Consumers Price Index: June 2015 quarter

Embargoed until 10:45am – 16 July 2015

Key facts

Quarterly change

In the June 2015 quarter compared with the March 2015 quarter:

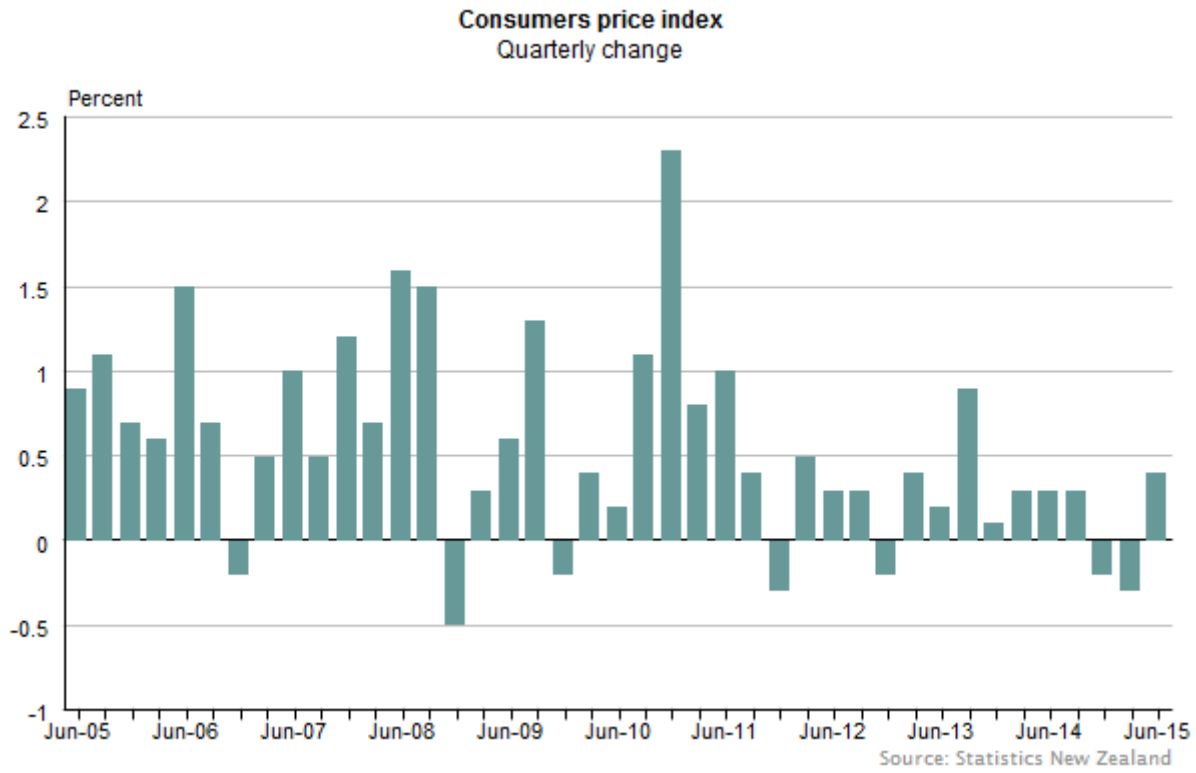
- The consumers price index (CPI) rose 0.4 percent to a level of 1198.
- Petrol prices rose 8.8 percent, making the largest upward contribution.
- Prices for vegetables (up 4.8 percent), newly built houses excluding land (up 1.5 percent), and rentals for housing (up 0.6 percent) also rose.
- Domestic air fares fell 13 percent, following price rises in the previous two quarters.
- Non-tradable inflation (up 0.1 percent), was the lowest since the December 2009 quarter.
- After seasonal adjustment, the CPI rose 0.3 percent influenced by lower seasonally adjusted vegetable and electricity prices.

