Household Labour Force Survey: December 2013 quarter

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Key facts

In the December 2013 quarter compared with the September 2013 quarter:

- The number of people employed increased by 24,000 people.
- The employment rate rose 0.3 percentage points, to 64.7 percent.
- The number of people unemployed decreased by 2,000 people.
- The unemployment rate fell 0.2 percentage points, to 6.0 percent.
- The labour force participation rate increased 0.3 percentage points, to 68.9 percent.

All figures are seasonally adjusted.

	December 2013 quarter	Quarterly change	Annual change
	(000)	(Percent)	
Employed	2,297	+1.1	+3.0
Unemployed	147	-1.3	-8.9
Not in the labour force	1,103	-0.5	-1.0
Working-age population	3,547	+0.5	+1.2
	(Percent)	(Percentage points)	
Employment rate	64.7	+0.3	+1.1
Unemployment rate	6.0	-0.2	-0.8
Labour force participation rate	68.9	+0.3	+0.7
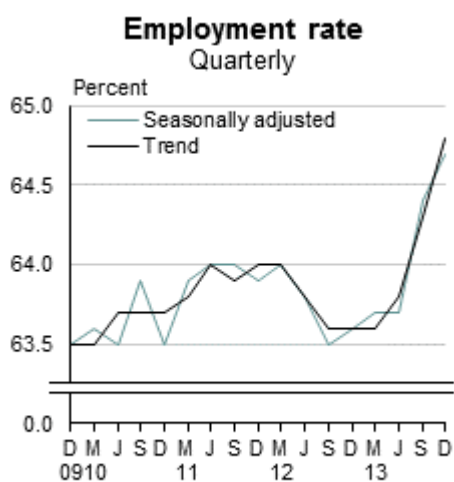
Source: Statistics New Zealand
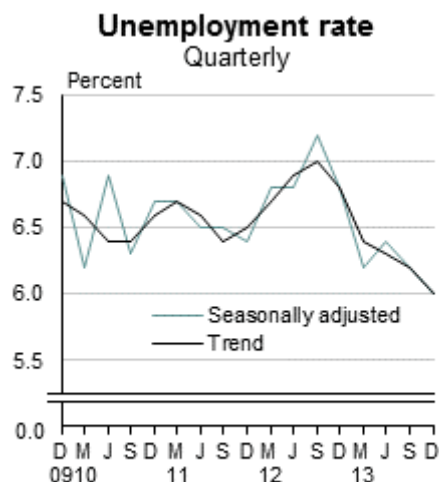
Source: Statistics New Zealand

Liz MacPherson
Government Statistician
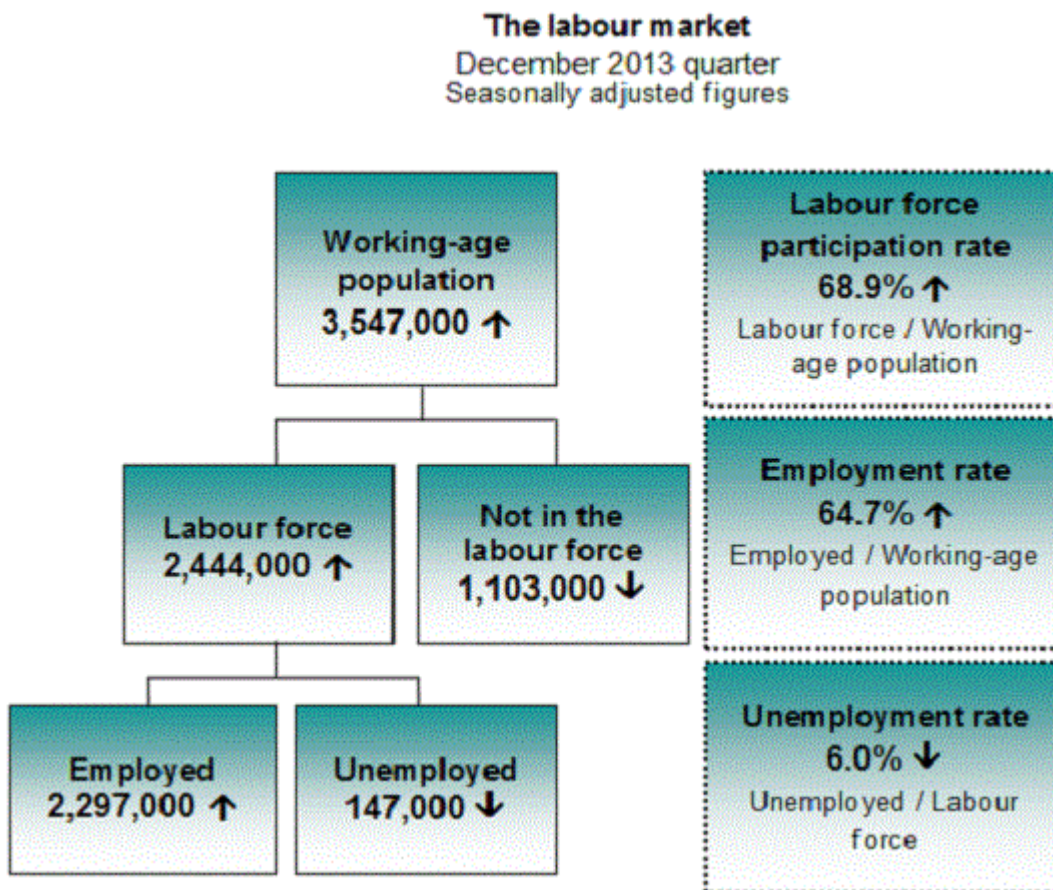
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Commentary

- Employment increases for both men and women
- Unemployment continues to fall
- Labour force participation continues to rise
- Labour market outcomes improve for young people
- Strong employment growth in Auckland
- Canterbury labour market strengthens
- Labour market outcomes improve for all ethnic groups
- New population benchmarks following the 2013 Census
- Longer time series

Overview

In the December 2013 quarter, the **employment rate** increased 0.3 percentage points to 64.7 percent, in seasonally adjusted terms. The number of **people employed** increased by 24,000.

The **unemployment rate** decreased over the quarter, down 0.2 percentage points to 6.0 percent. This decrease reflected 2,000 fewer people being unemployed. The fall in unemployment was from fewer men unemployed.

The **labour force grew** by 22,000 people, with the rise in employment greater than the fall in unemployment. The **labour force participation rate** increased over the quarter, up 0.3 percentage points to 68.9 percent.

The labour market
December 2013 quarter
Seasonally adjusted figures

Working-age population
3,547,000 ↑

Labour force
2,444,000 ↑

Not in the labour force
1,103,000 ↓

Employed
2,297,000 ↑

Unemployed
147,000 ↓

Labour force participation rate
68.9% ↑
Labour force / Working-age population

Employment rate
64.7% ↑
Employed / Working-age population

Unemployment rate
6.0% ↓
Unemployed / Labour force

Employment increases for both men and women

In the December 2013 quarter, the employment rate increased to 64.7 percent – up 0.3 percentage points, in seasonally adjusted terms. This follows a 0.7 percentage point increase in the September 2013 quarter and is up 1.1 percentage points from a year ago. This is the highest employment rate since the March 2009 quarter, a period when the employment rate experienced a sharp decline during the 2008–09 economic downturn.

