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Linked Employer-Employee Data: June 2007 quarter

Highlights

This release focuses on labour market dynamics for New Zealand by region.

In the year to June 2007:

- The Auckland region held one-third of all filled jobs (592,140 jobs) – more than the Canterbury (238,330 jobs) and Wellington (221,330 jobs) regions combined.
- Bay of Plenty and Hawke's Bay regions had the highest filled job growth rate (up 3.4 and 2.4 percent, respectively).
- Gisborne, Taranaki and Northland regions had the highest growth rate in earnings (up 5.8, 5.6 and 5.6 percent, respectively).

Between June 2002 and June 2007:

- Greatest growth in filled jobs was in the Northland and Waikato regions (up 19.6 and 18.9 percent, respectively).
- Northland and Gisborne regions had the greatest regional growth in earnings (up 29.8 and 26.4 percent, respectively).
- The national average quarterly worker turnover rate decreased from 17.6 percent to 17.0 percent.

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See also [Linked Employer-Employee Data: June 2007 quarter – Media release.](#)

Commentary

Overview

This release focuses on labour market dynamics by region. Region refers to the regional council of the employer, so all statistics are based on the employer's address and not the employee's.

Statistics released from LEED show continued growth in filled jobs and average mean quarterly earnings in all regions in the year to June 2007, and in the five years since June 2002. Distinctive regional results reflected the dominance of different industries in different regions.

The national annual average number of filled jobs for all regions was 1,779,330 in the June 2007 year, an increase of 1.9 percent from the June 2006 year. This was the smallest annual average percentage increase in filled jobs for a June year since the start of the LEED series. Over the five year period from June 2002, average annual filled jobs increased 16.4 percent. Annual averages represent the average quarterly level for the year to June. (For more detail on annual averages please refer to the technical notes section of this release).

The largest increases in the number of filled jobs in the year to June 2007 were in the Auckland (11,290 jobs), Wellington (5,080 jobs) and Waikato (3,530 jobs) regions. The largest percentage increases in jobs over this period were in the regions of Bay of Plenty (3.4 percent), Hawke's Bay (2.4 percent), Waikato and Wellington (both on 2.3 percent). In the five-year period to June 2007, the greatest percentage growth in filled jobs was in the regions of Northland (19.6 percent), Waikato (18.9 percent) and Bay of Plenty (18.8 percent).

Average mean quarterly earnings for all regions increased 4.4 percent in the year to June 2007, and 23.2 percent in the five years to June 2007 (to \$10,880). The Wellington (\$12,240) and Auckland (\$12,090) regions held their positions as the top two regions in terms of average mean quarterly earnings during the June 2007 year.

In the year to June 2007, Gisborne region had the largest percentage increase in earnings (5.8 percent) followed by Taranaki and Northland regions (both on 5.6 percent). The Northland region had the largest percentage increase (29.8 percent) in earnings in the five years to June 2007, with the mining, construction, and electricity, gas and water supply aggregated industry and the manufacturing industry key drivers in this growth.

In the year to June 2007, the national average quarterly worker turnover rate was 17.0 percent. This rate was down from 17.3 percent in the June 2006 year and 17.6 percent in the June 2002 year.

LEED statistics contained in this release can be accessed through Table Builder on the Statistics New Zealand website (www.stats.govt.nz).

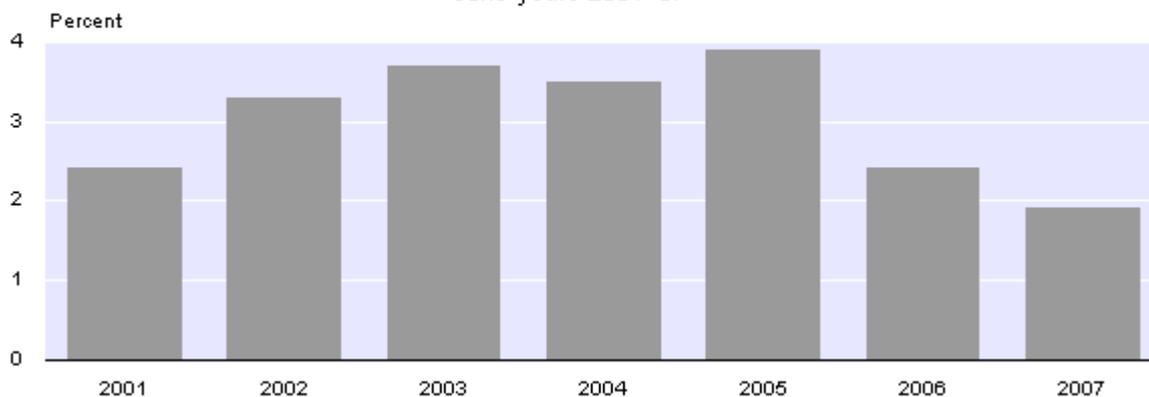
Filled jobs

The national annual average number of filled jobs was 1,779,330 in the June 2007 year, an increase of 1.9 percent (or 32,770 filled jobs) from the June 2006 year. This is the smallest annual average percentage increase in filled jobs for a June year since the start of the LEED series (in the year to June 2000). Employment growth in filled jobs during the 2001 and 2005 June years ranged from 2.4 percent (2001) to 3.9 percent (2005). Over the five-year period from June 2002, the number of average annual filled jobs increased by 16.4 percent.

Change in Average Annual Filled Jobs

All regions

June years 2001–07



Underlying the increase in filled jobs was an average of 139,670 jobs created and 130,290 jobs destroyed per quarter at the firm level, for the year to June 2007. This is equivalent to 1.07 jobs being created per quarter for every job destroyed, or an average quarterly net job change of 9,380 filled jobs. Job creation refers to jobs created in firms that are expanding or starting up, and job destruction refers to jobs destroyed in firms contracting or shutting down. For further explanation of these terms, please refer to the technical notes.

Filled jobs by region

Auckland region had the most filled jobs (592,140 jobs), followed by the Canterbury (238,330 jobs) and Wellington (221,330 jobs) regions, in the year to June 2007. Together, these three regions accounted for more than half (59.1 percent) of all filled jobs in New Zealand. Auckland region held a greater number of filled jobs than any other region in all industries, with the exception of agriculture, forestry and fishing (Waikato) and government administration and defence (Wellington).

