

Research Report on Regional Gross Domestic Product

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Preface

The *Research Report on Regional Gross Domestic Product* is the culmination of a feasibility study to determine whether regional GDP estimates can be compiled using existing data sources. This is the first time Statistics New Zealand has produced regional Gross Domestic Product estimates.

This report should be of particular interest to regional policy makers and analysts, local government and others concerned with economic development.

The successful feasibility study involved developing data and methodologies that could be tested via the compilation of an experimental series. This series is considered to be of acceptable quality at the region level.

The regional GDP methods and data used in this report have been peer reviewed and endorsed by an international expert on regional GDP. The New Zealand approach is consistent with international practice, and in some cases, is more advanced than overseas estimates.

Statistics NZ welcomes user feedback on the methods and results presented in this report. There are several areas where the scope or timeliness of the regional GDP measure can be developed further were it decided to complete a regional GDP series on an ongoing basis.

I would like to thank the Ministry of Economic Development for their support of this project.

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Information

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1. Introduction

This paper is the final stage of the regional Gross Domestic Product (GDP) feasibility project. The objectives of the project were to determine the feasibility of producing regional GDP series on an ongoing basis, and whether regional GDP could be produced to an acceptable standard using existing data sources, or whether new data collections are required.

The feasibility study involved developing data and methodologies that could be tested via the compilation of an experimental series. To do this, estimates of current price regional GDP were developed for 2000–2003 (March years) and are released with this report. These estimates are considered to be of acceptable quality at the region level but have not necessarily been subject to detailed analysis at the region by industry level. It is expected that a more detailed report, including sources and methods, will be released in 2007.

The project was underpinned by the view that enhanced regional economic data are pivotal to regional development policy because they:

- help achieve a greater understanding of the growth and innovation performance of regions
- provide a sound basis for monitoring and evaluating economic development trends
- support central government's ability to target regional development programmes, including the further development and implementation of the Regional Partnerships Programme (RPP)
- provide a more robust basis for economic decision making by regional and local bodies and the private sector
- provide a more effective information base for public and community understanding and debate of regional economic development.

The regional GDP methods and data used here have been peer reviewed and endorsed by an international expert on regional GDP. The New Zealand approach is consistent with international practice, and in some cases is more advanced than overseas estimates.

Statistics New Zealand welcomes user feedback on the methods and results presented in this report. There are several areas where the scope or timeliness of the regional GDP measure can be developed further. It will be useful to get feedback on the priorities that users set on these development options.

Statistics NZ would like to thank the Ministry of Economic Development for their support of this project.

2. Key findings

The key finding of the regional GDP feasibility study is that data and methods make it feasible for Statistics New Zealand to produce estimates of regional GDP. Estimates can be produced using existing data sources and applying internationally recognised methods.

While the regional GDP project has produced estimates of acceptable quality, the work has also identified where the quality of the estimates could be improved with further development.

Summary regional GDP estimates are provided below at the administrative regional council or unitary authority level. Tasman and Nelson were combined due to difficulty in assuring the methodology was correctly differentiating economic activity between the two regions. Analysis and commentary on the regional GDP results is provided in section 6.

Table 1

Regional Gross Domestic Product ⁽¹⁾ Current prices

Region	Year ended March			
	2000	2001	2002	2003
	\$(million)			
Northland	2,787	3,106	3,370	3,243
Auckland	39,518	40,277	43,301	47,689
Waikato	8,930	10,119	11,087	10,598
Bay of Plenty	5,721	6,134	6,551	6,689
Gisborne	916	960	1,001	1,031
Hawke's Bay	3,569	3,839	4,122	4,318
Taranaki	3,743	4,600	4,678	4,414
Manawatu-Wanganui	4,847	5,201	5,557	5,594
Wellington	16,790	17,046	18,283	19,286
Total North Island	86,820	91,281	97,951	102,863
Tasman / Nelson	1,943	2,080	2,282	2,343
Marlborough	955	1,045	1,161	1,193
West Coast	662	755	804	779
Canterbury	12,538	13,237	14,195	15,074
Otago	4,344	4,683	5,127	5,411
Southland	2,434	2,861	3,120	3,023
Total South Island	22,875	24,661	26,688	27,824
Gross domestic product	109,696	115,941	124,639	130,687

(1) Figures may not sum to totals due to rounding.