Over the latest quarter, the male employment rate increased 0.5 percentage points to 70.7 percent. The female employment rate increased 0.3 percentage points to 59.1 percent, its highest rate since the December 2008 quarter.

In the December 2013 quarter, the number of people employed increased by 24,000 (1.1 percent), in seasonally adjusted terms. This change reflected a rise in both the number of men and women employed. The latest rise follows a 28,000 (1.2 percent) increase in the September 2013 quarter.

Over the year to December 2013, the number of people employed rose by 66,000 (3.0 percent) to 2,297,000 people. This is the largest annual percentage rise since the June 2006 quarter.
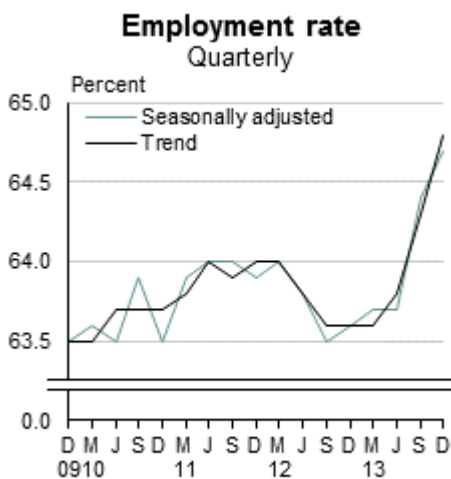
Source: Statistics New Zealand

Employment growth seen across a broad range of industries

The following figures are not seasonally adjusted, and are based on annual changes that are statistically significant unless otherwise stated.

The main contributor to the annual growth in employment was a rise in the professional, scientific, technical, administration, and support service industry group (up 26,400 people – 10.9 percent). This rise was from 22,400 more males employed in this industry group.

There were also increases in the retail trade, and accommodation and food services industry group (up 20,700 people – 6.0 percent), the construction industry (up 14,800 people – 8.6 percent), the manufacturing industry (up 14,300 – 6.0 percent) and the health care and social assistance industry group (up 16,600 – 7.1 percent). However, these movements were not statistically significant.

For more on industry outcomes for men and women, please see How men and women have fared in the labour market since the 2008 recession.

More people in full-time and part-time employment

Both full-time and part-time employment increased in the December 2013 quarter. Full-time employment rose for the fifth consecutive quarter – up 17,000 (1.0 percent), while part-time employment rose 9,000 (1.9 percent). Over the year, both full-time (up 58,000 – 3.4 percent) and part-time employment increased (up 14,000 – 2.8 percent).

In unadjusted terms, industries with large rises in full-time employment over the year were the retail trade, accommodation and food services industry group; the construction industry; and the professional, scientific, technical, administration, and support service industry group. Of these changes, the rise in retail trade, accommodation and food services employment was the only statistically significant movement.

In part-time employment, there was a large rise in the professional, scientific, technical, administration, and support service industry group.

Underemployment rises

The following figures are not seasonally adjusted, and are based on annual changes that are statistically significant unless otherwise stated.

Over the year, the total number of underemployed people increased by 27,200 to 122,600. As a result, the underemployment rate increased 1.0 percentage points to 5.3 percent.

Although part-time employment rose, the proportion of part-time workers who are underemployed also increased. This indicates that even though there are more part-time workers employed, a greater proportion of those who were available to, want to work more hours.

Actual hours worked falls over the quarter but rises over the year

Over the latest quarter, the total number of hours people actually worked per week fell 0.3 percent and the number of usual hours worked rose 0.9 percent. The fall in actual hours worked follows a large 1.4 percent quarterly rise in the September 2013 quarter.

Over the year, the seasonally adjusted number of actual hours worked per week rose by 1.3 percent and the number of usual hours rose by 3.9 percent.

Unemployment continues to fall

In seasonally adjusted terms, the unemployment rate fell to 6.0 percent in the December 2013 quarter, down 0.2 percentage points. The last time the unemployment rate was this low was in the June 2009 quarter, when it was also 6.0 percent. Over the year, the unemployment rate fell 0.8 percentage points from 6.8 percent.

The unemployment rate trend series rose strongly after the economic downturn, but has remained relatively flat between the September 2009 and September 2012 quarters – it has since fallen for five consecutive quarters.

The seasonally adjusted male unemployment rate fell 0.5 percentage points to 5.2 percent over the quarter. The female unemployment rate rose 0.2 percentage points to 6.9 percent. While the female unemployment rate edged up over the quarter, it is still down 0.5 percentage points from a year ago.

The number of unemployed people fell by 2,000 to 147,000 in the December 2013 quarter. This fall was entirely from a drop in male unemployment – down 6,000. Over the year, the number of people unemployed decreased by 14,000 (8.9 percent).
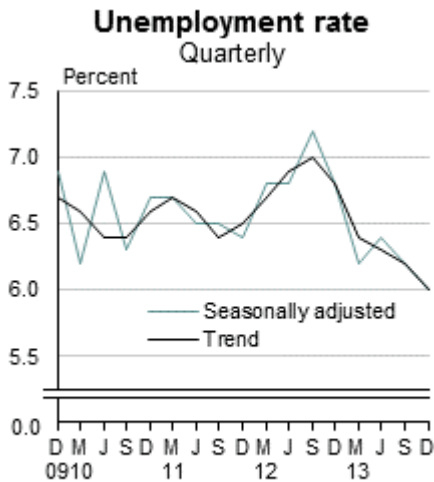
Source: Statistics New Zealand

Falls in the number of jobless and short-term unemployed people

The following figures are not seasonally adjusted, and are based on annual changes that are statistically significant unless otherwise stated.

In the year to December 2013, the number of people in the jobless category fell 27,400 to 257,100. Alongside the 15,000 fall in the number of people unemployed, there was also a 10,200 fall in the number of people without a job who were available for work but not actively seeking.

The drop in unemployment over the year mainly came from a fall in the number of people in short-term unemployment (down 14,500 – 14.9 percent). Short-term unemployment is defined as being unemployed for 26 weeks or less.

Labour force participation continues to rise

In seasonally adjusted terms, the number of people in the labour force increased by 22,000 (0.9 percent) in the December 2013 quarter, reflecting a large rise in employment and a smaller fall in unemployment.

As the number of people in the labour force rose and the number of people outside the labour force fell, the participation rate rose 0.3 percentage points to 68.9 percent in the December 2013 quarter – the second highest level since the series began. The rise can be largely explained by the female labour force participation rate – which rose, 0.4 percentage points, to 63.4 percent and is now at the highest level since the series began.

