.

4.1 Geographical Area

The custom Annual LEED earnings data is at the Territorial Authority (TA) level, while the desired output includes the standard regional council area (Region) as well as the published Regional GDP area (RGDP Region). A concordance table is needed to map these three geographical area classifications to each other.

The mapping from Region to RGDP Region simply combines Tasman and Nelson to Tasman/Nelson.

However, when matching TA to Region, there is a challenge in the lack of a strict hierarchy between the classifications. TAs are not strict sub-divisions of Regions, and some of them fall within more than one Region. Therefore, the contributions of these TAs to each Region needs to be specified. To overcome this difficulty, a population-based proportional allocation approach has been adopted. The geographic area-based proportional allocation approach has been discontinued.

Full details of the concordance between TA, Region to RGDP Region, and the proportions of the TA contributing to Region by population and geographic area (discontinued) can be found in Appendix 2. The population-based proportion changes each year but as they have stayed relatively constant only the average proportion over 2000–2024 is shown.

4.2 Industry categories

Apart from the geographic dimension, MTAGDP also provides more disaggregated industry breakdowns. The higher-level industry classification (18 industry categories) used in the published Regional GDP series have been adopted by MTAGDP, and reported as RGDP industry. A more detailed industry classification (32 industry categories) is also used in the creation of MTAGDP, named as RGDP_industry_detail (Appendix 3).

5.Appendices

Appendix 1: Appendix for main data sources

ID	Data set	Description
D01	Custom Annual LEED workplace table	Provides Annual LEED earnings (wage and salaries) for people at their primary place of work by Territorial Authority and ANZSIC06 industry groups (source is Stats NZ).
D02	Custom Regional GDP table	Provides published Regional GDP (15 regions) but with finer industry classification (32 industries) (source is Stats NZ).
D03	Published Regional GDP by industry	Provides published Regional GDP by industry division. Sourced from Infoshare: Regional Gross Domestic Product - RNA: Gross domestic product, by region and industry (Annual-Mar).
D04	National GDP by industry (Production Measure), Nominal	Provides nominal (current price) GDP with more detailed industry breakdown than Regional GDP but without regional information. Sourced from Infoshare: National Accounts - SNA 2008 - SNE: Series, GDP (P), Nominal, Actual, ANZSIC06 industry groups (Annual-Mar).
D05	National GDP by industry (Production Measure), Real	Provides real (inflation adjusted) GDP with more detailed industry breakdown than Regional GDP but without regional information. Sourced from Infoshare: National Accounts - SNA 2008 - SNE: Series, GDP(P), Chain volume, Actual, ANZSIC06 industry groups (Annual-Mar).
D06	National GDP Total (Production Measure), Nominal	Provides nominal GDP without industry or regional breakdowns. Sourced from Infoshare: National Accounts - SNA 2008 - SNE: Series, GDP (P), Nominal, Actual, Total (Annual-Mar).
D07	National GDP Total (Production Measure), Real	Provides real GDP without industry or regional breakdowns. Sourced from Infoshare: National Accounts - SNA 2008 - SNE: Series, GDP(P), Chain volume, Actual, Total (Annual-Mar)
D08	Estimated resident population for territorial authorities	Provides estimated resident population at Territorial Authority level. Sourced from Infoshare: Population - Population Estimates – DPE: Estimated Resident Population for Territorial Authority Areas, at 30 June(1996+) (Annual-Jun)
D09	Estimated resident population for regional councils and whole of New Zealand	Provides estimated resident population at Regional Council level. Sourced from Infoshare: Population - Population Estimates – DPE: Estimated Resident Population for Regional Council Areas, at 30 June (1996+) (Annual-Jun)
D10	National GDP by ANZSIC06 detailed industry group, Nominal	Provides nominal (current price) GDP with more detailed industry breakdown than Regional GDP but without regional information. Sourced from Infoshare: National Accounts - SNA 2008 - SNE: Series, GDP(P), Nominal, Actual, ANZSIC06 detailed industry groups (Annual-Mar)
D11	Total earnings by TA	Provides total earning at TA level. Sourced from Infoshare: Business Data Collection – BDC: Territorial authority by employment variable (Qrtly-Mar/Jun/Sep/Dec)
D12	Total earnings by ANZSIC06 industry	Provides total earning at industry level. Sourced from Infoshare: Business Data Collection – BDC: Industry by employment variable (Qrtly-Mar/Jun/Sep/Dec)