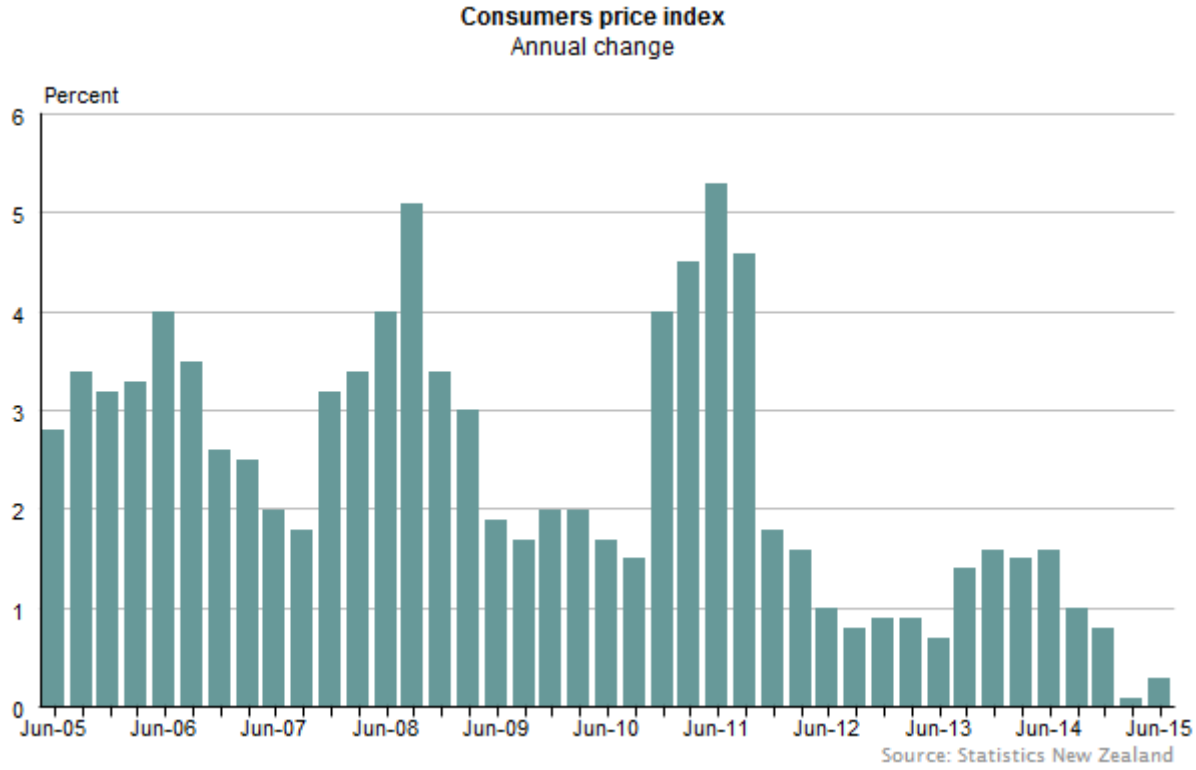
Annual change

From the June 2014 quarter to the June 2015 quarter:

- The CPI increased 0.3 percent (0.1 percent in the year to the March 2015 quarter).
- Cigarettes and tobacco (up 14 percent), newly built houses excluding land (up 5.3 percent), and rentals for housing (up 2.3 percent) all increased.
- Lower petrol prices (down 7.4 percent) were the main downward contributor.
- Annual non-tradable inflation (up 2.0 percent), was the lowest since the December 2001 quarter.
- Prices of tradable goods and services decreased 2.0 percent.

The CPI measures the rate of price change of goods and services purchased by New Zealand households. Statistics NZ visits 2,800 shops around New Zealand to collect prices for the CPI and check product sizes and features.





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ISSN 1178-0452
16 July 2015

Commentary

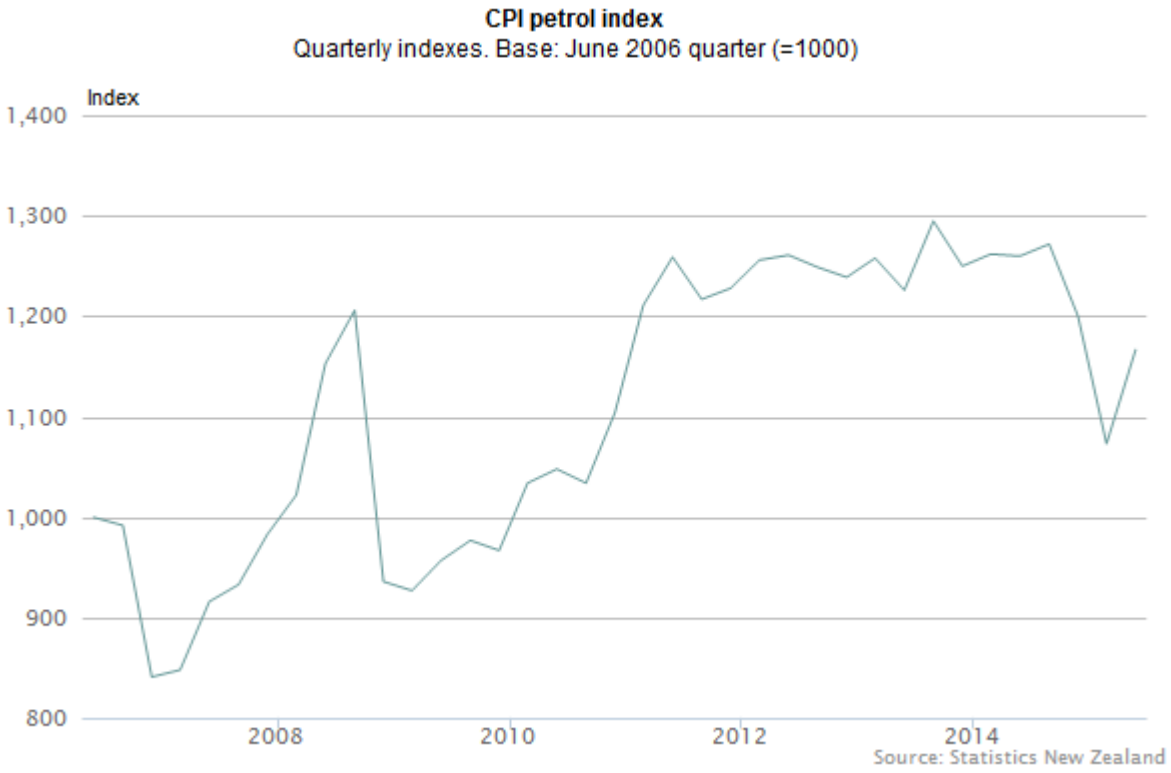
- Quarterly rise of 0.4 percent on higher petrol prices
- Quarterly non-tradable inflation lowest since the December 2009 quarter
- Annual inflation at 0.3 percent influenced by housing-related costs
- CPI analytical series
- Seasonally adjusted CPI rise of 0.3 percent in the quarter
- Field prices now collected electronically

Quarterly rise of 0.4 percent on higher petrol prices

See 'Downloads' box for a one-page detailed summary of this quarter's CPI (PDF).