Over the year, the labour force participation rate rose 0.7 percentage points. This is the largest annual increase since early 2011. The increase is partly a reflection of a large fall in the number of people at home looking after children and a small fall in the number of retired people.

Labour force participation rate
Quarterly
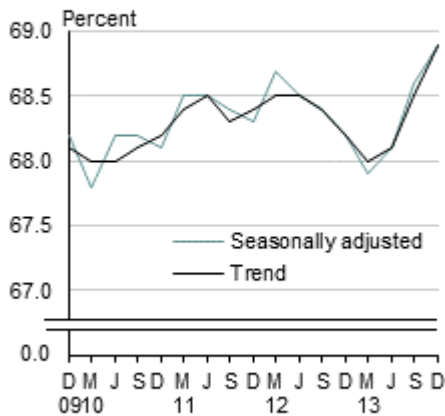
Source: Statistics New Zealand

Labour market outcomes improve for young people

The following figures are not seasonally adjusted, and are based on annual changes that are statistically significant unless otherwise stated.
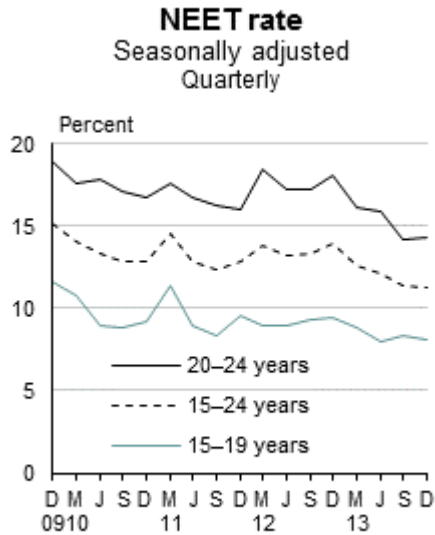
There was a large rise in employment for youth (15–24 years) over 2013 (up 28,500). The employment rate rose to 53.0 percent, up 4.6 percentage points from a year earlier. This rise in employment was exaggerated by a large atypical seasonal fall in employment for this age group in the December 2012 quarter. However, this is the highest employment rate for youth since the March 2009 quarter.

The number of unemployed youth fell over 2013 (down 9,400). Given the annual rise in employment for this age group was greater than the fall in unemployment, the labour force participation rate rose to 62.8 percent (up 3.1 percentage points). The number of young people not in the labour force and participating in study rose by 5,100 over the year, following a period of high participation in study throughout 2013. The rise this quarter was not statistically significant.

NEET rate continues to decline

In the December 2013 quarter, the seasonally adjusted NEET (not in employment, education, or training) rate for youth (15–24 years) fell 0.1 percentage points to 11.3 percent – the lowest youth NEET rate since the December 2008 quarter. The youth NEET rate was down 2.6 percentage points from December 2012.

Over the latest quarter, the youth NEET rate for females fell 0.8 percentage points to 13.5 percent. The female NEET rate has fallen 3.8 percentage points over 2013. There were also annual falls in NEET rates for both the 15–19-year (down 1.4 percentage points to 8.1 percent) and 20–24-year age groups (down 3.8 percentage points to 14.3 percent).

NEET rate
Seasonally adjusted
Quarterly

Percent

[Line chart showing NEET rate from D 0910 to S D 13, with three series: 20–24 years (solid line, ranging about 14–19%), 15–24 years (dashed line, ranging about 11–15%), and 15–19 years (light solid line, ranging about 8–12%)]

Source: Statistics New Zealand

Strong employment growth in Auckland

The following figures are not seasonally adjusted, and are based on annual changes that are statistically significant unless otherwise stated.

In the year to December 2013, Auckland employment rose by 48,000 people (6.7 percent), while unemployment fell by 3,800 people (7.0 percent). The unemployment rate fell 0.9 percentage points, to 6.3 percent, over the year to December 2013. Of these changes, the rise in the number of people employed was the only statistically significant movement.

The main contributors to Auckland's employment growth were the professional, scientific, technical, administration, and support service industry group (20,900), and the retail trade, and accommodation and food services industry group (14,200).

The employment rate for Auckland increased to 64.8 percent over the year, up from 63.0 percent in the December 2012 quarter. This is the highest employment rate since the December 2008 quarter.

Auckland employment rate
Unadjusted
Quarterly
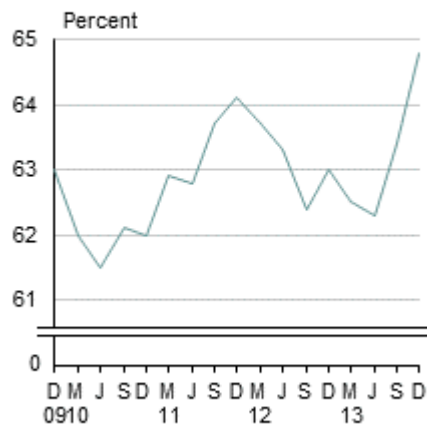
Source: Statistics New Zealand
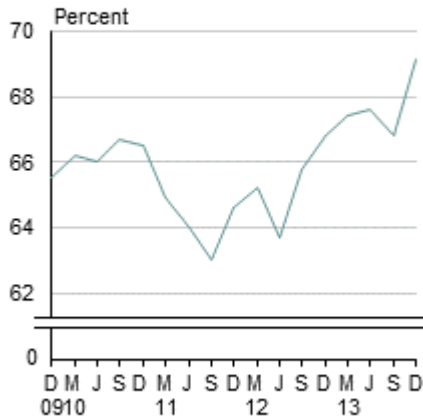
Canterbury labour market strengthens

The following figures are not seasonally adjusted, and are based on annual changes that are statistically significant unless otherwise stated.

In the year to December 2013, Canterbury employment rose by 19,200 (5.9 percent), unemployment fell by 4,700 (27.6 percent), and the number of people outside the labour force fell slightly. The unemployment rate for Canterbury was 3.4 percent, the lowest since the September 2008 quarter. None of these movements were statistically significant.

The increase in Canterbury employment included a 7,600 rise in the retail trade, and accommodation and food services industry group and a 7,400 rise in the construction industry. The total number of actual and usual hours worked per week increased in Canterbury – up 5.2 percent and 7.1 percent, respectively.

When excluding Canterbury and Auckland from our national estimates, the other regions also had improving labour market outcomes over the year.

Canterbury employment rate
Unadjusted
Quarterly

Source: Statistics New Zealand

Labour market outcomes improve for all ethnic groups

The following figures are not seasonally adjusted, and are based on annual changes that are statistically significant unless otherwise stated.

Labour market outcomes for all ethnic groups improved over the last year. Employment rates are higher than they were a year ago for European (up 2.2 percentage points to 67.2 percent), Māori (up 3.7 percentage points to 58.9 percent), and Pacific ethnic groups (up 5.4 percentage points to 55.4 percent).