Nationally, the largest numbers of filled jobs for the year to June 2007 were in the property and business services (243,240), manufacturing (234,850), and retail trade (218,550) industries. The property and business services industry was the largest employer in the Auckland and Wellington regions. In the regions of Waikato, Hawke's Bay, Taranaki, Canterbury and Southland and the combined regions of Tasman, Nelson, Marlborough and West Coast, the greatest numbers of filled jobs were in the manufacturing industry.

In Northland, Bay of Plenty, Manawatu-Wanganui and Otago, the retail trade industry was the largest employing industry, while the Gisborne region was distinctive in having the highest level of filled jobs in the agriculture, forestry and fishing industry. This is a similar pattern to the June 2006 year, with the exception of the Manawatu-Wanganui region, where retail trade overtook the manufacturing industry to become the largest employer in the year to June 2007.

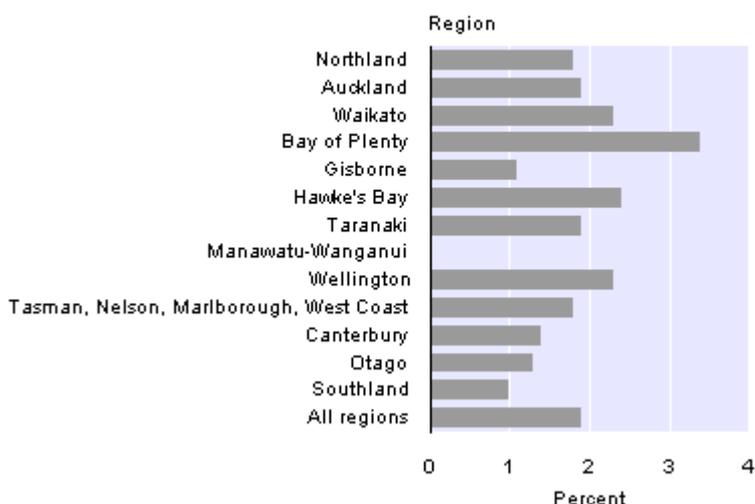
Auckland, Wellington and Waikato regions experienced the greatest increase in the total number of filled jobs with 11,290, 5,080 and 3,530 additional filled jobs respectively, in the year to June 2007. The greatest increase in filled jobs over this period was in the property and business services industry for the Auckland and Waikato region, and government administration and defence for the Wellington region. The greatest percentage increase in all three regions was in the mining, construction, and electricity, gas and water supply aggregation.

In the five-year period from June 2002 Auckland, Canterbury and Waikato regions experienced the greatest increase in total filled jobs up 93,390, 32,570 and 24,600, respectively. For all three regions, the greatest increase in filled jobs over this period was in the property and business services, followed by the mining, construction, and electricity, gas and water supply aggregated industry. The greatest percentage increase in all three regions was in the mining, construction, and electricity, gas and water supply aggregation.

In percentage terms, the greatest growth in filled jobs within a region, for the year to June 2007, was in Bay of Plenty (3.4 percent), Hawke's Bay (2.4 percent), Waikato (2.3 percent) and Wellington (2.3 percent). The greatest increase in filled jobs for the Bay of Plenty region during this period was in the agriculture, forestry and fishing industry, with 1,110 jobs (11.1 percent increase).

Change in Average Number of Filled Jobs

By region
June years 2006-07



In the five-year period to June 2007, the greatest percentage growth in filled jobs was in the Northland (19.6 percent), Waikato (18.9 percent) and Bay of Plenty (18.8 percent) regions. The greatest increase in filled jobs in the Northland region over this period was in the mining, construction, and electricity, gas and water supply industry with 1,700 jobs (up 62.0 percent).

Worker turnover rates

The worker turnover rate is a measure of worker stability. The worker turnover rate is calculated as the average number of workers that have either moved into employment (accessions) or out of employment (separations) as a proportion of the average job total. The average quarterly worker turnover rate for the year is the average of the turnover rates for four consecutive quarters. It is influenced by a number of factors including seasonality and market trends, which cause some firms to start up or expand operations and other firms to contract or close altogether.

In the year to June 2007, the national average quarterly worker turnover rate was 17.0 percent. This is lower than the June 2006 worker turnover rate of 17.3 percent, and the June 2002 year rate of 17.6 percent. In the year to June 2007, an average of 307,230 employees per quarter began work with a new employer and 297,850 left an employer.

In the year to June 2007, five regions had average quarterly worker turnover rates lower than the national average. These regions were Canterbury (16.6 percent), Auckland (16.2 percent), Manawatu-Wanganui (16.0 percent), Taranaki (16.0 percent), and Wellington (15.3 percent). Gisborne recorded the highest worker turnover rate (21.1 percent) due to the high proportion of jobs in the agriculture, forestry and fishing industry, an industry that is characterised by short-term seasonal work.