3. Scope and status

Scope

Regional GDP methodology and estimates were developed using national accounting concepts. The aim was to produce regional estimates that are consistent with the published national accounts. In other words, the sum of the GDP of the regions equals national level GDP.

The regional GDP series are on an annual basis for the 2000–2003 March years. The annual series can be produced on a more timely basis as an ongoing series. Quarterly regional accounts have not been developed.

The regional GDP series have been estimated in current prices. Constant price series have not been developed, but this could potentially be investigated as a future enhancement.

Regional GDP was compiled by industry. A 16-industry breakdown is available, based on the national accounts industry classification (Appendix 1). Due to the application of confidentiality rules it is often difficult to provide estimates at a greater level of detail. The 16 industries in the regional GDP estimates are:

- Agriculture
- Forestry, logging and fishing
- Mining, construction and electricity, gas and water supply
- Manufacturing
- Wholesale trade
- Retail trade
- Accommodation, restaurants and bars
- Transport, storage and communication services
- Finance and insurance
- Property services
- Ownership of owner-occupied dwellings
- Business services
- Central and local govt administration
- Education, health and community services
- Cultural and recreational services
- Personal and other services.

Measuring Gross Domestic Product

This section discusses the concept of GDP and how it is applied in the regional GDP estimates. All technical terms used are contained in the Glossary, including all definitions of components of GDP, and terms such as value-added, producer values and GST on production.

Regional GDP is compiled by industry. The regional GDP estimates released here are based on industry estimates for value-added (the value of output after the cost of bought-in materials and services have been deducted). The output is valued inclusive of taxes on production and subsidies consistent with the national accounts. To this industry value-added, GST on production has been added at the region level, on a pro rata basis, to obtain regional GDP. The amount of GST allocated to each region

can be seen in the region-by-industry tables. The treatment of GDP is also consistent with the national approach.

Estimates for components of GDP are used in the calculation of GDP for some industries, but only total GDP is published by region by industry. The components of GDP are:

- Compensation of employees
- Consumption of fixed capital
- Gross operating surplus
- Subsidies
- Taxes on production.

The use of components of GDP for regional GDP compilation is discussed in the methodology section.

Regional GDP has been allocated to regions on the basic principle of where the productive activity takes place. For example, where a rental property is in Waikato and the owner of the property lives in Auckland, the GDP relating to the property will be allocated to Waikato, even though the income goes to Auckland. Per capita regional GDP can therefore be derived from these estimates.

Status of these estimates

The regional GDP experimental series is consistent with published New Zealand GDP which is beneficial in terms of coherence and quality. The National Accounts have been analysed and validated before the regional GDP is prepared.

Where data has been too small to be reviewed for the national estimates, it may be more significant at the region or region-by-industry level since many regions in New Zealand are very small compared to national GDP. While in many cases these issues can be resolved, the research presented here has not been able to resolve them all. This would be better addressed in ongoing regional GDP estimates by working alongside National Accounts when the annual national accounts are being estimated. Due to this and other issues discussed later, the region-level estimates are of lower reliability than the published national-level accounts. Similarly, the industry-level estimates for each region are, by nature, of lower quality than the region-level estimates (in section 2) and are more subject to revision. International regional GDP compilers face similar quality issues.

The regional GDP series was derived from historical data to test feasibility. An ongoing regional GDP series would likely be more timely and more in line with the annual current price national accounts schedule.

4. Regional GDP data and methodology

Regional GDP measurement approaches

This section discusses the broad methodology used to derive the regional GDP estimates. A more detailed paper containing regional GDP sources and methods will be released in early 2007.