The unemployment rates fell for both Europeans (down 0.9 percentage points to 4.6 percent) and Asians (down 2.2 percentage points to 5.8 percent). Māori and Pacific ethnic groups also had lower unemployment rates than a year ago, although these were not statistically significant movements.

## New population benchmarks following the 2013 Census

Following each Census of Population and Dwellings, estimates from the HLFS are rebased using information from the census. This is called a population rebase and occurs once new national population estimates are released. These are the source of the HLFS working-age population estimates.

We expect that the next HLFS population rebase will be in late 2014, or early 2015. This date may change as work plans are firmed up closer to the time.

For the coming population rebase, an improvement will be made to our estimation methodology by implementing regional population benchmarks. The HLFS currently applies two sets of benchmarks: sex by five-year age bands, and Māori by sex for the 15–29 and 30-years-and-over age groups. The new benchmarks will be subnational working-age population estimates for the regional council areas currently published in the HLFS.

Longer time series

The following graphs show the HLFS series for the employment rate, the labour force participation rate, and the unemployment rate over a 15-year period. A complete time series from March 1986 onwards is available on Infoshare.

Employment rate
Quarterly

Percent

Source: Statistics New Zealand

Unemployment rate
Quarterly

Percent
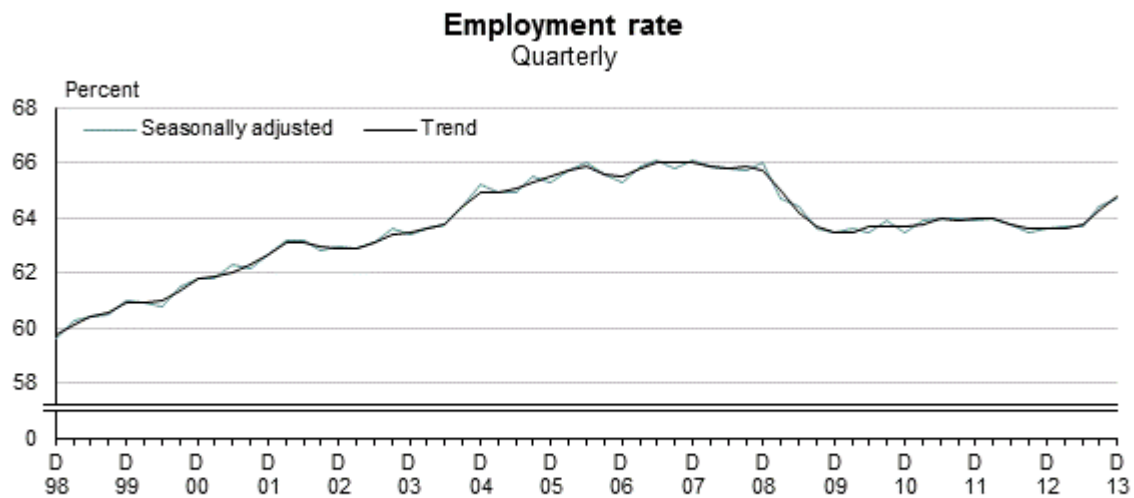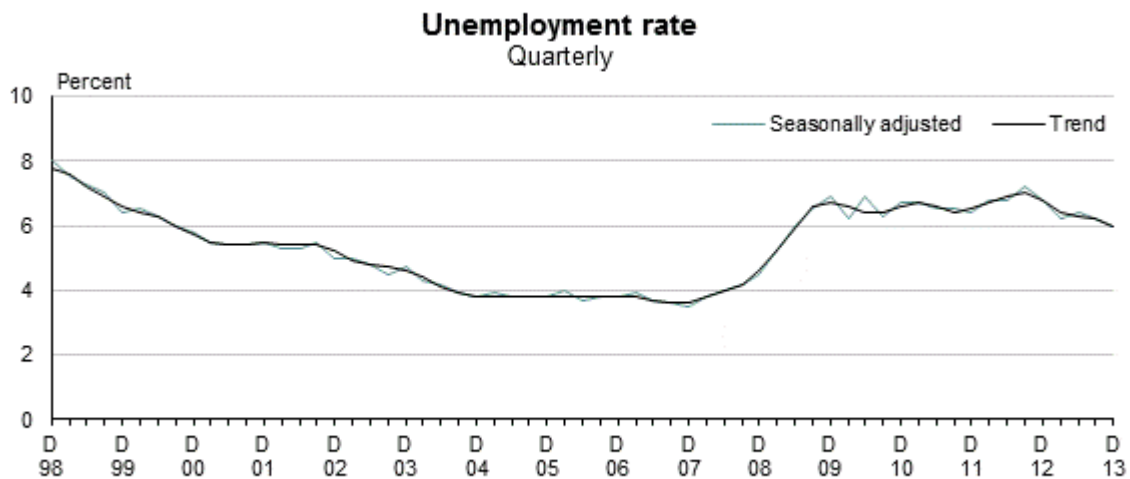
Source: Statistics New Zealand

Labour force participation rate
Quarterly

Source: Statistics New Zealand

For more detailed data see the Excel tables in the 'Downloads' box.

Definitions

About the Household Labour Force Survey

The Household Labour Force Survey (HLFS) provides a regular, timely, and comprehensive portrayal of New Zealand's labour force. Each quarter, Statistics NZ produces a range of statistics relating to employment, unemployment, and people not in the labour force.

The survey started in October 1985 and the first results published were for the March 1986 quarter.

More definitions

The labour force category to which a person is assigned depends on their actual activity during a survey reference week.

This section includes definitions used in the HLFS release. These conform closely to the international standard definitions specified by the International Labour Organization.

Employed: people in the working-age population who, during the reference week, did one of the following:

- worked for one hour or more for pay or profit in the context of an employee/employer relationship or self-employment
- worked without pay for one hour or more in work which contributed directly to the operation of a farm, business, or professional practice owned or operated by a relative
- had a job but were not at work due to: own illness or injury, personal or family responsibilities, bad weather or mechanical breakdown, direct involvement in an industrial dispute, or leave or holiday.

Employment type: Four different employment types are measured by the HLFS: employee, employer, self-employment, and unpaid family worker. The HLFS defines a person as self-employed if they work for themselves and do not have any employees.

Employment rate: the number of employed people expressed as a percentage of the working-age population. The employment rate is closely linked to how the working-age population is defined. See the 'Data quality' section for more details about how the employment rate used in this release is calculated.

Formal study statistics: to be participating in formal study, a person must be working towards a qualification that takes three or more months of full-time study to complete. Full-time study is defined as 20 or more hours per week.

Full-time/part-time status: full-time workers are those who usually work 30 hours or more per week, even if they did not do so in the survey reference week because of sickness, holidays, or other reasons. Part-time workers are those who usually work fewer than 30 hours per week.

Hours worked: actual hours are the number of hours a person worked in the reference week (including overtime). Usual hours refers to the number of hours a person normally works in a week (including overtime).