The consumers price index (CPI) rose 0.4 percent in the June 2015 quarter, following falls of 0.3 percent in the March 2015 quarter and 0.2 percent in the December 2014 quarter.

Petrol prices rose 8.8 percent in the latest quarter, influenced by higher international crude oil prices and a weaker New Zealand dollar. The average price of a litre of 91 octane petrol in the June 2015 quarter was $1.95, compared with $1.79 and $2.00 in the March 2015 and December 2014 quarters, respectively. By the end of the June quarter, petrol pump prices were 4.1 percent above the average price for the quarter. The CPI less petrol was flat for the June 2015 quarter.



Diesel prices (up 11 percent) also rose in the June quarter, to an average of $1.22 per litre.

Vegetables (up 4.8 percent) showed a seasonal price rise, influenced by higher prices for tomatoes, cucumber, and lettuce.

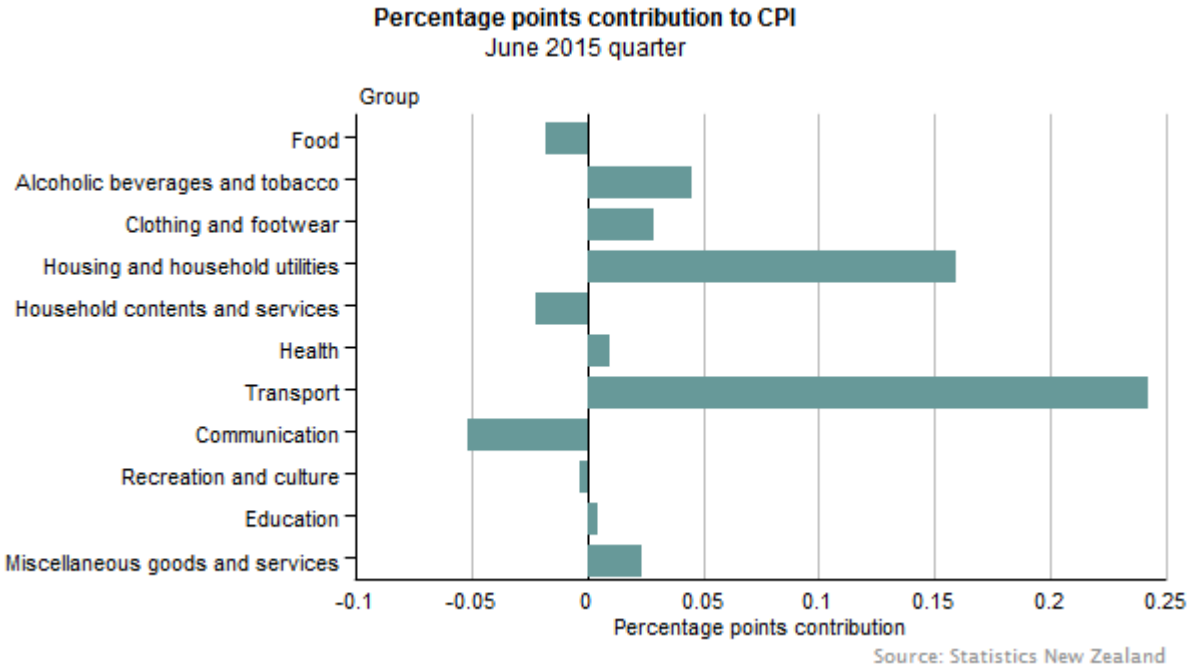
Prices for newly built houses excluding land rose 1.5 percent nationally, with Auckland up 2.8 percent and Canterbury up 0.7 percent. The March 2015 quarterly rise for Canterbury was 0.2 percent, and from 2012 to 2014, the rises ranged from 1.3 to 3.4 percent. The latest quarterly movements may indicate a slow down.

Housing rentals rose 0.6 percent, with Auckland up 0.8 percent and Canterbury up 0.7 percent.

Domestic air fares fell 13 percent, and were 3.0 percent below the June 2014 quarter level.

Fruit (down 8.7 percent) showed a seasonal price fall, influenced by lower prices for apples and kiwifruit.