The internationally preferred approach for regional GDP compilation is to directly measure the local activity of enterprises, and build up regional accounts from this information. The enterprise-level compilation approach is preferred as it directly measures value-added. This approach is also useful analytically since it clearly links the activities of enterprises within a region to the growth of that region. The New Zealand regional GDP estimates have used this approach where possible, and it has been used for most industries.

The method of building up regional estimates from local enterprise data is known as the 'bottom-up' approach. The alternative, where regional indicators are used to allocate national level GDP estimates to regions, is known as the 'top-down' approach.

A top-down approach is used if the bottom-up approach cannot be implemented for an industry. This is usually due to a lack of survey data for that industry. Because there are many exceptions to the across-the-board application of a bottom-up approach, regional GDP methodology has been determined on a case by case (industry by industry) basis. The top-down approach has been used for some industries in the New Zealand regional GDP estimates.

Bottom-up data

Detailed financial survey data at the enterprise level is required to apply the bottom-up approach. Several New Zealand financial surveys are used as the basis for the bottom-up estimates in the regional GDP estimates. The key data sources include the Annual Enterprise Survey (AES), Linked Employer-Employee Data (LEED), the Crown Financial Information System (CFIS) and Local Authority Survey (LAS).

Financial surveys are often designed to survey all larger enterprises, along with a sampling of smaller enterprises. The key surveys provide data by industry and the regional GDP estimates have been built up by industry – with the bottom-up estimates based on the sum of the enterprise information within that industry.

The AES was designed as the principal collection vehicle of data used in the compilation of New Zealand's National Accounts, particularly industry value-added. The target population for AES is all economically significant businesses operating within New Zealand.

Bottom-up methodology when all enterprises are surveyed

The following comments apply to survey information where all the enterprises in the population are surveyed. This is also known as full-coverage data.

Enterprises are often surveyed at the organisational level where a single set of accounting records is available. In many cases an enterprise consists of one unit, or all the branches of the enterprise are in the same region. In these cases a regional allocation of enterprise data is a straightforward exercise.

Some large enterprises, however, have operations that span several regions. This is an issue in regional GDP compilation given the survey collection level. More information is required to assign or model the

activities of the enterprise to the correct 'local' or 'geographic' units (for simplicity, in the remainder of this report geographic units are referred to as branches).

This issue is addressed by integrating survey data of enterprise activity with geographic data on the branch location of the enterprise's employees. The latter information is available from Statistics New Zealand's LEED data source. The integration of survey data and LEED is a modified bottom-up approach.

LEED data provides a range of labour market information, including total employee gross earnings. This variable can be used as an activity indicator. In LEED, the reporting unit is the physical location of the business rather than the enterprise. Each branch is considered to be a distinct employer. This approach has been taken to allow regional statistics to be produced.

LEED therefore allows us to model the regional allocation to branches of enterprises that operate across multiple regions. Enterprise activity is allocated to the appropriate region by using LEED total gross earnings as a proxy for the relative contribution to GDP for each branch within the enterprise.

As an example of how the apportionment process works, assume an enterprise with GDP \$500 has two branches in different regions:

- Branch1 has LEED total gross earnings = \$100
- Branch2 has LEED total gross earnings = \$150.
- Branch1 value-added= $(\$100 / (\$100+\$150)) * \$500 = \$200$
- Branch2 value-added= $(\$150 / (\$100+\$150)) * \$500 = \$300$

Note the underlying assumption is that all components of GDP are allocated in proportion to gross earnings. Operating surplus and consumption of fixed capital are implicitly allocated in proportion to gross earnings. While this is generally considered to be a reasonable assumption, there are exceptions, as discussed later.

Methodology when enterprises are sampled in surveys

A different approach is used where enterprise survey data is sampled. The survey sampling for AES is designed on a national basis. The sample is not designed to collect accurate regional level information. Some region / industry cells may not be sampled at all. To work around this design issue, a top-down approach has been applied.