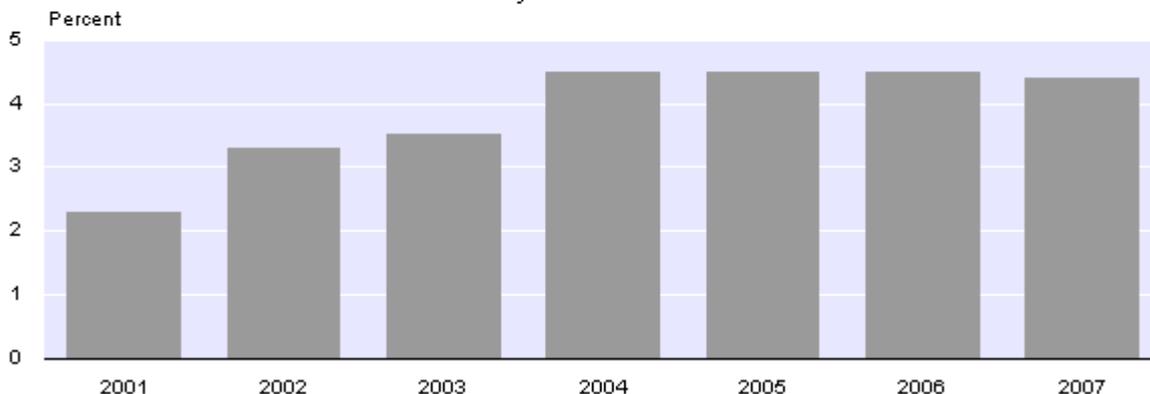
Earnings

Earnings for full-quarter jobs

Average national mean quarterly earnings for full-quarter jobs in the June 2007 year were \$10,880. This is a 4.4 percent increase from the June 2006 year and a 23.2 percent increase from the June 2002 year. Annual percentage increases in earnings for the June years grew quickly from 2001 (2.3 percent) to 2004 (4.5 percent), but have since stabilised to between 4.4 and 4.5 percent in the June 2004 to 2007 years.

Change in Average Mean Quarterly Earnings

All regions
June years 2001–07

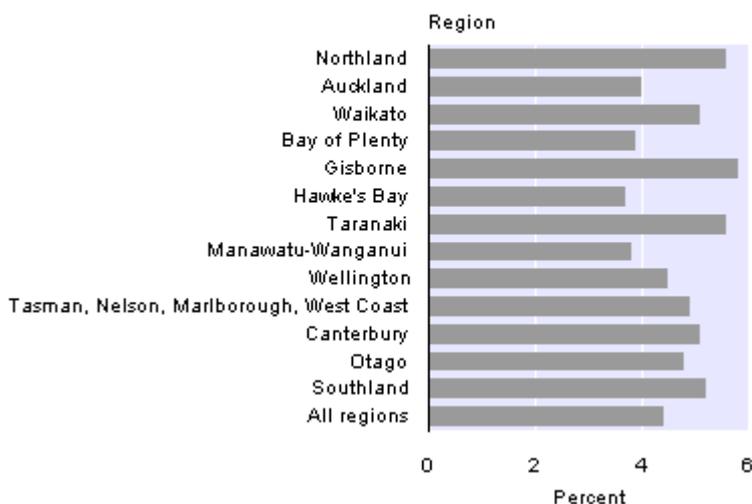


Gisborne, Taranaki and Northland were the top three regions in terms of earnings growth for full-quarter jobs in the year to June 2007, with growth rates of 5.8 percent, 5.6 percent and 5.6 percent, respectively. The agriculture, forestry and fishing industry was the key driver of the one-year growth in Gisborne and manufacturing was the key driver of growth in the Taranaki region. The health and community services and property and business services industries were key drivers of the growth in the Northland region.

Change in Average Mean Quarterly Earnings

By region

June years 2006–07



During the five years from June 2002 to June 2007, the regions with the highest earnings growth for full-quarter jobs were Northland (29.8 percent), Gisborne (26.4 percent), and Canterbury and Otago (both with 25.6 percent). The combined mining, construction, electricity, gas and water supply industries, the manufacturing, and the health and community services industries were the key drivers of the five-year growth in the Northland and Gisborne regions. The property and business services, and the combined mining, construction, electricity, gas and water supply industries were key drivers of five-year growth in the Canterbury and Otago regions.

Wellington (\$12,240) and Auckland (\$12,090) have continued their positions as the top two regions in terms of average mean quarterly earnings for full-quarter jobs in the June 2007 year. This can be partly explained by the higher mean earnings paid in these regions in the property and business services industry, and the higher proportion of jobs in this relatively high-paying industry in these regions compared with the rest of New Zealand. The higher mean earnings paid in both the property and business services and the government administration and defence industries, and the relatively high proportion of jobs in these higher-paying industries, explain Wellington's position as the region with the highest average mean earnings.

Earnings for continuing jobs and new hires

Continuing jobs and new-hire jobs are two subsets of full-quarter jobs. An employee has a continuing job if they have been with the same employer continuously over the current and previous quarter. A new hire is an employee who has been with the same employer continuously for the current quarter, but began the job sometime in the previous quarter. For further explanation of these two terms, please see the technical notes.

The average national mean quarterly earnings for continuing jobs in the June 2007 year was \$11,350. This is an increase of 4.4 percent from the June 2006 year, and a 23.4 percent increase over the five-year period from June 2002. In the June 2007 year, the average national mean quarterly earnings for new hires was \$8,190. This is an increase of 4.2 percent from the June 2006 year, and a 20.1 percent from the June 2002 year.

The top three regions during the June 2007 year in terms of earnings growth for continuing jobs were Gisborne, Northland and Taranaki, with 5.9 percent, 5.3 percent and 5.2 percent, respectively. Earnings growth for new hires was highest in the Canterbury region, the Tasman, Nelson, Marlborough and West Coast aggregation, and the Taranaki region, with 7.2 percent, 6.6 percent and 5.8 percent, respectively. While Gisborne had the highest one-year growth in earnings for continuing jobs, it was the region with the smallest one-year earnings growth for new hires with 0.8 percent.

During the five years from June 2002 to June 2007, earnings growth for both continuing jobs (29.7 percent) and new hires (28.7 percent) was highest in Northland region. Northland was followed by Gisborne and Otago regions for continuing jobs (up 25.9 and 25.7 percent, respectively) and Taranaki, Manawatu-Wanganui and Canterbury regions for new hires (up 28.0, 26.2 and 26.2 percent, respectively).

As expected, the Wellington and Auckland regions had the highest average mean quarterly earnings for continuing jobs (\$12,750 and \$12,610, respectively) and new hires (\$9,060 and \$9,040, respectively), in the June 2007 year. Waikato region had the third-highest average mean quarterly earnings for continuing jobs (\$10,650), and Taranaki region the third-highest average mean quarterly earnings for new hires (\$8,210).

Mean earnings ratio

A mean earnings ratio can be calculated by taking new-hire earnings as a percentage of continuing job earnings. Over time, an increasing ratio of new to continuing jobs would suggest that firms were using earnings to attract new-hire labour. Conversely, a decreasing mean earnings ratio would suggest that firms are using earnings to retain labour.