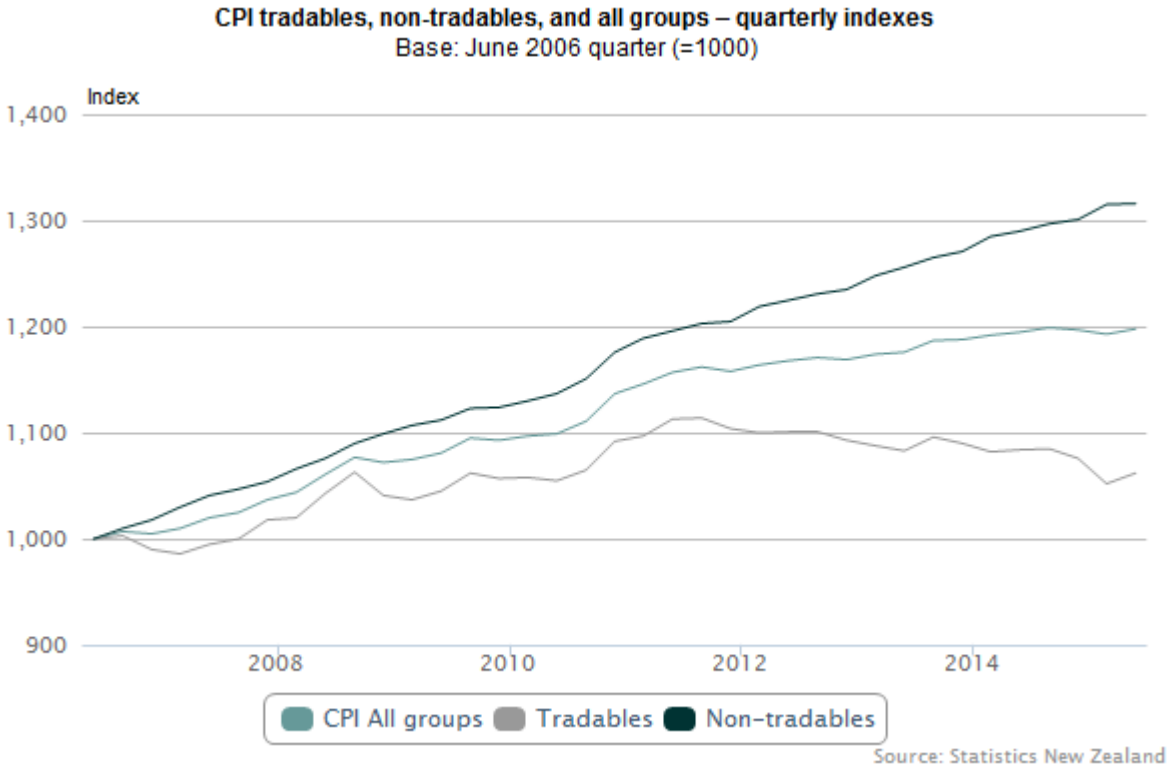
Telecommunication services fell 1.9 percent, influenced by price falls and better value plans.



Quarterly non-tradable inflation lowest since the December 2009 quarter

Non-tradables rose 0.1 percent, with higher prices for purchase of new houses and rentals being partly offset by lower prices for domestic airfares and telecommunication services.

Tradables rose 1.0 percent, following a fall of 2.2 percent in the March quarter. Higher prices for petrol and vegetables contributed to the rise.



Annual inflation at 0.3 percent influenced by housing-related costs

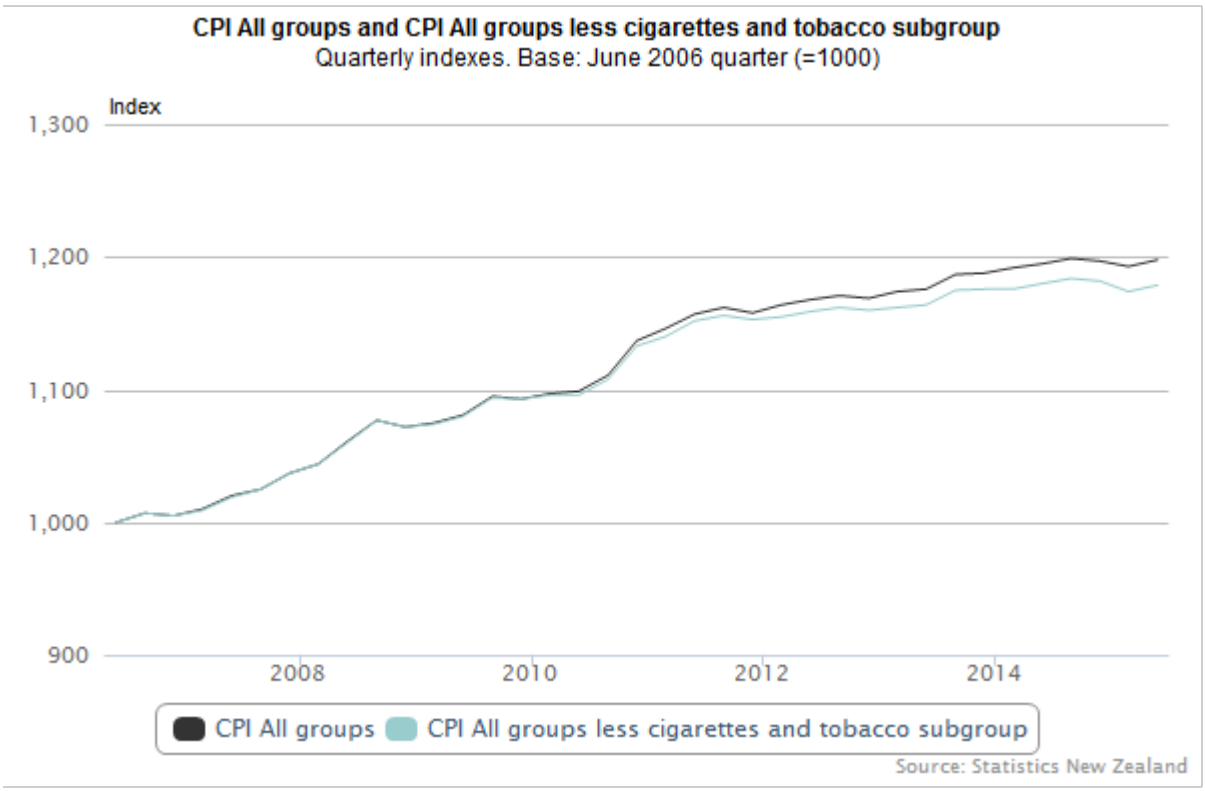
In the year to the June 2015 quarter, the CPI increased 0.3 percent. This follows a 0.1 percent annual increase in the year to the March 2015 quarter.