Appendix 2: The relationship between geographic and mean population proportions for each Territorial Authority

ТА	Region	Proportion by geographic area (discontinued)	Proportion by population	RGDP Region
Far North District	Northland	1	1	Northland
Whangarei District	Northland	1	1	Northland
Kaipara District	Northland	1	1	Northland
Auckland	Auckland	1	1	Auckland
Auckland	Auckland	1	1	Auckland
Auckland	Auckland	1	1	Auckland
Auckland	Auckland	1	1	Auckland
Auckland	Auckland	1	1	Auckland
Auckland	Auckland	1	1	Auckland
Auckland	Auckland	1	1	Auckland
Thames-Coromandel District	Waikato	1	1	Waikato
Hauraki District	Waikato	1	1	Waikato
Waikato District	Waikato	1	1	Waikato
Matamata-Piako District	Waikato	1	1	Waikato
Hamilton City	Waikato	1	1	Waikato
Waipa District	Waikato	1	1	Waikato
Otorohanga District	Waikato	1	1	Waikato
South Waikato District	Waikato	1	1	Waikato
Waitomo District	Waikato	0.9487	0.9934	Waikato
Waitomo District	Manawatu- Whanganui	0.0513	0.0066	Manawatu-Whanganui
Taupo District	Waikato	0.7374	0.9935	Waikato
Taupo District	Bay of Plenty	0.1431	0.0044	Bay of Plenty
Taupo District	Hawke's Bay	0.1126	0.0021	Hawke's Bay
Taupo District	Manawatu- Whanganui	0.0069	0.0000	Manawatu-Whanganui
Western Bay of Plenty District	Bay of Plenty	1	1	Bay of Plenty
Tauranga City	Bay of Plenty	1	1	Bay of Plenty
Rotorua District	Bay of Plenty	0.6152	0.9461	Bay of Plenty
Rotorua District	Waikato	0.3848	0.0539	Waikato
Whakatane District	Bay of Plenty	1	1	Bay of Plenty
Kawerau District	Bay of Plenty	1	1	Bay of Plenty
Opotiki District	Bay of Plenty	1	1	Bay of Plenty
Gisborne District	Gisborne	1	1	Gisborne
Wairoa District	Hawke's Bay	1	1	Hawke's Bay
Hastings District	Hawke's Bay	1	1	Hawke's Bay
Napier City	Hawke's Bay	1	1	Hawke's Bay
Central Hawke's Bay District	Hawke's Bay	1	1	Hawke's Bay
New Plymouth District	Taranaki	1	1	Taranaki
Stratford District	Taranaki	0.6813	0.9827	Taranaki
Stratford District	Manawatu- Whanganui	0.3187	0.0173	Manawatu-Whanganui