The average national quarterly mean earnings ratio for the June 2007 year remained the same as the previous year at 72.3 percent. The ratio decreased from 74.2 percent to 72.3 percent between the June 2002 and June 2007 years indicating an overall emphasis on staff retention.

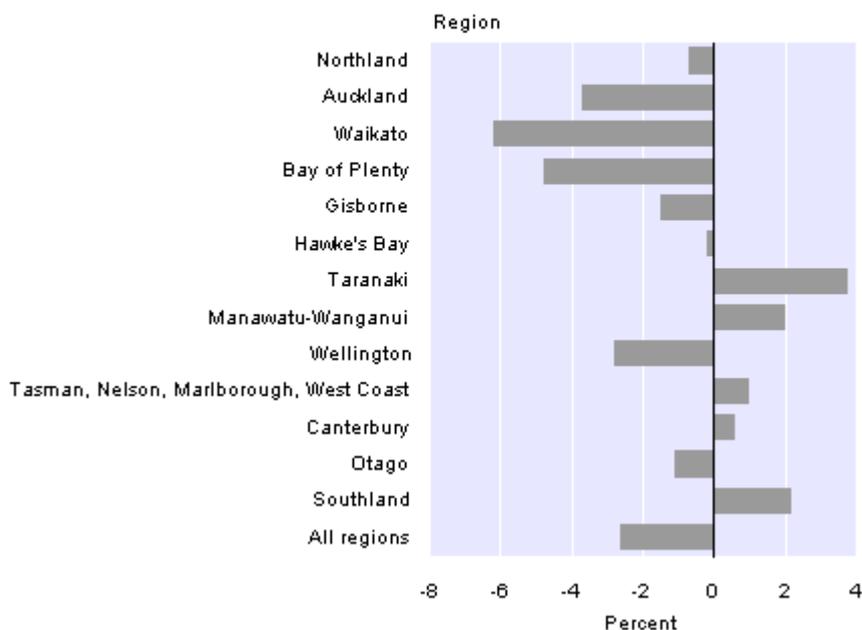
In the June 2007 year, Taranaki region had the highest average quarterly mean earnings ratio (77.1 percent), followed by Southland (76.0 percent) and Northland (74.9 percent) regions. Wellington region had the lowest average quarterly mean earnings ratio (71.2 percent), followed by Otago (71.4 percent) and Gisborne (71.6 percent) regions.

In the year to June 2007, Canterbury region had the greatest increase in the average quarterly mean earnings ratio, moving from 71.0 percent to 72.6 percent. Gisborne region had the greatest one-year decrease, moving from 75.2 percent to 71.6 percent. Between the June 2002 and June 2007 years, Taranaki region had the greatest increase in the average quarterly mean earnings ratio, moving from 74.2 percent to 77.1 percent. Waikato region had the greatest five-year decrease, moving from 77.3 percent to 72.5 percent.

Change in Average Mean Quarterly Earnings Ratio

By region

June years 2002–07



The big three: A feature on the Auckland, Wellington and Canterbury regions

Filled jobs

The Auckland, Canterbury and Wellington regions combined account for more than half (59.1 percent) of all filled jobs in New Zealand in the June 2007 year. The Auckland region accounted for one-third of all filled jobs in New Zealand (33.3 percent or 592,140 jobs). This was more than the Canterbury (13.4 percent or 238,330 jobs) and Wellington (12.4 percent or 221,330 jobs) regions put together.

For the year to June 2007, the three biggest industries nationally were property and business services, manufacturing, and retail trade. By region, these three industries contributed to 43.3 percent of total filled jobs in the Auckland region, and 39.8 percent in the Canterbury region. In the Wellington region property and business services, retail trade and government administration and defence were the three biggest industries and together made up 39.9 percent of all filled jobs in the region.

The Wellington region surpassed the national annual average percentage increase in filled jobs in the years to June 2006 and 2007. The Auckland region consistently surpassed the national average in the June 2003 to 2006 years. In the year to June 2007 both the Auckland and Canterbury regions experienced the smallest annual average increase in filled jobs for a June year since the start of the LEED series.

Change in Average Number of Filled Jobs

By selected region

June years 2001–07



Wellington had the strongest growth in filled jobs of the three regions in the year to June 2007, with a 2.3 percent annual average increase, higher than the national average of 1.9 percent. This compares with an increase of 1.9 percent for the Auckland region and 1.4 percent for the Canterbury region. Over the five-year period from June 2002, the average annual number of filled jobs increased 18.7 percent for Auckland, 15.8 percent for Canterbury and 12.5 percent for Wellington. This compares to a national average increase of 16.4 percent.

The greatest increase in the number of filled jobs for the Auckland and Canterbury regions were in the property and business services, and the mining, construction, and electricity, gas and water supply industries. For the Wellington region, the greatest increases were in the government administration and defence and the mining, construction, and electricity, gas and water supply industries. Growth in the mining, construction, and electricity, gas and water supply industry over this period was largely due to the increase in filled jobs in the construction industry.