From the sample surveys we have a national-level estimate for the sample strata for each industry. The national-level estimates are accurate as the sample is designed at that level. The question for regional GDP compilation is how to allocate these national-level estimates to regions. The method used was to allocate the estimates to regions using regional indicators based on LEED data. LEED is a reasonably good proxy for activity, and the LEED data used for regional indicators is full coverage.

Where survey data is available for a region, regional GDP industry estimates are therefore a combination of the bottom-up (full-coverage data) and top-down (sample data) approaches. Where survey data is used, the regional GDP estimates are mainly (by value) derived from full-coverage data.

Top-down methodology

A top-down methodology uses regional indicators to allocate national GDP to regions. These methods are usually applied where survey data is not available for the bottom-up method to be considered.

Industries or activities where a top-down methodology is used include agriculture, part of property services, and ownership of owner-occupied dwellings.

For these industries (apart from agriculture, which is discussed below) GDP was allocated to regions by using an appropriate regional indicator to derive regional ratios to apply to national industry GDP. Where possible, the national accounts method was adapted to derive regional indicators. This is to ensure the regional GDP estimates are as consistent with the national estimates as possible. The actual approach used varies, depending on what industry is being regionalised and what the national accounts method is.

For example, for residential property operators, the regional GDP allocation is a regional output indicator based on regional rent prices and residential dwelling numbers. This is basically the same as the method for the National Accounts.

The regional agriculture industry methodology was derived to be consistent with the national accounts methodology. This methodology involves producing gross output for 30 agriculture commodities, for example dairy, cattle, crops and seeds. Value-added was calculated for each commodity, using regional estimates for gross output. Gross output was calculated using regional volumes multiplied by national prices. Volume data was gathered using a range of sources, depending on the commodity, including the Agriculture Production Survey.

Compilation issues – apportionment and structure

Where apportionment of enterprise data is required, then modelling with LEED gross earnings is generally sound, although a number of issues do arise. Many other countries producing regional GDP estimates do not have geographic unit-level employee payment data equivalent to LEED, and rely on data such as the number of employees instead. Using employee numbers is not an ideal method as this does not differentiate between higher-paid workers who are generating high value-added for enterprises, and lower-paid employees generating lower value-added.

However, the modelling assumes that each branch of an enterprise has similar profit per employee. This assumption may break down, for example, when an enterprise operates a less profitable regional branch. When this occurs, our regional allocation of GDP for this enterprise must be questionable. We are overstating GDP for the region with the less profitable branch, and understating GDP for other regions.

Similarly, questions arise with the modelling when one enterprise takes over branches of another enterprise. This can cause analytical issues when the value-added allocated to the branch changes considerably under the new management. Does this reflect reality? Generally we assume that the management changes and restructuring have altered the previous conditions of the branch, and that a revised value-added allocation is acceptable. The estimates are therefore usually left as they are, unless we have strong evidence that there is a problem, and data that allows for a corrective adjustment.

Compilation issue – GDP relating to an enterprise's capital assets

There is one other special case relating to the apportionment of large units across regions. This is where enterprises have large capital assets.

The significant components of value-added for an enterprise are generally:

- Compensation of employees
- Consumption of fixed capital
- Operating surplus.

The apportionment based on LEED effectively allocates GDP to branches in line with the employee gross earnings (representing the bulk of the compensation of employees) of each branch. This type of allocation method (with variations depending on data availability) is adopted by most regional GDP compilers since the other sources of GDP are likely to be related to the level of employee gross earnings.

For some large enterprises however, the assumption breaks down where the enterprise has large capital assets in one region, and employees concentrated in another region. Using the standard apportionment method will tend to allocate too much GDP to the region with the employees at the expense of the region with the capital assets. Basically, the consumption of fixed capital component of GDP (relating in the main to capital assets) is being allocated to the wrong region.

A 'capital intensive' adjustment to the regional GDP estimates has therefore been applied to certain industries. In line with international methodology, the LEED apportionment method still applies to the compensation of employees component of GDP. The modification is that the consumption of fixed capital component is allocated to regions, using a regional asset indicator. Operating surplus and other components of GDP are allocated to regions in proportion to the sum of the compensation of employees and consumption of fixed capital allocated. The allocation of consumption of fixed capital plus a portion of operating surplus to the region with the capital assets represents the overall returns to capital of the enterprise.