South Taranaki District	Taranaki	1	1	Taranaki
Ruapehu District	Manawatu-	1	1	Manawatu-Whanganui
Whanganui District	Whanganui Manawatu-	1	1	Manawatu-Whanganui
Rangitikei District	Whanganui Manawatu-	0.8637	0.9979	Manawatu-Whanganui
Rangitikei District	Whanganui Hawke's Bay	0.1363	0.0021	Hawke's Bay
Manawatu District	Manawatu-	1	1	Manawatu-Whanganui
Palmerston North City	Whanganui Manawatu-	1	1	Manawatu-Whanganui
	Whanganui			
Tararua District	Manawatu- Whanganui	0.9842	0.9997	Manawatu-Whanganui
Tararua District	Wellington	0.0158	0.0003	Wellington
Horowhenua District	Manawatu- Whanganui	1	1	Manawatu-Whanganui
Kapiti Coast District	Wellington	1	1	Wellington
Porirua City	Wellington	1	1	Wellington
Upper Hutt City	Wellington	1	1	Wellington
Lower Hutt City	Wellington	1	1	Wellington
Wellington City	Wellington	1	1	Wellington
Masterton District	Wellington	1	1	Wellington
Carterton District	Wellington	1	1	Wellington
South Wairarapa District	Wellington	1	1	Wellington
Tasman District	Tasman	1	1	Tasman/Nelson
Nelson City	Nelson	1	1	Tasman/Nelson
Marlborough District	Marlborough	1	1	Marlborough
Kaikoura District	Canterbury	1	1	Canterbury
Buller District	West Coast	1	1	West Coast
Grey District	West Coast	1	1	West Coast
Westland District	West Coast	1	1	West Coast
Hurunui District	Canterbury	1	1	Canterbury
Waimakariri District	Canterbury	1	1	Canterbury
Christchurch City	Canterbury	1	1	Canterbury
Christchurch City	Canterbury	1	1	Canterbury
Selwyn District	Canterbury	1	1	Canterbury
Ashburton District	Canterbury	1	1	Canterbury
Timaru District	Canterbury	1	1	Canterbury
Mackenzie District	Canterbury	1	1	Canterbury
Waimate District	Canterbury	1	1	Canterbury
Christchurch City	Canterbury	1	1	Canterbury
Waitaki District	Canterbury	0.5961	0.0785	Canterbury
Waitaki District	Otago	0.4039	0.9215	Otago
Central Otago District	Otago	1	1	Otago
Queenstown-Lakes District	Otago	1	1	Otago
Dunedin City	Otago	1	1	Otago
Clutha District	Otago	1	1	Otago
Southland District	Southland	1	1	Southland
Gore District	Southland	1	1	Southland
Invercargill City	Southland	1	1	Southland

Appendix 3: The relationship between RGDP industry and RDGP industry detail

RGDP_industry	RGDP_industry_detail		
Accommodation	Accommodation		
Administrative and Support Services	Administrative and Support Services		
Agriculture	Agriculture		
Construction	Construction		
Education and Training	Education and Training		
Financial and Insurance Services	Financial and Insurance Services		
Food and beverage services	Food and beverage services		
Forestry, Fishing, Mining, Electricity, Gas,	-		
Water and Waste Services	Electricity, Gas, Water and Waste Services		
Forestry, Fishing, Mining, Electricity, Gas,	Fishing, Aquaculture and Agriculture, Forestry and		
Water and Waste Services	Fishing Support Services		
Forestry, Fishing, Mining, Electricity, Gas,			
Water and Waste Services	Forestry and Logging		
Forestry, Fishing, Mining, Electricity, Gas, Water and Waste Services	Mining		
GST on production, import duties, and	Mining		
other taxes	GST on production, import duties, and other taxes		
Health Care and Social Assistance	Health Care and Social Assistance		
Information Media, Telecommunications	Treatth care and Social Assistance		
and Other Services	Arts and Recreation Services		
Information Media, Telecommunications			
and Other Services	Information Media and Telecommunications		
Information Media, Telecommunications			
and Other Services	Other Services		
Manufacturing	Food, Beverage and Tobacco Product Manufacturing		
Manufacturing	Furniture and Other Manufacturing		
Manufacturing	Metal Product Manufacturing		
Manufacturing	Non-Metallic Mineral Product Manufacturing		
	Petroleum, Chemical, Polymer and Rubber Product		
Manufacturing	Manufacturing		
Manufacturing	Printing		
	Textile, Leather, Clothing and Footwear		
Manufacturing	Manufacturing		
Manufasturina	Transport Equipment, Machinery and Equipment		
Manufacturing	Manufacturing		
Manufacturing	Wood and Paper Products Manufacturing		
Owner-Occupied Property Operation	Owner-Occupied Property Operation		
Professional, Scientific and Technical	Professional Scientific and Tachnical Services		
Services Public Administration and Safatu	Professional, Scientific and Technical Services		
Public Administration and Safety	Public administration and safety		
Rental, Hiring and Real Estate Services	Rental, Hiring and Real Estate Services		
Retail Trade	Retail Trade		
Transport, Postal and Warehousing	Transport, Postal and Warehousing		
Wholesale Trade	Wholesale Trade		