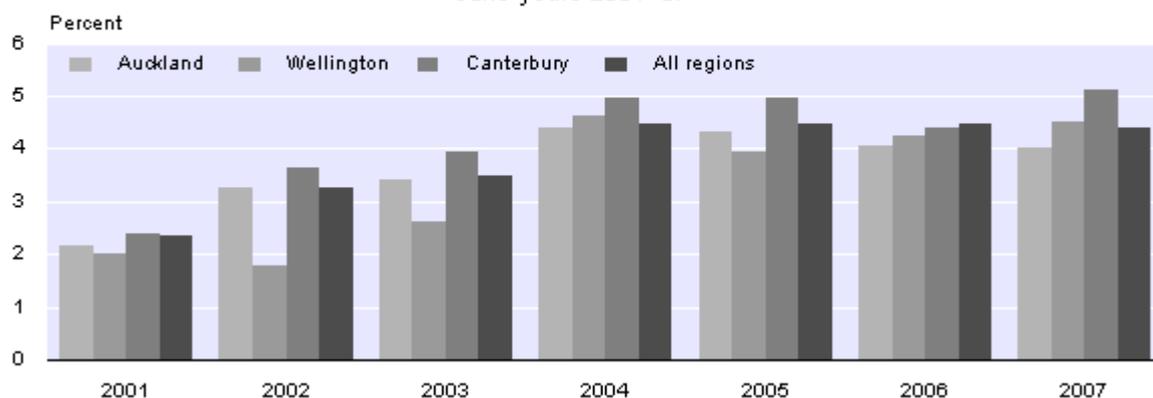
Earnings

Wellington, followed by Auckland, has consistently been the region with the highest average mean quarterly earnings for full-quarter jobs. The Canterbury region has consistently been ranked fifth after Taranaki and Waikato. In the June 2007 year, average mean earnings for full-quarter jobs were \$12,240 in the Wellington region, \$12,090 in the Auckland region, and \$10,080 in the Canterbury region. The Wellington and Auckland regions are the only two regions with average mean quarterly earnings for full-quarter jobs above the national average.

In the year to June 2007 the Canterbury region experienced the greatest percentage increase in average mean quarterly earnings for full-quarter jobs (5.1 percent), followed by Wellington (4.5 percent) and Auckland (4.0 percent). This compared with a national average of 4.4 percent. The annual rate of growth in average mean earnings for the Canterbury region has been above the national average in all years except the year to June 2006. The Auckland region has been within 0.1 percent of the national average up until the year to June 2005. Since then it has continuously been below the national average. The Wellington region was above the national average in the year to June 2004 and the year to 2007.

Change in Average Mean Quarterly Earnings

By selected region
June years 2001–07



In the five years to June 2007 the Canterbury region experienced the greatest percentage increase in average mean quarterly earnings for full-quarter jobs (25.6 percent), followed by Auckland (21.8 percent) and Wellington (21.6 percent). This compared with a national average of 23.2 percent. The key drivers of this increase in average earnings during this five-year period were, for the Auckland and Canterbury regions, property and business services, and mining, construction, and electricity, gas and water supply, and for the Wellington region, government administration and defence and property and business services.

In the year to June 2007, the finance and insurance industry was the highest-paying industry in the Auckland, Wellington and Canterbury regions, with average mean earnings of \$19,080, \$18,550 and \$14,420, respectively.

Worker turnover rates

Wellington (15.3 percent), Auckland (16.2 percent) and Canterbury (16.6 percent) all had worker turnover rates lower than the national average of 17.0 percent. All three regions have consistently been below the national average, with Wellington continuously having the lowest worker turnover rate overall, due to the high proportion of jobs in the government administration and defence industry, an industry which is characterised by a low worker turnover rate.

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Next release ...

Linked Employer-Employee Data: September 2007 quarter will be released on
20 November 2008.

Technical notes

Background

Official quarterly statistics produced from the Linked Employer-Employee Data (LEED) measures labour market dynamics at various levels including industry, regional, territorial authority, firm size and sex and age, providing an insight into the operation of New Zealand's labour market. Statistics New Zealand releases other official labour market statistics that show changes in employment at an aggregate level. Statistics from LEED, such as job and worker flows, help to explain what causes these aggregate movements and are therefore useful for explaining changes in the labour market.

The LEED series is available from the June 1999 quarter. The release of statistics in February 2006 provided a back series of data from the June 1999 quarter to the December 2004 quarter. Some caution should be taken in interpreting this back series, as it was produced using historical data with reduced ability to correct for inaccuracies in the source data. Quarterly statistics have been produced for each subsequent quarter up to and including the latest quarter shown in this release.

Annual averages for the year are discussed throughout this release. An annual average represents the average quarterly level for the year. Additionally, filled jobs and worker flow statistics have been rounded using graduated random rounding; and earnings statistics have been rounded to base 10 or base 100 for confidentiality purposes. LEED statistics are affected by seasonal variations such as production cycles, school years, and processing procedures associated with the source data. A detailed guide to interpreting the data is available from the [Statistics NZ website](#).

Data sources

The LEED dataset is created by linking a longitudinal employer series from the Statistics NZ Business Frame to a longitudinal series of Employer Monthly Schedule (EMS) payroll data from Inland Revenue.

The Inland Revenue dataset is collected for the purpose of administering New Zealand's taxation system. It consists of data from EMS and contains details of earnings, tax type and tax deducted. It does not contain any information relating to the number of hours worked for those earnings.

The Business Frame is a regularly maintained list of all economically significant businesses and organisations (greater than \$30,000 turnover) engaged in the production of goods and services in New Zealand. Its main use is to select businesses for participation in Statistics NZ's surveys. Information derived from the Business Frame includes:

- industry
- sector (private or public)
- the number of geographical units (physical locations)
- the count of employees at each geographical unit
- the ownership structure of the business.

Historically, the Business Frame was based on and updated from annual survey questionnaires. Since 2002, the coverage of the Business Frame has been extended to include more businesses, and its employment information has been maintained using monthly tax data.

Although the Business Frame represents a rich source of information on businesses and their structures, a number of practical limitations remain that affect its use in the LEED system.

Examples include:

- possible time delays in adding new businesses to the Business Frame and recording businesses that have ceased trading
- the Business Frame practice of transferring geographical units between businesses at the time of legal changes in ownership rather than at the time the initial administrative unit ceases to file an EMS.

The base data received from LEED is of high quality, but cleaning, transformation and integration processes are required before robust official statistics can be produced. This is necessary because these datasets are collected for different purposes and are not primarily designed for the production of statistics. Integration processes are required to merge the two sources, as the datasets are constructed differently. One of these processes allocates jobs from an IRD number to geographical units or physical locations associated with that employer.

There is a very small amount of non-sampling error present in the base data or arising from LEED processes. This is negligible at aggregate levels but can affect statistics for small categories, eg mean earnings results for small territorial authorities (TAs), regions or industrial categories. A direct measure of the error is not available, but some caution should be exercised in interpreting statistics based on relatively small numbers of people.

It is important to note that Statistics NZ surveys are specifically designed to collect the data required, and the information requested is targeted to the desired measures. In comparison, the LEED measures are limited by the characteristics of the base data.