Jobless: people who are either officially unemployed, available but not seeking work, or actively seeking but not available for work. The 'available but not seeking work' category is made up of the 'seeking through newspaper only', 'discouraged', and 'other' categories.

Labour force: members of the working-age population, who during the survey reference week, were classified as 'employed' or 'unemployed'.

Labour force participation rate: the total labour force expressed as a percentage of the working-age population. Labour force participation is closely linked to how the working-age population is defined. See the 'Data quality' section for more details about how the labour force participation rate used in this release is calculated.

NEET rate: The rate is calculated as the total number of youth (aged 15–24 years) who are not in education, employment, or training (NEET), as a proportion of the total youth working-age population.

Not in the labour force: any person in the working-age population who is neither employed nor unemployed. For example, this residual category includes people who:

- are retired
- have personal or family responsibilities such as unpaid housework and childcare
- attend educational institutions
- are permanently unable to work due to physical or mental disabilities
- were temporarily unavailable for work in the survey reference week
- are not actively seeking work.

Seasonally adjusted series: adjusts the series to remove the seasonal component present when dealing with quarterly data. Seasonal patterns obscure the underlying behaviour of the series.

Statistically significant: is a statistical assessment of whether a change in the series is systematic or simply due to chance. Systematic movements occur when the change in the series is greater than its respective sampling error.

Trend Series: removes both the seasonal and irregular component of the series and reveals the underlying direction of movement in a series.

Underemployment: employed people who work part time (ie usually work less than 30 hours in all jobs) and are willing and available to work more hours than they usually do.

Underemployment rate: the number of underemployed people as a percentage of employed people.

Unemployed: all people in the working-age population who during the reference week were without a paid job, available for work, and had either actively sought work in the past four weeks ending with the reference week, or had a new job to start within the next four weeks.

Unemployment rate: the number of unemployed people expressed as a percentage of the labour force.

Young people not in employment, education, or training (NEET): young people aged 15–24 years who are unemployed (part of the labour force) and not engaged in education or training, and those not in the labour force and not engaged in education or training for many reasons.

Working-age population: the usually resident, non-institutionalised, civilian population of New Zealand aged 15 years and over.

Labour force categories used in the Household Labour Force Survey has more information on these definitions.

Related links

Upcoming releases

The *Household Labour Force Survey: March 2014 quarter* will be released on 7 May 2014. The Quarterly Employment Survey (QES) and the Labour Cost Index (LCI) for the March 2014 quarter will be released on the same day.

Subscribe to information releases, including this one, by completing the online subscription form.

The release calendar lists all upcoming information releases by date of release.

Past releases

Household Labour Force Survey has links to past releases.

Related information

How men and women have fared in the labour market since the 2008 recession (published 2014) describes the effects of the 2008 recession on the labour market outcomes of men and women.

Building a story of Canterbury employment (published 2013) offers advice to technical users of labour market data on how to interpret recent trends in our published Canterbury data.

Introducing ethnic labour force statistics by age (published 2013) presents new time-series data to help users better understand ethnic differences in the Household Labour Force Survey (HLFS).

Youth labour market dynamics in New Zealand (published 2013) discusses youth movements within the labour market.

New quality measures for the Household Labour Force Survey (published 2013) explains quality measures added to the Household Labour Force Survey information releases from the June 2013 quarter.

Skill levels of New Zealand jobs (published 2013) presents information on the skill levels of jobs done by New Zealanders.

Dynamics of the New Zealand labour market (published 2013) discusses measures of labour market dynamics.

Introducing new measures of underemployment (published 2013) introduces a new underemployment measure, added to the suite of labour market statistics available from the *Household Labour Force Survey: March 2013 quarter* onwards.

Introducing the youth not in employment, education, or training indicator provides information on youth not in employment, education, or training (NEET).

Linked Employer-Employee Data (LEED) provides statistics on filled jobs, job flows, worker flows, mean and median earnings for continuing jobs and new hires, and total earnings. LEED information is based on tax data.

Data quality

Period-specific information
This section is for information that changes between periods.

- Achieved sample and response rate

General information
This section has information about data that does not change between releases.

- Data source
- Accuracy of the data
- How labour force statistics are classified
- Comparability with other datasets
- Interpreting the data
- Timing of published data
- Confidentiality
- More information

Period-specific information

Achieved sample and response rate

In the December 2013 quarter 31,095 people in 15,795 households responded to the Household Labour Force Survey (HLFS).

The target response rate for the HLFS is 90 percent. The response rate for the December 2013 quarter was 87.2 percent and the achieved sample rate was 76.9 percent.

General information

Data source

The target population for the HLFS is the civilian, usually resident, non-institutionalised population aged 15 years and over.

The statistics in this release **do not** cover:

- long-term residents of homes for older people, hospitals, and psychiatric institutions
- inmates of penal institutions
- members of the permanent armed forces
- members of the non-New Zealand armed forces
- overseas diplomats
- overseas visitors who expect to be a resident in New Zealand for less than 12 months
- those aged under 15 years.

Accuracy of the data

Sample design

The HLFS sample contains about 15,000 private households and about 30,000 individuals each quarter. We sample households on a statistically representative basis from areas throughout New Zealand, and obtain information for each member of the household. The sample is stratified by geographic region, urban and rural areas, ethnic density, and socio-economic characteristics.

Households stay in the survey for two years. Each quarter, one-eighth of the households in the sample are rotated out and replaced by a new set of households. Therefore, up to seven-eighths of the same people are surveyed in adjacent quarters. This overlap improves the reliability of quarterly change estimates.

The period of surveying/interviewing is 13 weeks. The information obtained relates to the week before the interview (referred to as the 'survey reference week'). We first interview respondents face-to-face at their home. Subsequent interviews are by telephone wherever possible. Respondents also have the option to file self-completed questionnaires.

Where practicable, we obtain information directly from each household member. Otherwise a proxy interview is conducted, in which details are obtained from another adult in the household.

Sampling errors

Sampling errors can be measured. They quantify the variability that occurs by chance because a sample rather than an entire population is surveyed.

We calculate sampling errors using the jackknife method. It is based on the variation between estimates of different subsamples taken from the whole sample. This is an attempt to see how estimates would vary if we were to repeat the survey with new samples of individuals.

We calculate sampling errors for each cell in the published tables and for estimates of change between adjacent quarters. For example, the estimated total number of people employed in the December 2013 quarter is 2,311,200 before seasonal adjustment. This estimate is subject to a sampling error of plus or minus 24,800, or 1.1 percent (measured at the 95 percent confidence level). This means that there is a 95 percent chance that the true number of employed people lies between 2,286,400 and 2,336,100.

Smaller estimates, such as the number of people who are unemployed, are subject to larger relative sampling errors than larger estimates. For example, the estimated total number of people unemployed in the December 2013 quarter is 145,500 before seasonal adjustment. This estimate is subject to a sampling error of plus or minus 9,100 or 6.2 percent (measured at the 95 percent confidence level). This means that there is a 95 percent chance that the true number of unemployed people lies between 136,400 and 154,500.