The **tradable** component decreased 2.0 percent in the latest year. Lower prices for petrol (down 7.4 percent), audio-visual and computing equipment (down 12 percent), purchase of vehicles (down 3.8 percent), and international air fares (down 6.3 percent), made the main downward contributions. Higher prices for confectionery, nuts, and snacks, books, and fruit provided the main upward contributions.

Annual **non-tradable** inflation (up 2.0 percent) was the lowest since the December 2001 quarter, when it was up 1.5 percent. Cigarettes and tobacco (up 14 percent) made the largest upward contribution to the latest annual increase, influenced by the excise duty rise in January 2015. Purchase of newly built houses excluding land (up 5.3 percent), rentals for housing (up 2.3 percent), and local authority rates (up 3.9 percent) also rose.

Electricity remained flat in the year to the June 2015 quarter. This is the lowest annual movement for electricity since the year to the December 2001 quarter. Lower prices for telecommunication services (down 4.3 percent) made the main downward contribution.

The CPI excluding petrol increased 0.7 percent in the year to the June 2015 quarter, while the CPI excluding cigarettes and tobacco decreased 0.1 percent for the same period.

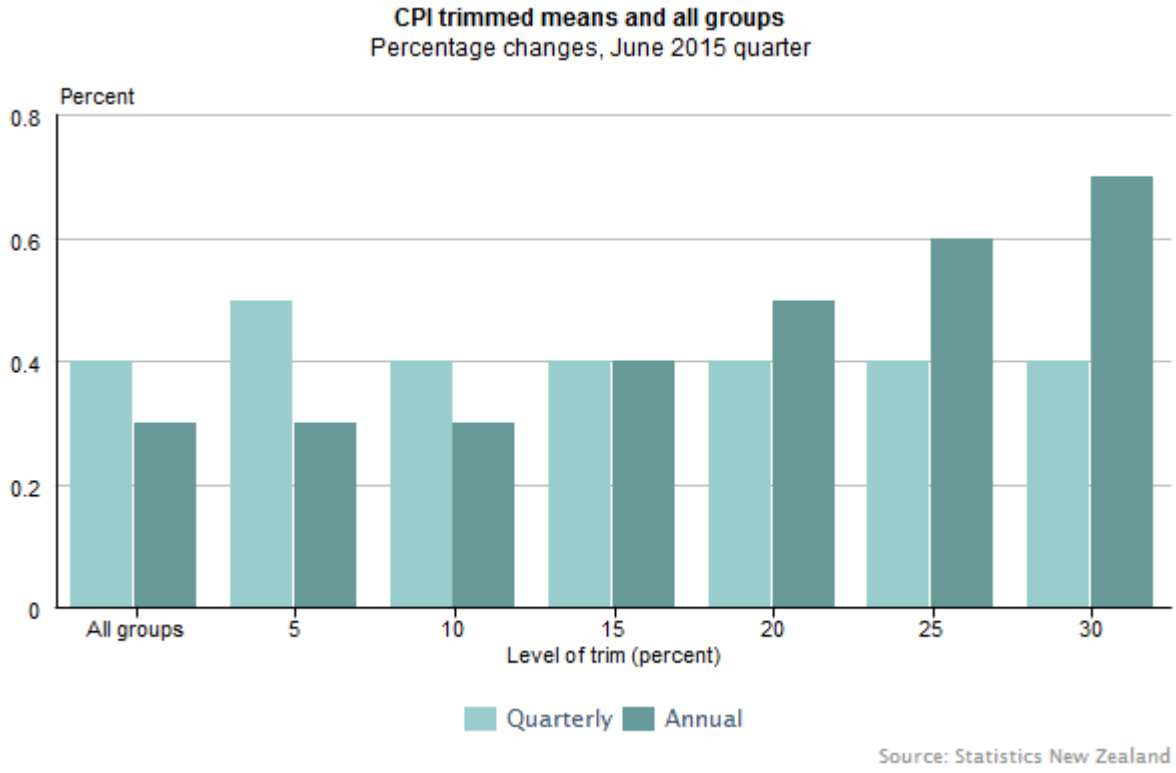


See CPI visualisation – an interactive tool to help you explore the changes in the prices and relative importance of the goods and services in the CPI basket.

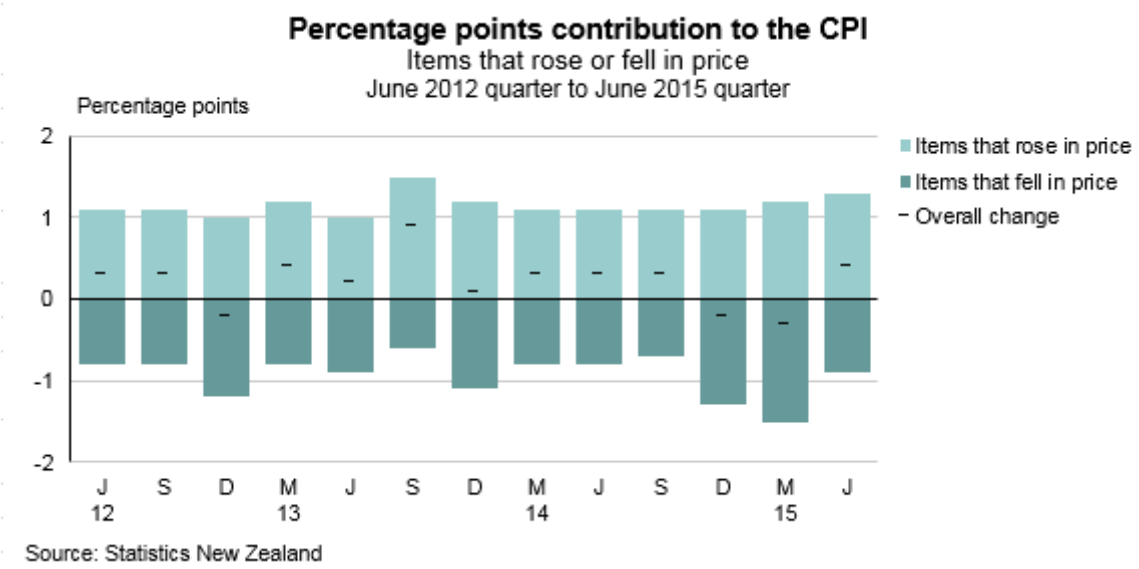
See CPI tradables and non-tradables visualisation tool for further information.