Privacy, security and confidentiality

Statistics NZ and Inland Revenue have an agreement that governs the transfer of tax data for statistical purposes. This process is carried out under section 81(4)(d) of the Tax Administration Act 1994. Inland Revenue data is encrypted prior to transmission and decrypted upon arrival into Statistics NZ. Unique identifiers (IRD numbers) are individually encrypted and names and addresses removed from the Statistics NZ analytical environment. The raw data from Inland Revenue is stored on a separate server from the cleaned (unidentified) data, and both these servers are separate from those used for the rest of the organisation. All servers and back-up tapes are held under Statistics NZ's highest level of physical security. Access to the data is strictly limited and controlled.

LEED consists of unit record data that is used to produce official statistics and support statistical research. Any information released is in the form of summary statistics or statistical research. No information is released from the data that would allow for the identification of any individual or business. The categories for data release are established so that each cell in a table complies with Statistics NZ confidentiality rules.

LEED is used only for statistical purposes. The data is not available for operational or administrative purposes. In keeping with this policy, Inland Revenue provides data to Statistics NZ but Statistics NZ does not provide data back to Inland Revenue. Any amendments made by Statistics NZ to the Inland Revenue data during processing are for statistical purposes and are not fed back to Inland Revenue.

Population

LEED covers all individuals ('employees') who receive income from which tax is deducted at source. These payments are made by organisations that are registered with Inland Revenue. Note that the data from LEED includes social assistance payments such as paid parental leave, student allowances, benefits, pensions and Accident Compensation Corporation (ACC) payments, although these are excluded from the quarterly measures. For confidentiality purposes, some individuals are withheld from the data provided to Statistics NZ by Inland Revenue.

In LEED, the employer is the geographical unit or physical location of the business rather than the administrative reporting unit. For example, a nationwide retail chain may have one Inland Revenue reporting unit covering all of its retail branches. In LEED, each branch is considered to be a distinct employer. This approach has been taken to allow regional, and now TA level, statistics to be produced. It also ensures that LEED is comparable with similar international statistics.

The fundamental basis of the LEED quarterly measures is 'jobs'. A job is defined as a unique employer-employee pair present on an EMS in the reference quarter.

For inclusion in the LEED quarterly statistics the job must:

- relate to a person 15 years of age and over
- have PAYE tax deducted at source
- be in relation to 'paid employment' rather than a social assistance payment
- have a valid IRD identifier.

An exception is the total earnings measure, which includes all jobs with PAYE tax deducted at source (irrespective of age and IRD identifier) except for those relating to social assistance payments.

It should be noted that a small number of working proprietors, partners or other self-employed choose to pay their income tax at source and have not been separated from the 'true' jobs.

Definitions of measures

The following table provides the definitions for each measure in the tables included in this release and also those available from the Statistics NZ website. Other necessary definitions are:

- The calendar year is divided into four quarters of three months and is referred to as quarter one through to four. The latest quarter is the 'reference quarter'.
- The 'reference date' is the 15th of the middle month of the reference quarter.
- 'Full-quarter jobs' are jobs that exist continuously over the reference quarter.
- All earnings measures represent quarterly earnings.
- All earning measures are inclusive of tax.
- All earnings measures include payments reported as lump sums to Inland Revenue.

Definition of measures	
Measure	Description
Total filled jobs	The number of jobs on the 15th of the middle month of the reference quarter.
Accessions	The number of new employees who have joined employers since the previous reference date.
Separations	The number of employees who have left employers since the previous reference date.
Worker turnover rate	The ratio of the average of the total accessions and separations to the average of the total jobs in the reference quarter (t) and the previous quarter (t-1), as represented in the formula: $\frac{(\text{Accessions} + \text{Separations})/2}{(\text{Jobs}(t) + \text{Jobs}(t-1))/2}$
Job creation	The number of jobs created, since the previous reference date, when businesses expand or start up. For example, a business employing 100 workers with 10 accessions and five separations has job creation of five.
Job destruction	The number of jobs lost, since the previous reference date, when businesses contract or shut down. For example, a business employing 100 workers with five accessions and 15 separations has job destruction of 10.
Mean/median earnings	Mean or median earnings of all full-quarter jobs.
Mean/median earnings for continuing jobs	Mean or median earnings for jobs that were full-quarter in the reference and previous quarters.
Mean/median earnings for new hires	Mean or median earnings for jobs that were full-quarter in the reference quarter and began sometime in the previous quarter, but were not present in the four previous quarters.
Mean/median earnings ratio	The ratio of the mean or median earnings for new hires to the mean or median earnings for continuing jobs.
Total earnings	The sum of all earnings paid in the reference quarter, including employees with invalid IRD identifiers and individuals under 15 years of age.

Accessions, separations and worker turnover rate

The worker turnover rate is calculated using the counts of accessions and separations, which are defined using the reference date concept. Other workers may join and leave during the reference quarter but not be present at either reference date. These workers are not included in the counts of accessions or separations and are therefore excluded from the worker turnover rate.

The worker turnover rate is calculated at the geographic unit level, not the enterprise level. This means that employees who transfer between geographic units within an enterprise will be counted as accessions and separations.

Annual job creation and destruction

Annual job creation and destruction figures are currently not part of the official set of LEED quarterly statistics. The quarterly job creation and destruction statistics have been designed to explain the change in aggregate jobs between two specific points in time – the 15th of the middle month of the reference quarter and the 15th of the middle month of the previous quarter. They compare job levels at each geographic unit on these two dates. Changes in job levels between these two dates are not included in the statistics.

Some users may attempt to produce annual job creation and destruction figures by summing together four quarters of data. This approach is not recommended. Instead Statistics NZ recommends averaging the quarterly job creation and destruction statistics over the year (which is the approach taken in LEED quarterly publications). Estimates of annual job creation and destruction are available on request. They will be incorporated in the LEED Table Builder statistics in the future, and produced on the same basis as the quarterly series, by comparing employers' job levels between two snapshots a year apart. This method produces significantly less job creation or destruction than adding together four quarters worth of data. Summing quarterly job creation and destruction figures can be seen as overstating permanent job creation and destruction by including seasonal and temporary variations in employment. A similar argument can be made against summing four quarters of worker accessions and separations to produce annual worker flow statistics. However, conceptually it is more appropriate to include seasonal or temporary factors when measuring these worker flows.