A regional asset indicator can be any appropriate indicator of capital in the absence of actual regional asset values. For example, electricity generation consumption of fixed capital is allocated to regions based on the maximum output of each generation source, by enterprise by region.

In practice, adjusting regional GDP for capital allocation has only been done for enterprises within the mining, construction and electricity, gas and water supply industry.

For other industries a capital intensive adjustment was tested, but was found to lead to results similar to those obtained from standard apportionment procedure. For yet other industries, a capital intensiveness adjustment could not be tested due to a lack of regional asset indicators.

5. Quality assessment

Quality assessment is an important aspect of the regional GDP feasibility project. There are a variety of ways that national level GDP could be assigned to regions (often unofficial regional economic estimates are based on top-down methods applied using regional employment data). In a sense, the question is not so much whether regional economic estimates can be generated, it is whether the regional GDP estimates produced meet international standards and are of an acceptable quality.

The data sources used for this study were not specifically designed for regional GDP estimates. An international peer reviewer from Statistics Netherlands concluded, however, that since the methodology and data used for regional GDP was sound the estimates should be accepted unless they appeared to be unrealistic. As a result of this assessment, despite some data issues already noted, we have decided to release the experimental regional GDP series.

The application of a bottom-up methodology, where possible, in regional GDP compilation is as recommended in *Regional Accounts Methods*. This is the regional GDP methodology handbook of the Statistical Office of the European Communities and is used by all European Union countries as the basis for their regional GDP estimates. The treatment of apportionment and the 'capital intensive' adjustments is in line with the handbook recommendations.

Statistical error measures are often difficult to apply to regional GDP estimates. For example, sample errors do not apply to bottom-up estimates that are based on full-coverage data. Similarly, top-down estimates can make implicit assumptions about the relationship of an indicator to GDP, which limits the scope for more sophisticated analysis. For these reasons the quality assessment in this feasibility study has mainly focused on ensuring that the best possible data and methodology has been used.

The fitness of regional GDP for user needs has not been directly assessed. Most potential users that have been canvassed have indicated they would use the regional GDP series if it were available on an ongoing basis. We are interested in feedback as to how these estimates could be developed further for potential users.

6. Regional commentary

Regional GDP estimates with industry breakdowns are available from the regional GDP web page on the Statistics New Zealand website (www.stats.govt.nz).

Regional GDP movements can be explained by numerous factors, including: business relocation, the type of industries within a region, the relative performance of an industry within a region compared to the same industry in other regions, price changes, and other factors such as overall regional population change. Many of these factors are referred to at some point in the regional commentaries.

Although the report discusses different *nominal* regional growth rates in the regional commentaries, the period of this series is really too short to make definitive statements on comparative regional performance. Many of the smaller regions, especially the less diversified ones, can be highly affected by short-term events such as exchange rates, climatic conditions and so on. Many of the fastest growing industries in the national accounts are driven by price effects.

The regional commentaries should not be taken as implying that regions growing fast (or slowly) during the measured period will maintain this performance over a longer period. A much longer-term time series would be required before any such conclusion could be reached.

Industry-level GDP estimates should be interpreted even more carefully and may be particularly volatile in smaller regions. For example, industry-level estimates can be affected by classification changes caused by enterprises merging. In such a case, all branches in the enterprise are classified to the predominant activity of the new enterprise. This may lead to some branches changing their industry classification. This effect has led to wholesale trade estimates for some regions showing large declines in 2003, which are offset to some extent by changes to manufacturing within the region.

Regional size and structure

The New Zealand regional economic structure is characterised by a few very large regions and numerous small regions. In 2003, Auckland accounted for 36.5 percent of total GDP, Wellington 14.8 percent, Canterbury 11.5 percent, Waikato 8.1 percent, and the 11 other regions combined accounted for 29.1 percent. Manufacturing GDP in Auckland is larger than the total GDP of each of the smallest 11 regions.