CPI analytical series

The trimmed mean measures – which exclude extreme price rises and falls – had quarterly changes ranging from 0.4 percent to 0.5 percent in the June 2015 quarter. This indicates the 'underlying' price change (ie excluding extreme price rises and falls) was in line with the all groups CPI.



See table 13 for further information.



Seasonally adjusted CPI rise of 0.3 percent in the quarter

This quarter, we have introduced seasonal adjustment into the food price index and the CPI. Seasonal adjustment aims to eliminate the impact of regular seasonal events (such as annual cycles in fruit and vegetable production) on time series. Seasonal patterns can obscure the underlying behaviour of the series.

The seasonally adjusted CPI rose 0.3 percent in the June 2015 quarter, following a fall of 0.3 percent in the March quarter.

After seasonal adjustment, vegetable prices fell 3.7 percent compared with a rise of 4.8 percent for the actual series. Electricity prices, which usually rise in a June quarter, fell 1.6 percent after being seasonally adjusted compared with a rise of 0.6 percent for the actual series. This indicates the actual price rise for electricity was lower than usual for this time of year.

For more detail on the seasonally adjusted series, see the Excel tables in the 'Downloads' box. You can also extract the seasonally adjusted series from Infoshare.

Field prices now collected electronically

The way we collect prices for the CPI changed in February. We introduced handheld tablets for field interviewers to price and submit fresh fruit and vegetable and fuel data electronically. Up to now, we've relied on traditional pen and paper methods, coupled with courier mail to receive and send work.

The new approach allows field interviewers to capture and send data back to the office in real time, leading to smarter, faster, and more efficient data collection and processing.

Electronic collection went live in February for fresh fruit and vegetables and for fuel. In April we added other food items and non-food items priced monthly, followed in May by other items in the CPI basket collected from retail outlets like department stores and appliance stores. Our phased approach managed the risks to key statistics from rolling out new technology.

Following the implementation this quarter, all prices from shops in the June 2015 quarter publication were collected electronically.

For more detailed data on the CPI see the Excel tables in the ‘Downloads’ box.

Definitions

About the consumers price index

The consumers price index (CPI) measures the changing price of a fixed basket of goods and services purchased by New Zealand households. The selection and relative importance of the goods and services in the CPI basket represents the overall expenditure pattern of New Zealand households.

The aim of the CPI is to measure price changes of the same sample of products at each outlet over time. When there is a change in the size or quality of any of the goods or services in the basket, we make an adjustment to ensure that the price change shown in the CPI is not affected by the change in size or quality.

The CPI is used to help set monetary policy and for monitoring economic performance. The government uses the CPI to adjust New Zealand Superannuation and unemployment benefit payments once a year, to help ensure that these payments maintain their purchasing power. Employers and employees use the CPI in wage negotiations.

The CPI is published quarterly. The food group is the only CPI group for which we publish an index each month.

Consumers price index review: 2014 has a list of the representative goods and services monitored in the CPI basket.

CPI sources and methods articles present the sources and methods used to compile various parts of the CPI basket of goods and services.

More definitions

Price index: measures the change in price between time periods for a given set of goods and services. It summarises a set of prices for a variety of goods and services collected from a number of outlets.

Index reference period: the benchmark to which prices in other periods are compared (eg if the index number in a later period is 1150, prices have increased by 15.0 percent since the index reference period). Prices for later periods can also be compared in similar fashion. The CPI has an index reference period of the June 2006 quarter (=1000).

Index points contributions: items mentioned in this release are often those that made a large contribution to the overall movement in the CPI. An item's contribution is a combination of its weight in the index (ie its relative importance, based on its share of household spending on goods and services covered by the CPI) and the magnitude of price movement. For example, for two items recording the same percentage rise in price, the item with the larger weight in the CPI will make a larger contribution to the overall movement. This contribution is also referred to as points (or index points) contribution.

Percentage points contribution: measures the contribution of each group, subgroup, and class to the overall quarterly and annual percentage change in the all groups CPI. For any particular level of the CPI classification, such as the group level, percentage points contributions add to the overall percentage change in the all groups CPI.

Percentage contribution: measures the relative contribution of each group, subgroup, and class to the overall quarterly and annual index points (or percentage) change in the all groups CPI. For any particular level of the CPI classification, such as the group level, percentage contributions add to 100 percent.

Tradable and non-tradable component series: the tradable component series contains goods and services that are imported or in competition with foreign goods, either in domestic or foreign markets. Movements in the tradables component (tradable inflation) demonstrate how international price movements and exchange rates are affecting consumer prices.

The non-tradable series contains goods and services that do not face foreign competition. It shows how domestic demand and supply conditions are affecting consumer prices.