Net job change

The difference between the counts of job creation and job destruction (job flows) is equal to the total change in jobs at the aggregate level, the net job change. Job flows reveal the amount of job turnover at the business level underlying the net job change. Similarly, the difference between the counts of accessions and separations (worker flows) is also equal to the net job change. Worker flows reveal the turnover of individual employees underlying the net job change.

These relationships do not necessarily hold for subnational breakdowns. Businesses and individuals may change characteristics such as industry or age group over time. This causes a change in the total jobs for that characteristic but does not affect the job or worker flows.

Continuing jobs and new hires

An employee has a continuing job if they have been with the same employer continuously over the current and previous quarter. A new hire is an employee who has been with the same employer continuously for the current quarter but began the job sometime in the previous quarter. New hires must not have been employed with the same employer in the 12 months prior to the job start date. As a result, seasonal staff and employees who have been rehired within this time period are excluded from new hires.

Patterns in the data

The counts of job creation and destruction, and worker accessions and separations, show an obvious seasonal pattern. This pattern is caused by the annual update of employee counts on the Business Frame, resulting in larger counts of destruction and creation in one quarter than in the other three.

This seasonal pattern changes from the March 2003 quarter. This change is caused by the implementation of a programme to improve the Business Frame maintenance practices and a consequent change in LEED methodology. Methods are being investigated to minimise the changes caused by administrative updating processes.

Compositional changes

Movements in mean earnings statistics are influenced not only by changes in employees' remuneration, such as changes in wage rates, salaries and hours worked, but also by changes in the composition of the paid workforce from period to period. Compositional changes include variations in relative numbers of males and females, full- and part-time employment, and employment in different industries or within industries.

Dimensions available

Dimensions available on Table Builder on the Statistics NZ website (on an ongoing basis) are:

- quarter
- industry of employer
- region of employer
- sex of employee
- age of employee
- firm size
- sector of employer – private of public institutional sector of ownership
- territorial authority of employer.

The regional statistics refer to the regional council of the employer, meaning that all statistics are based on the employer's address and not the employee's. Regional Statistics are compiled from 16 regions:

- Northland
- Auckland
- Waikato
- Bay of Plenty
- Gisborne
- Hawke's Bay
- Taranaki
- Manawatu-Wanganui
- Wellington
- Tasman
- Nelson
- Marlborough
- West Coast
- Canterbury
- Otago
- Southland.

For confidentiality purposes, this release combines data for the Tasman, Nelson, Marlborough and West Coast regions.

The firm size dimension refers to the size of the business at an enterprise level, not at the geographic unit level. Firm size is based on the employee count on the 15th of the middle month in the quarter of interest.

The TA statistics are compiled from 72 TAs, which cover 16 city councils and 56 district councils. Data from the Chatham Islands territory have been included in estimates for Christchurch city to reduce the impact of errors for a small population. For confidentiality reasons, data from TAs that overlap regional boundaries have been modified by adding the sensitive portion of the overlapping TA to a neighbouring TA in the same region.

There are six modified TAs:

- Waitomo district
- Taupo district
- Whakatane district
- Hastings district
- Ruapehu district
- Rangitikei district.

The allocation of jobs to a particular TA is carried out on the basis of the employer's address on the Business Frame. Therefore, all TA level statistics are based on the employer's address and not the employee's.

The job creation, job destruction and total earnings measures cannot be generated for age or sex dimensions. This is because job flows are calculated at the geographic unit level, and the total earnings measure includes those with invalid IRD identifiers that have no age or sex classification.

The figures in the tables have been rounded, and discrepancies may occur between sums of components and totals. Some businesses are not able to be assigned to an industry. This contributes to the difference between the New Zealand totals and the sum of the industry totals for the earnings, jobs, and job and worker flow measures. All businesses are associated with a region and TA, and therefore the difference between the New Zealand totals and the sum of the region or TA totals for these measures is small.

The level estimates for the TA table should not be compared with other tables from the beginning of the time series to the September 2004 quarter. This is due to a method of calculation difference in the back data that will be resolved at a future date.

ANZSIC06 in the next quarterly release

ANZSIC06 will be the basis of aggregated industry data in the September 2007 quarterly release and subsequent releases. ANZSIC 2006 (or ANZSIC06) is the latest edition of the Australian and New Zealand Standard Industrial Classification. The 1996 version of ANZSIC (ANZSIC96), used in industry outputs in the current and previous releases, will be updated to the 2006 edition. Note that industry outputs defined using ANZSIC06 are not comparable with those based on ANZSIC96. ANZSIC06 outputs for the entire LEED quarterly series (back to June 1999) will be made available in the next release, and ANZSIC96 industry aggregations will continue for one year. The release of ANZSIC06 followed a review that involved consultation with government agencies responsible for policy formulation and administration, non-government analysts of industry structure and performance, and industry experts. The changes to ANZSIC ensure the classification is current and relevant, reflecting changes in the structure and composition of industry since the previous edition, and recognises changing user requirements for industry data. ANZSIC06 is to progressively move into Statistics New Zealand collections in the five years from 2006. More information can be found at www.stats.govt.nz. A concordance mapping 6-digit ANZSIC06 to industry output categories that will be used in future LEED quarterly releases is available on request.

Frequency of outputs

LEED job measures are generated as a quarterly series, although tax data is received monthly. This is done to reduce volatility caused by the variable number of pays per month and to ensure comparability with other statistics.

Timing of the measures

LEED measures are produced as counts of jobs at a point in time, or means and medians of earnings for jobs existing for a full quarter.

Counts of jobs or workers are taken on the 15th of the middle month of the quarter.

Measures relating to means and median earnings are produced using the full-quarter concept. A disadvantage of the point-in-time approach is that the earnings for a job relate to the entire month regardless of the actual days worked. Therefore, mean or median earnings statistics per job produced under this concept would include people who worked one day (or even one hour) in the month with people who worked all month.