National GDP grew 19 percent from 2000 to 2003. The strongest national accounts level (see Appendix 1) industry growth from 2000 to 2003 was for petroleum, chemicals, plastic and rubber product manufacturing, which increased by 53 percent. Other high-growth industries were retail trade, which increased by 36 percent, cultural and recreational services (35 percent), and finance and insurance (33 percent).

The worst-performing industries from 2000 to 2003 were fishing, which fell 15 percent, and textiles and apparel manufacturing, which fell by 4.5 percent. Printing, publishing and recorded media increased 0.9 percent, and ownership of owner occupied dwellings increased 5 percent.

Many of the above industries were spread across all regions and had more or less the same impact on growth across the regions. Other industries, such as fishing, are concentrated in specific regions.

Agriculture and regional GDP

Agriculture is highly influential on regional GDP growth in New Zealand. The agriculture industry is significant for many regions. From 2000 to 2003 agriculture accounted for 6.3 percent of New Zealand's total GDP. The agriculture industry was the second- or third-largest industry for eight regions, and is the largest industry in

Gisborne and Southland. The only regions where agriculture is a minor industry are Auckland and Wellington.

The agriculture industry was quite volatile during the reference period. The decline in 2003 was largely due to dairy farming, as marked falls in milk prices affected the main milk-producing regions. There was also a drought in the lower western North Island which further affected milk production in Taranaki and Manawatu-Wanganui, compounding the impact of lower milk prices.

In years where the agriculture movement has a large increase or decrease, such as in 2003, this can have a large effect on regional growth. At the same time, regions such as Wellington or Auckland are little affected, so a large movement in agriculture can cause disparities in regional growth rates.

Regional results

Northland

The main industry groups in Northland in 2003 were manufacturing (15 percent), agriculture (12 percent), education, health and community services (12 percent), and ownership of owner-occupied dwellings (9 percent).

These industry groups all grew at below the national growth rate, and Northland's growth over the period was slightly below the national rate.

Auckland

The main industry groups in Auckland in 2003 were manufacturing (16 percent), business services (10 percent), wholesale trade (10 percent) and transport, storage and communication services (9 percent). Auckland's GDP accounted for 36.5 percent of New Zealand's GDP in 2003.

Auckland's GDP showed consistent annual growth over the period and was the only region to increase at a higher annual growth rate each year, with 10 percent growth in 2003.

Auckland had strong growth in many industries. The best performer from industries with GDP greater than \$1 billion was finance and insurance, which grew by 41 percent compared with 33 percent nationally.

Waikato

The main industry groups in Waikato in 2003 were manufacturing (14 percent), agriculture (13 percent), mining, construction and electricity, gas and water supply (12 percent), and education, health and community services (10 percent).

Growth was reasonably strong across most industries for Waikato (although agriculture was below average). The region's growth matched national growth over the period.

Bay of Plenty

The main industry groups in the Bay of Plenty in 2003 were manufacturing (17 percent), agriculture (10 percent) and education, health and community services (10 percent).

Bay of Plenty manufacturing grew at a rate slower than the national average, and overall growth was below the national average.

Gisborne

The main industry groups in Gisborne in 2003 were agriculture (15 percent), manufacturing (12 percent), and education, health and community services (13 percent).

The region grew for all years, but its overall growth was below the national average. Most industries in Gisborne grew at a rate below the national average. Manufacturing GDP actually declined over the period.

Hawke's Bay

The main industry groups in the Hawke's Bay in 2003 were manufacturing (26 percent), agriculture (14 percent) and education, health and community services (9 percent). Manufacturing has a larger share of GDP in Hawke's Bay than any other region.

Agriculture in Hawke's Bay increased 42 percent in the three years to 2003. This was the fastest agriculture growth of all the regions, outstripping the national increase of 23 percent. Growth in agriculture was fuelled by increases in its main commodities from 2002 to 2003 including fruit, vegetables and lambs.