Estimates of change are also subject to sampling error. For example, the survey estimate of change in total employment from the December 2012 quarter to the December 2013 quarter is an increase of 106,100. This estimate is subject to a sampling error of plus or minus 27,400 (at the 95 percent confidence level). Therefore, the true value of the change in surveyed employment from the December 2012 quarter to the December 2013 quarter has a 95 percent chance of lying between 78,600 and 133,500.

A change in an estimate, either from one adjacent quarter to the next, or between quarters a year apart, is said to be statistically significant if it is larger than the associated sampling error. Therefore, the example quoted above represents a significant movement.

In general, the sampling errors associated with subnational estimates (eg breakdowns by regional council area or ethnic group) are larger than those associated with national estimates.

A non-sampling error is very difficult to measure, and if present can lead to biased estimates. Statistics NZ endeavours to minimise the impact of these errors by applying best survey practices and monitoring known indicators.

Response rate and achieved sample characteristics

The achieved sample size measure is the number of eligible households and individuals that responded to the HLFS in the quarter. The achieved sample size typically increases over time as the population grows and more dwellings are added to the survey sample.

The response rate is calculated by determining the number of eligible households that responded to the survey, as a proportion of the estimated number of total eligible households in the sample.

The following table shows the HLFS achieved sample and response rates for the last five quarters.
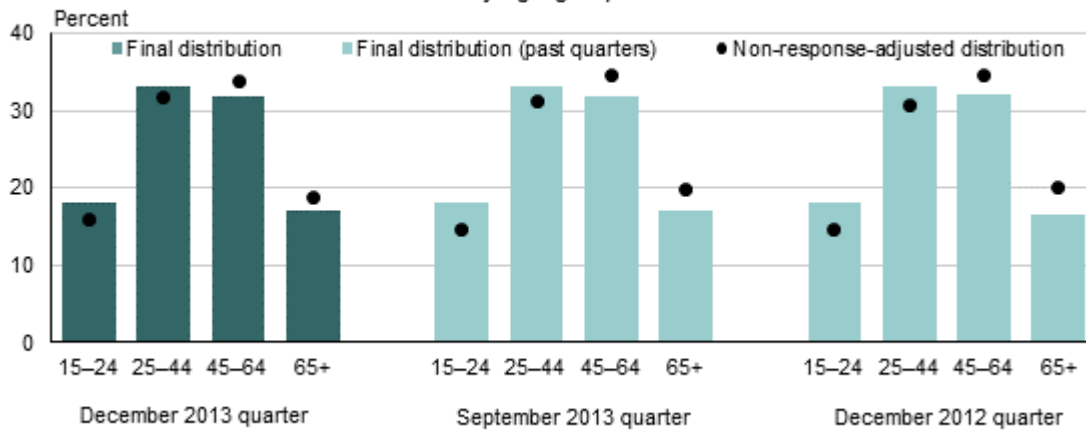
HLFS achieved sample and response rates				
Quarter	National response rate (percent)	Achieved sample rate (percent)	Achieved sample Individuals	Achieved sample Households
Dec 2012	84.4	71.6	28,139	14,776
Mar 2013	85.8	74.9	30,212	15,434
Jun 2013	80.8	70.9	28,088	14,740
Sep 2013	84.7	74.7	30,296	15,337
Dec 2013	87.2	76.9	31,095	15,795

Obtaining a sample that represents the population is essential when it comes to producing reliable labour force estimates. The HLFS goes through three stages of weighting to achieve this. For more information, please see New quality measures for the Household Labour Force Survey.

The following figure shows that while the distribution of the pre- and post-calibration weights differs within a quarter, the difference between the weights typically does not change from quarter to quarter.

Age distribution in the HLFS
By age group

Percent

■ Final distribution　　　■ Final distribution (past quarters)　　　● Non-response-adjusted distribution

| | 15–24 | 25–44 | 45–64 | 65+ |

December 2013 quarter　　　September 2013 quarter　　　December 2012 quarter

Source: Statistics New Zealand

The undercoverage rate gives an indication of how representative the pre-calibrated sample is. The higher the undercoverage rate, the less representative the pre-calibrated sample.

Usually the undercoverage rate in the HLFS is around 20 percent. The overall undercoverage rate for the HLFS in the December 2013 quarter was 15.5 percent. This compares with 15.1 percent in the September 2013 quarter and 20.2 percent in the December 2012 quarter.

Where practical, the HLFS gets information directly from each household member. Otherwise, a proxy interview is conducted, in which details are given by another adult in the household.

The quality of data from proxy responses is affected by two factors: what type of information is being asked for, and the relationship between the proxy (the person that the survey questions are being answered for) and the proxy respondent (the person replying to the questionnaire on behalf of the proxy). More than 90 percent of related people answer correctly for key variables. When the proxy and proxy respondent are unrelated there is still a high quality of response.

The proxy rate is calculated as the percentage of respondents who had someone else respond on their behalf divided by the total number of respondents. A typical proxy rate in the HLFS is around 30–35 percent. This excludes quarters when a supplement was attached to the HLFS. When a supplement is attached to the HLFS the proxy rate typically falls. This is because supplements often have different proxy rules, which have a small effect on how HLFS responses are collected.

The proxy rate for the HLFS in the December 2013 quarter was 34.7 percent. This compares with 33.6 percent in the September 2013 quarter and 23.6 percent in the December 2012 quarter. Supplements are attached to the HLFS in June quarters.

Seasonal adjustment and trend series

In the labour market, cyclical events that affect labour supply and demand occur around the same time each year. For example, in the summertime a large pool of student labour is both available for, and actively seeking, work. Demand for labour in the retail sector and in many primary production industries also increases.

For any series, the estimates can be broken down into three components: trend, seasonal, and irregular. Seasonally adjusted series have had the seasonal component removed. Trend series have had both the seasonal and irregular components removed, and reveal the underlying direction of movement in a series.

The series for each labour market statistic is adjusted separately. For this reason, the sum of the seasonally adjusted estimates for employment, unemployment, and people not in the labour force will usually not add up to the working-age population estimates.

Seasonal adjustment has more information about how we seasonally adjust our statistics. Seasonal adjustment makes data for adjacent quarters more comparable by smoothing out the effect on the times series of any regular seasonal events. This ensures that the underlying movements in the time series are more visible.

See the 'Revisions' section for information on the change in estimates between the current and previous publication for the seasonally adjusted and trend data.

All seasonally adjusted and trend series are produced using the X-12-ARIMA Version 0.2.10 package developed by the U.S. Census Bureau.

Adjusting for moving holidays

We have introduced an adjustment for holiday periods to our hours worked series. Recent analysis found that the timing of Easter (which can be in March or April) affects the number of hours people work. No other series are affected by the timing of Easter and did require this adjustment.

Prior adjustments made to historical data

The seasonal adjustment package used by Statistics New Zealand has an automatic procedure for dealing with outliers (observations which are far removed from the others in the series), which works well in most cases. However, in certain circumstances outliers need to be dealt with explicitly. This is done via a prior adjustment.