The total earnings measure uses neither the point-in-time nor the full-quarter concept, and is instead, a simple sum of all earnings paid out at any time in the reference quarter.

Time frame for production

The timeliness of LEED is dependent on a number of factors:

- Employers take time to complete their EMS schedules and supply them to Inland Revenue
- Inland Revenue requires time for processing and supply to Statistics NZ
- Statistics NZ requires further time for receipt, data transformation and the production of output data
- The derivation of full-quarter outputs requires data for an additional quarter after the reference quarter.

In addition, late returns and updates are received in LEED well after the end of the reference period. These can distort the measures produced, particularly the estimates of change.

LEED statistics are therefore published 12 months after the reference quarter. A delay of this length ensures that the actual value is sufficiently close to the real value to release. The statistics are then revised with updates from Inland Revenue for an additional two quarters. Updates after this stage have an immaterial impact on the statistics; therefore, 18 months after the reference quarter, the data is considered final and subsequent updates from Inland Revenue are ignored.

More information

For more information, follow the [link](#) from the Technical notes of this release on the Statistics New Zealand website.

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Timing

Timed statistical releases are delivered using postal and electronic services provided by third parties. Delivery of these releases may be delayed by circumstances outside the control of Statistics NZ. Statistics NZ accepts no responsibility for any such delays.

Tables

The following tables are printed with this Hot Off The Press and can also be downloaded from the Statistics New Zealand website in Excel format. If you do not have access to Excel, you may use the [Excel file viewer](#) to view, print and export the contents of the file.

1. Average job, worker flows, and mean earnings, by region.

Supplementary tables

The following tables can be downloaded from the Statistics New Zealand website in Excel format. If you do not have access to Excel, you may use the [Excel file viewer](#) to view, print and export the contents of the file.

- 1.01 New Zealand – earnings, job and worker flows
- 2.01 Agriculture, forestry and fishing – earnings, job and worker flows
- 2.02 Mining – earnings, job and worker flows
- 2.03 Manufacturing – earnings, job and worker flows
- 2.04 Electricity, gas and water supply – earnings, job and worker flows
- 2.05 Construction – earnings, job and worker flows
- 2.06 Wholesale trade – earnings, job and worker flows
- 2.07 Retail trade – earnings, job and worker flows
- 2.08 Accommodation, cafes and restaurants – earnings, job and worker flows
- 2.09 Transport and storage – earnings, job and worker flows
- 2.10 Communication services – earnings, job and worker flows
- 2.11 Finance and insurance – earnings, job and worker flows
- 2.12 Property and business services – earnings, job and worker flows
- 2.13 Government administration and defence – earnings, job and worker flows
- 2.14 Education – earnings, job and worker flows
- 2.15 Health and community services – earnings, job and worker flows
- 2.16 Cultural and recreational services – earnings, job and worker flows
- 2.17 Personal and other services – earnings, job and worker flows
- 3.01 Northland region – earnings, job and worker flows
- 3.02 Auckland region – earnings, job and worker flows
- 3.03 Waikato region – earnings, job and worker flows
- 3.04 Bay of Plenty region – earnings, job and worker flows
- 3.05 Gisborne region – earnings, job and worker flows
- 3.06 Hawke’s Bay region – earnings, job and worker flows
- 3.07 Taranaki region – earnings, job and worker flows
- 3.08 Manawatu-Wanganui region – earnings, job and worker flows
- 3.09 Wellington region – earnings, job and worker flows
- 3.10 Tasman region – earnings, job and worker flows
- 3.11 Nelson region – earnings, job and worker flows
- 3.12 Marlborough region – earnings, job and worker flows
- 3.13 West Coast region – earnings, job and worker flows
- 3.14 Canterbury region – earnings, job and worker flows
- 3.15 Otago region – earnings, job and worker flows
- 3.16 Southland region – earnings, job and worker flows

Linked Employer-Employee Data: June 2007 quarter

Table 1

Average Job, Worker Flows and Mean Earnings⁽¹⁾

By region

Year ended June 2007⁽²⁾

Region	Filled jobs ⁽³⁾			Job creation	Job destruction	Worker turnover rate (percent)	Quarterly mean earnings ⁽⁴⁾		
	Number	Percent change from 2006	Percent change from 2002				(\$)	Percent change from 2006	Percent change from 2002
Northland	50,350	1.8	19.6	4,640	4,360	18.2	9,680	5.6	29.8
Auckland	592,140	1.9	18.7	41,100	37,850	16.2	12,090	4.0	21.8
Waikato	154,420	2.3	18.9	12,810	12,190	17.6	10,190	5.1	25.1
Bay of Plenty	103,180	3.4	18.8	10,810	9,790	20.3	9,660	3.9	22.2
Gisborne	17,850	1.1	9.8	1,960	1,920	21.1	9,130	5.8	26.4
Hawke's Bay	64,850	2.4	15.0	6,630	6,070	20.0	9,450	3.7	23.1
Taranaki	43,830	1.9	15.3	3,450	3,140	16.0	10,300	5.6	24.3
Manawatu-Wanganui	93,470	0.0	11.1	6,930	7,140	16.0	9,450	3.8	24.2
Wellington	221,330	2.3	12.5	14,790	13,530	15.3	12,240	4.5	21.6
Tasman, Nelson, Marlborough, West Coast	69,980	1.8	16.7	6,590	6,200	19.2	9,360	4.9	25.1
Canterbury	238,330	1.4	15.8	18,140	17,020	16.6	10,080	5.1	25.6
Otago	89,060	1.3	16.6	7,970	7,450	19.1	9,580	4.8	25.6
Southland	40,560	1.0	8.0	3,850	3,660	17.8	9,490	5.2	20.2
Total	1,779,330	1.9	16.4	139,670	130,290	17.0	10,880	4.4	23.2

(1) All numbers are averages of the quarterly value over the year.

(2) All numbers are provisional.

(3) Number of employees in the enterprise on the 15th of the middle month of each quarter.

(4) Based on the number of employees working for firms on the 15th of the middle month of each quarter.