Manufacturing growth was slightly ahead of the national average and Hawke's Bay overall growth was strong.

Taranaki

The mining, construction and electricity, gas and water supply industry is the largest industry group for Taranaki. This accounted for 32 percent of the region's GDP in 2003. Other large industries were manufacturing (20 percent) and agriculture (11 percent).

The region's economy is volatile. In 2001 the region grew by 23 percent, but fell by 6 percent in 2003, and over the period 2000–2003 grew at slightly below the national average.

Manufacturing grew by 58 percent over the period. The strong increase in manufacturing was partly offset by below-average growth in mining, construction and electricity, gas and water supply and agriculture. As already mentioned, agriculture growth was negative in 2003, due to a combination of poor dairy prices and drought.

Manawatu-Wanganui

The main industry groups in Manawatu-Wanganui in 2003 were education, health and community services (13 percent), manufacturing (12 percent), agriculture (11 percent) and mining, construction and electricity, gas and water supply (9 percent).

The region grew in all years, but its overall growth was below the national average. This seems to be a general result and not driven by any specific industry. Most industries in Manawatu-Wanganui grew at a rate below the national average.

Wellington

The main industry groups in Wellington in 2003 were business services (12 percent), finance and insurance (11 percent), wholesale trade (9 percent) and central and local government administration (9 percent). This is the only region where central and local government administration was greater than 5 percent of GDP.

For the first three industry groups mentioned, however, growth in Wellington was slower than the national average. Central and local government administration grew in line with the national average for that industry but that was only 13 percent growth. Wellington's overall growth was below the national average.

Tasman / Nelson

Manufacturing was the main industry group in Tasman / Nelson in 2003 (17 percent.). There was strong growth across most industries in the region.

Marlborough

The largest industry groups in Marlborough in 2003 were manufacturing (23 percent) and agriculture (11 percent).

Of Marlborough's 10 largest industry groups, seven grew by more than 20 percent over the period and grew faster than the national average. The ownership of owner-occupied dwellings industry grew by 10 percent which was also well above average for this industry. Marlborough's growth as a whole was 25 percent.

West Coast

The mining, construction and electricity, gas and water supply industry was the largest industry group for the West Coast. This accounted for 16 percent of the region's GDP in 2003. Other large industries were manufacturing (12 percent), agriculture (12 percent) and education, health and community services (10 percent).

The mining, construction and electricity, gas and water supply industry was 12 percent of the region's GDP in 2000 and increased strongly over the period. It contributed \$46 million (with a 59 percent increase) towards the \$117 million (18 percent) increase in the region's GDP from 2000 to 2003.

Canterbury

The main industry groups in Canterbury in 2003 were manufacturing (17 percent) and education, health and community services (11 percent). There are another six industry groups with GDP worth over \$1 billion in 2003.

Canterbury appears to be quite industrially diversified. This may be reflected in its consistent growth performance over time. Growth in all years was between 5.5 and 7.2 percent. Most of Canterbury's larger industries grew at faster than the national rate.

Otago

The main industry groups in Otago in 2003 were manufacturing (14 percent), education, health and community services (13 percent), mining, electricity, gas and water supply, and construction (11 percent), and agriculture (9 percent).

Otago grew strongly over the period (up 25 percent). Growth was higher than 5 percent for all years, and growth for almost all industries was equal to or faster than the national growth rate.

An exception was the education, health and community services industry which grew at a below average rate.

Southland

The main industry groups in Southland in 2003 were manufacturing (19 percent), agriculture (19 percent), and mining, construction and electricity, gas and water supply (11 percent).

Southland's GDP increased 24 percent from 2000 to 2003, even though GDP declined in 2003.

Agriculture grew 38 percent in the four years to 2003, surpassing the national average growth of 23 percent. Growth in manufacturing was below average but most other industries grew strongly over the period.