Analytical measures of inflation: over the long term, the CPI captures the broad pattern of price change, but can be influenced by one-off events when analysing price change over shorter timeframes. To remove such influences, we calculate analytical measures of price change in an attempt to isolate the more persistent – or underlying – component of general price-level changes. Several analytical measures are constructed to give a good guide to underlying price-level change. These are a range of 'trimmed means' and a range of 'weighted percentiles' including a weighted median. We give trimmed means and weighted percentiles in table 11 and table 12 of this release.

Trimmed means: exclude the influence of the largest price increases and decreases in the CPI. We do this at the item level of about 700 goods and services in the CPI basket (eg 91 octane petrol or strawberries). The trimmed means progressively remove the influence of the largest increases and decreases.

Weighted percentiles: highlight the movement of lower-level indexes at points in the distribution of price changes for a particular time period.

Seasonally adjusted series: Seasonal adjustment aims to eliminate the impact of regular seasonal events (such as annual cycles in fruit and vegetable production, winter, or pre-Christmas shopping) on time series. Seasonal patterns obscure the underlying behaviour of the series.

For more detail on the seasonally adjusted series, see the Excel tables in the 'Downloads' box. You can also extract the seasonally adjusted series from Infoshare.

Related links

Next release

Consumers Price Index: September 2015 quarter will be released on 16 October 2015.

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

Past releases

Consumers price index has links to past releases.

Related information

Food price index measures the price change of food goods and services purchased by New Zealand households.

CPI sources and methods articles present information about the basket of goods and services, and the sources and methods used to compile individual components of the CPI.

Electronic card transactions measure the number and value of electronic card transactions with New Zealand-based merchants.

Retail Trade Survey measures the sales of a range of household and personal goods and services.

Data quality

Period-specific information
This section has information that has changed since the last release.

- Reference period
- Response rates
- Sample size

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

- Imputation
- Review of the CPI
- Reweighted CPI food group
- Impact of GST rise on the CPI
- Care required when using CPI to adjust monetary values
- Reference population
- Expenditure weights
- Collection methods
- Pricing frequency
- Accuracy of the data
- Key concepts
- Consistency with other periods or datasets
- Interpreting the data
- Timing of published data
- CPI rolling review of retail outlets
- More information

Period-specific information

Reference period

We collected prices during the period April to June 2015. Statistics NZ staff visited retail outlets during 1–20 May. We collect prices for food and non-food groceries each month, usually between the 8th and 17th of the month. Petrol, fresh fruit, and fresh vegetable prices are collected weekly. We collect quarterly postal survey prices at 15 May.

Response rates

Postal

Target: 93 percent
Achieved: 95.2 percent

Field collection

Statistics NZ price collectors gather prices directly from retail outlets.

Sample size

We collected about 100,000 prices from about 2,800 retail outlets and 2,300 other businesses and landlords.

General information

Imputation

Due to unavailability at the time of price collection, on average we impute 1–2 percent of prices (not including seasonal items such as winter clothing) each quarter. We often do this by carrying forward the previous quarter's price. Other imputation we do is to apply the movements of similar categories of items.

Review of the CPI

Reviews of the CPI are undertaken every three years. We implemented the latest review when the September 2014 CPI was published. The review involved reselecting the basket of representative goods and services, updating the new national expenditure weights, and updating regional expenditure weights.

Consumers price index review: 2014 has more information.

Reweighted CPI food group

The food group of the CPI showed no change from the June 2014 quarter to the September 2014 quarter. This compares with a 0.4 percent rise obtained when we average the food price index (FPI) across the three months within each of the June and September 2014 quarters. This difference of 0.4 of a percentage point compares with smaller differences when we implemented CPI basket and weight reviews in 2011 and 2008.

Factors that contribute to these differences relate to when we introduced basket and weight changes.

For the 2014 CPI review, we implemented basket changes and updated expenditure weights for the June 2014 month in the July 2014 FPI. FPI movements up to and including the June 2014 month were based on the 2011 basket and weights. In contrast, we used the 2014 basket and weights for all months of the June 2014 quarter for the food group of the CPI.

For example, we added packaged leaf salad to the 2014 basket; it now has about 40 percent of the weight previously allocated to lettuce. Lettuce prices rose strongly in May (which contributed to the FPI) and from the June quarter to the September quarter, whereas packaged leaf salad prices were relatively flat in May (which didn't contribute to the FPI) and from the June quarter to the September quarter. This contributed to the lower movement for the CPI food group in the September 2014 quarter than for the FPI.

With the 2014 CPI review, we have also moved to regional weights based on spending in five broad regions. Before the review, we used regional population shares. The FPI used 2011 regional population shares up to and including the June 2014 month, whereas we used the 2014 regional spending shares for all months of the June 2014 quarter for the food group of the CPI. For example, Auckland now has a higher share (35.5 percent) of spending on food than its 2011

population share (33.4 percent), and there was a lower-than-average change for the Auckland food group in the September 2014 quarter (down 0.2 percent).

The reweighted CPI food group provides the best estimate of change in food prices from the June 2014 quarter to the September 2014 quarter. This is because the reweighted CPI food group gives more new information on spending patterns than the FPI during this transitional quarter – from the 2011 basket and weights to the 2014 basket and weights.

The food group of the CPI showed a 0.7 percent fall from the September 2014 quarter to the December 2014 quarter – the same as when we average the FPI across the three months within each of the September and December 2014 quarters.