A prior adjustment has been made to the March 2008 and December 2012 quarters. This has been made to male and female series, including full-time and part-time employment, and hours worked.

In these quarters we observed an unusually high level of transitions of people out of employment. This was particularly the case where individuals had been employed in the previous quarter and were then employed again in the subsequent quarter. The level of this type of behaviour has only been observed in the March 2008, 2009 and December 2012 quarters.

Two of these quarters coincide with the Survey of Working Life in the March 2008 and December 2012 quarters, where people who were employed were asked additional questions to the standard HLFS about their working lives.

The size of the permanent prior adjustment has been chosen by our seasonal adjustment programme with input into which quarters require the adjustment. The permanent prior adjustment improves the quality of, and coherence between, the trend series and seasonally adjusted series. Previously, the trend series had identified the December 2012 quarter observations for female employment and not in the labour force.

Quality of seasonal adjustment

We monitor our data to make sure that our seasonal adjustment is robust.

The X-12-ARIMA programme is highly customisable and can produce a wide variety of possible adjustments for any particular input series. Consequently, X-12-ARIMA produces a number of diagnostics which are useful in assessing the quality of the chosen adjustment.

The following table provides a selection of diagnostics. The reference value indicates the desired value for each. Most are acceptable, though there is evidence of a changing seasonal pattern for the number of males who are unemployed and females who are not in the labour force. More detail about seasonal adjustment in the HLFS is available on request.

Seasonal adjustment diagnostics							
Diagnostics	**Series**						
	Reference value	**Male employed**	**Female employed**	**Male unemployed**	**Female unemployed**	**Male not in labour force**	**Female not in labour force**
Test for seasonality	<0.10	0.00	0.00	0.00	0.00	0.00	0.00
Test for moving seasonality	>0.10	0.08	0.65	0.03	0.24	0.35	0.05
Period until trend dominates	<3	1	1	1	2	2	2
Trend contribution to change	<20	33.07	38.85	46.37	14.94	13.46	19.45
Seasonal contribution to change	>50	58.50	44.66	34.38	66.76	73.95	54.28
Irregular contribution to change	<20	8.27	15.72	19.25	18.30	12.32	25.12
Quality statistic	<1	0.41	0.49	0.86	0.73	0.54	0.88

Outliers

During the seasonal adjustment process, X-12-ARIMA can give less weight to the irregular component. Specifically, if the estimated irregular component at a point in time is sufficiently large compared with the standard deviation of the irregular component as a whole, then the irregular component at that point can be downweighted or removed completely and re-estimated. Such observations are referred to as partial and zero-outliers, respectively. In practice, the downweighting of outliers will do little to seasonally adjusted data, but the impact of the outliers on the trend series will generally be reduced. However, if an outlier ceases to be an outlier as more data becomes available, then significant revisions to the trend series become possible.

There are no outliers present over the last four quarters of data.

Suppression of data

Cells with estimates of less than 1,000 are suppressed and appear as 'S' in the tables. These estimates are subject to sampling errors too great for most practical purposes.

Rounding procedures

Figures presented in this release are rounded. Figures are rounded to the nearest hundred or to the nearest thousand for seasonally adjusted and trend estimates. This may result in a total disagreeing slightly with the sum of the individual items as shown in the table. Where figures are rounded the unit is shown as (000) for thousands.

Any quarterly and annual changes for figures are calculated on unrounded numbers. However quarterly and annual percentage point changes for rates are done on rounded rates.

How labour force statistics are classified

The HLFS release includes specific statistics about industry, occupation, study, ethnicity, and region. This section defines what we measure for each of these statistics.

Industry statistics

Since the September 2009 quarter, the industry statistics have been based on the Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC06), the latest edition of the classification. When ANZSIC06 was introduced, Statistics NZ developed the New Zealand Standard Industrial Output Categories (NZSIOC). Classifying industries using NZSIOC helps to standardise outputs. Industry outputs defined using ANZSIC06 are not comparable with those based on ANZSIC96, the version used before the September 2009 quarter.

Implementing ANZSIC 2006 in the Household Labour Force Survey has more information.

Occupation statistics

Since the September 2009 quarter, we have used the Australian and New Zealand Standard Classification of Occupations (ANZSCO) to classify occupation data in the HLFS. ANZSCO is a harmonised classification developed by Statistics NZ, the Australian Bureau of Statistics, and the Australian Department of Employment and Workplace Relations, for use in both Australia and New Zealand. Occupation data was previously based on the New Zealand Standard Classification of Occupations 1999 (NZSCO99). The occupation data is available on Infoshare.

Implementing ANZSCO in the Household Labour Force Survey has more information.

Māori benchmarks

Before April 2009, we did not benchmark the Māori working-age population to population estimates. This, along with other sample design restrictions, caused a high degree of volatility in Māori statistics in the HLFS. Movements in the working-age population estimates of certain ethnic groups, such as Māori, may reflect this volatility rather than a real change in the estimated ethnic demographic. Including Māori benchmarks in the working-age population mitigates the known undercount of Māori in the HLFS and also results in smoother time series for Māori statistics in the HLFS. However, introducing the Māori population benchmarks does not necessarily translate to improved estimates for non-Māori ethnic groups.

Household statistics

A household's labour force status is derived by looking at the labour force status of household members aged 18–64 years. For example, if a couple is living by themselves and one is aged 64 years and the other is aged 65 years, this couple will be assigned to the 'All employed' or 'None employed' category, depending on the labour force status of the 64-year-old.

Households that have no members aged 18–64 years are excluded from this analysis. The household categories incorporate the concept of dependent children rather than just children. A child is a person of any age who usually resides with at least one parent (natural, step, adopted, or foster) and who does not usually reside with a partner or children of his or her own. Statistics NZ defines a dependent child as a child under the age of 18 years and not in full-time employment.

Updated regional classification

In November 2010, the new Auckland territorial authority replaced the existing Rodney district, North Shore city, Auckland city, Waitakere city, Manukau city, Papakura district, and part of Franklin district councils. This resulted in a minor change in the boundary between the Auckland and Waikato regions.

From the June 2011 quarter, the statistics in the HLFS release were produced using the new boundaries and backcast for the March 2011 quarter. The new boundaries do not significantly affect measures from the HLFS.

Total response ethnicity

From the December 2011 quarter, the HLFS publishes ethnicity data using the total response ethnicity output in the information release. Using this method, people who reported that they belonged to more than one ethnic group are counted once in each group reported. This means that the total number of responses for all ethnic groups can be greater than the total number of people who stated their ethnicities.

Comparability with other datasets

Comparing our labour market statistics has more information on how the HLFS compares with the other labour market statistics that we produce. This web page explains which measures of employment are included in each of our employment releases, and the timings and coverage of each release.