Appendix 1

Regional GDP and National Level Published Industries *Australia and New Zealand Standard Industrial Classification (ANZSIC)*

Regional GDP published industries	National Level GDP published industries (ANZSIC division or subdivision)
Agriculture	Agriculture (A01, A02)
Forestry and fishing	Forestry and logging (A03) Fishing (A04)
Mining, construction and electricity, gas and water supply	Mining (B) Electricity, gas and water supply (D) Construction (E)
Manufacturing	Food, beverage and tobacco manufacturing (C21) Textiles and apparel manufacturing (C22) Wood and paper product manufacturing (C23) Printing, publishing and recorded media (C24) Petroleum, chemicals, plastic and rubber product manufacturing (C25) Non-metallic mineral product manufacturing (C26) Metal product manufacturing (C27) Machinery and equipment manufacturing (C28) Furniture and other manufacturing (C29)
Wholesale trade	Wholesale trade (F)
Retail trade	Retail trade (G)
Accommodation, restaurants and bars	Accommodation, restaurants and bars (H)
Transport, storage and communication services	Transport and storage (I) Communication services (J)
Finance and insurance	Finance and insurance (K)
Property services	Property services (L77)
Ownership of owner-occupied dwellings	Ownership of owner-occupied dwellings
Business services	Business services (L78)
Government administration and defence	Central government administration and defence (M) Local government administration (M)
Education, health and community services	Education (N) Health and community services (O)
Cultural and recreational services	Cultural and recreational services (P)
Personal and other services	Personal and other services (Q)

GLOSSARY

National accounts definitions

Basic price

The amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable, and plus any subsidy receivable. It excludes any transport charges invoiced separately by the producer.

Compensation of employees

Total remuneration, in cash or in kind, payable by enterprises to employees. Includes contributions paid on employees' behalf to superannuation funds, private pension schemes, the Accident Compensation Corporation, casualty and life insurance schemes, and other fringe benefits.

Consumption of fixed capital

This represents the reduction in the value of the fixed assets used in production during the accounting period resulting from physical deterioration, normal obsolescence or accidental damage. It is valued at replacement cost.

Gross domestic product (GDP)

The total market value of goods and services produced in New Zealand after deducting the cost of goods and services utilised in the process of production, but before deducting allowances for the consumption of fixed capital.

Gross operating surplus

This residual item is output at producer's values, less the sum of intermediate consumption, compensation of employees, and taxes on production and imports net of subsidies. It is approximately equal to accounting profit before the deduction of depreciation, direct taxes, dividends, interest paid and bad debts, and before the addition of interest and dividends received.

GST on production

The transactions of registered producers are recorded excluding GST, while those of final consumers (including producers of exempt goods and services) are recorded at actual market prices. The potential imbalance between the value of goods and services produced and the value ultimately consumed is removed by including the item 'GST on production' in the GDP account. This item produces a measure of the amount of GST included in the valuation of the final demand categories.

Intermediate consumption

The value of non-durable goods and services used in production. Valuation is at purchaser's values.

Output

Output consists of goods and services produced within an establishment that become available for use outside that establishment, plus any goods and services produced for own final use.

Producer values

The equivalent of purchaser values (see below), reduced by the trade and transport margins for delivering the items from producer to purchaser. This effectively gives the market sales value for the producer at the factory door, farm gate, mine head, and so on. For services, the producer value is the same as the purchaser value, as services are produced and consumed at the same time.

Purchaser values

The costs in the market of goods and services on delivery to the purchaser. For services, the purchaser value is the same as the producer value, as services are produced and consumed at the same time.

Subsidies

Current unrequited payments made by governments to enterprises on the basis of the levels of their production activities or the quantities or values of the goods and services they produce, sell or import.

Taxes on production and imports

Taxes assessed on producers in respect of the production, sale, purchase and use of goods and services, and which add to the market prices of those goods and services. Includes sales tax, local authority rates, import and excise duties, fringe benefits tax, and also registration fees, such as motor vehicle registration, paid by producers.

Value-added

The value added to goods and services by the contributions of capital and labour (ie after the costs of bought-in materials and services have been deducted from the total value of output).