A Guide to Unemployment Statistics has more information on comparing the HLFS with other datasets on unemployment. This web page explains which measures of unemployment are included in the HLFS, the unemployment benefit, and the job-seekers register. It also includes information on the timings, coverage, and different purposes of each of these measures.

HLFS comparable series

The HLFS and the Quarterly Employment Survey (QES) are two different measures of employment and hours worked. The HLFS measures the number of employed people and the number of hours they usually work from New Zealand households; the QES measures the number of jobs and paid hours from New Zealand businesses. The table below compares the annual percentage change of each surveys' employment and hours worked measure for recent quarters, in seasonally adjusted terms. The HLFS comparable series removes major differences

between HLFS and QES, yet does not make adjustments for all differences. This provides an HLFS series that is more comparable with QES.

It removes the following categories from the HLFS, which are not collected by the QES:

- self-employment
- agricultural industry
- individuals who work without pay in a family business.

	Annual change in employment		Annual change in hours	
Year to	HLFS comparable series people employed	QES filled jobs	HLFS comparable series usual hours	QES hours paid
Dec 2012	2.2	1.4	3.1	1.8
Mar 2013	2.8	1.8	4.6	2.3
Jun 2013	1.8	1.9	1.4	1.8
Sep 2013	4.1	1.9	5.3	2.7
Dec 2013	3.6	1.9	4.1	2.4

In the year to the December 2013 quarter, the HLFS comparable series reported higher growth in both employment and hours with the QES.

International comparability of the labour force participation rate and the employment rate

Several alternative definitions of labour force participation rate and employment rate are used by other organisations and countries; they differ in the age of the working-age population and the inclusion of military personnel. A common definition is to restrict the labour force and working-age population to the 15–64-year age group, particularly in countries with a compulsory retirement age. Generally, this definition leads to a higher labour force participation rate and employment rate.

Using this definition for the New Zealand HLFS in the December 2013 quarter gives a surveyed figure of 79.2 percent (labour force participation rate) and 74.4 percent (employment rate).

Interpreting the data

Information releases contain seasonally adjusted, trend, and survey statistics for the latest quarter. These statistics are averages for the three-month period and do not apply to any specific point in time. Data sourced from the seasonally adjusted series and trend series are identified as such in the table or section headings. All other data, in the commentary or in tables, are sourced from the original survey series and are unadjusted.

Timing of published data

The HLFS is published within six weeks after the end of the quarter's reference period.

Confidentiality

Only people authorised by the Statistics Act 1975 are allowed to see your individual information, and they must use it only for statistical purposes. Your information is combined with similar information from other people or households to prepare summary statistics.

More information

See more information about the Household Labour Force Survey

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Revisions

Each quarter, the seasonal adjustment process is applied to the latest quarter and all previous quarters. This means that seasonally adjusted estimates for previous quarters may change slightly. The following table lists the changes in estimates between the current and previous quarters for the seasonally adjusted data. For example, the seasonally adjusted number of unemployed males in the September 2013 quarter was 74,000. In the December 2013 quarter release, that estimate is revised to 73,000. These numbers are rounded to the nearest 1,000, but the relative change derived from the unrounded estimates is a downward revision of 0.20 percent.

Percent revision from last estimate, seasonally adjusted

Quarter	Male employed	Female employed	Male unemployed	Female unemployed	Male not in labour force	Female not in labour force
Dec 2012	-0.01	-0.02	0.66	0.22	-0.05	0.02
Mar 2013	0.00	0.00	-0.08	-0.09	0.01	0.02
Jun 2013	-0.01	0.02	0.12	-0.40	-0.02	0.01
Sep 2013	0.03	0.00	-0.71	0.30	0.06	-0.03

The following table presents revisions for the trend estimates. Trend revisions are generally larger than those of the seasonally adjusted data.

Percent revision from last estimate, trend

Quarter	Male employed	Female employed	Male unemployed	Female unemployed	Male not in labour force	Female not in labour force
Dec 2012	0.00	-0.02	0.22	0.23	0.00	0.00
Mar 2013	-0.01	0.00	0.29	-0.14	-0.02	0.02
Jun 2013	-0.06	-0.04	0.24	-0.74	0.04	0.11
Sep 2013	0.10	0.08	-2.88	1.25	0.34	-0.25

Every estimate is subject to revision each quarter as new data is added, although in practice estimates more than two years from the end-point will change little. For example, the trend estimate of unemployed females for the December 2012 quarter was 85,000 for that time period. In the December 2013 quarter, one year later, the trend estimate of females unemployed for the December 2012 quarter is 83,000, a decrease of 2,000 (or down 2.3 percent using the unrounded estimates). This is an example of a '4-step ahead' revision.

The table below shows the average of all such absolute revisions, expressed relatively, and gives some indication to what extent the current estimates might be revised when the revised December 2013 data becomes available.

Mean absolute percent revisions

	Seasonally adjusted		Trend	
	1-step	4-step	1-step	4-step
Male employed	0.05	0.08	0.16	0.17
Female employed	0.06	0.10	0.24	0.25
Male unemployed	0.48	0.73	1.73	1.74
Female unemployed	0.52	0.93	1.86	1.87
Male not in labour force	0.09	0.16	0.34	0.35
Female not in labour force	0.08	0.14	0.33	0.35

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Tables

The following tables are available in Excel format from the 'Downloads' box. If you have problems viewing the files, see opening files and PDFs.

1. People employed, unemployed, and not in labour force, by sex, seasonally adjusted series
2. People employed, unemployed, and not in labour force, by sex, trend series
3. People employed, unemployed, and not in labour force, by sex
4. People employed, unemployed, and not in labour force, by age group
5. People employed, unemployed, and not in labour force, by ethnic group
6. People employed, unemployed, and not in labour force, by regional council
7. People employed, by industry and sex
8. The jobless: those without a job and wanting a job, by sex
9. Total actual hours worked
10. People employed, by employment status, and sex
11. People underemployed, by sex
12. People employed, unemployed, not in the labour force, and total actual hours worked, seasonally adjusted series
13. Harmonised unemployment rates in OECD countries, latest available
14. People employed, unemployed, and not in labour force, by sex and formal study status
15. Labour force and education status of those aged 15–24 years, by age group, seasonally adjusted series.

Supplementary tables

The following tables provide unadjusted statistics for the Canterbury region. They are similar to tables 3, 4, 7, 8, 9, 11, and 14 above.

1. People employed, unemployed, and not in labour force in Canterbury, by sex
2. People employed, unemployed, and not in labour force in Canterbury, by age group
3. People employed in Canterbury, by industry and sex
4. The jobless: those without a job and wanting a job in Canterbury, by sex
5. Total actual and usual hours worked in Canterbury
6. Underemployment in Canterbury, by sex
7. People employed, unemployed, and not in labour force in Canterbury, by sex and formal study status

A longer time series of the supplementary tables is available on request.

Access more data on Infoshare

Infoshare allows you to organise data in a way that best meets your needs. You can view the resulting tables onscreen or download them.

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