Impact of GST rise on the CPI

GST rose from 12.5 percent to 15 percent on 1 October 2010. However, the rise in GST was not immediately reflected in the prices of some seasonally available goods and services in the CPI basket – it was reflected when we next collected prices for these items. These items make up about 3 percent of expenditure on goods and services in the CPI. Of this 3 percent, we saw nearly half reflected in the March 2011 quarter CPI, nearly half in the June 2011 quarter, and the remainder in the September 2011 quarter.

The table below shows what the quarterly and annual percentage changes would have been if prices collected for the December 2010, and March, June, and September 2011 quarters had been processed with GST of 12.5 percent for goods and services that are subject to GST. The CPI would have risen 0.4 percent in the September 2011 quarter, and 2.5 percent for the year to the September 2011 quarter.

CPI processed with GST at 12.5 percent			
Quarter	Percentage change from previous quarter	Percentage change from same quarter of previous year	Adjusted index number
Dec 2010	0.5	2.1	1116
Mar 2011	0.8	2.6	1125
Jun 2011	0.9	3.3	1135
Sep 2011	0.4	2.5	1139

Care required when using CPI to adjust monetary values

The CPI is used to adjust monetary values, such as those in legislation and contracts. Care is required when using the CPI to adjust monetary values during the year-long period in which the CPI reflects the rise in GST. Some goods and services in the CPI are not subject to GST, some are zero-rated for GST purposes (meaning the applicable rate of GST is zero), and the rise in GST was not immediately reflected for all goods and services in the CPI that are subject to GST.

Special care is required when the monetary values being adjusted exclude GST.

It would not be appropriate to adjust prices or monetary values that exclude GST (but which are subject to GST) by the CPI movement during the period in which the CPI reflects the increase in GST. Doing this would mean the GST increase is counted twice. Another common use of the CPI is to adjust housing rentals, which are not subject to GST. Using the CPI to adjust rental

values during the period in which the GST increase is reflected in the CPI would mean the adjustments would include the overall effect of the GST increase on the CPI.

Reference population

The reference population of the CPI covers approximately 98 percent of the usually-resident New Zealand population living in permanent dwellings.

Expenditure weights

Expenditure weights give the relative importance of the goods and services in the CPI basket.

We update expenditure weights every three years as part of regular CPI reviews. The current set of weights are derived from the 2012/13 Household Economic Survey (HES) and other sources.

CPI weights are based on household spending for the year to June 2013 (the 'weight reference period'), expressed in June 2014 quarter prices (the 'price reference period').

The relative importance of the CPI groups shows that $24.23 of every $100 households spend on goods and services in the CPI is spent on housing and household utilities, $18.84 is spent on food, and $14.97 is spent on transport.

See table 9 of this release for more information on the relative importance of FPI groups, subgroups, and classes.

Collection methods

We collect prices used in the CPI through three main methods: visiting retail outlets, postal surveys, and the Internet.

Our price collectors personally visit over 2,800 different shops in 12 pricing centres throughout the country: Whangarei, Auckland, Hamilton, Tauranga, Napier-Hastings, New Plymouth, Palmerston North, Wellington, Nelson, Christchurch, Dunedin, and Invercargill.

Before 1 July 2014, we also collected CPI prices in Rotorua, Wanganui, and Timaru. However, in line with recommendation 7 of the CPI Advisory Committee 2013, we stopped collecting prices in these three regions, so we could divert the cost of collection towards funding CPI-related initiatives such as household living-costs price indexes and seasonally adjusted analytical CPI series. Price change for these regions is now directly represented by Tauranga, Palmerston North, and Christchurch, respectively.

We also send out about 70 different postal surveys each month, quarter, or year. These surveys are used primarily to collect prices for services, such as electricity and bus fares. The surveys are sent directly to service providers. In some cases, for sampling and collection reasons, we aggregate these prices to the national level or to broad regions such as Auckland, Wellington, Canterbury, rest of North Island, and rest of South Island. Items where we use movements in the broad regions include: the purchase of second-hand cars; purchase of new housing; and rentals for housing. In these cases, we use price movements for the five broad regions for the corresponding 12 pricing centres.

The types of outlets visited include supermarkets, department stores, and appliance stores. We collect prices weekly for motor fuels and for fresh fruit and vegetables; monthly for food, non-food groceries, alcoholic beverages, and newspapers; and quarterly for other goods and services.

We sent postal surveys to service providers who set prices nationally or with little variation according to location, such as prices for telephone homeline rental.

Prices for products and services (such as digital downloads, package holidays, and air fares) are also collected each month or quarter from the Internet.

Pricing frequency

Whether we collect prices weekly, monthly, quarterly, or annually, depends on the expected frequency of price changes the goods or service exhibit.

Accuracy of the data

Elementary aggregate formula

Average prices in the CPI are called elementary aggregates. These elementary aggregates are the first level of the index aggregation. We calculate regional elementary aggregates for each of the 12 pricing centres where price collection supports regional estimation. In other cases, we calculate regional elementary aggregates for five CPI broad regions (Auckland, Wellington, rest of North Island, Canterbury, rest of South Island) or, where prices do not support regional estimation, directly to a national elementary aggregate. Since the 2006 review of the CPI, we have used the geometric mean, or Jevons, formula to calculate the elementary aggregate indexes for items where outlet substitution is possible (eg for groceries and appliances).

We use the 'ratio of arithmetic mean prices', or Dutot, formula for items where outlet substitution is not possible (eg local authority rates), where prices are subsidised and may fall to zero (eg GPs' fees), for fresh fruit and vegetables (as the first stage of aggregation is across both outlets within each region, and across weeks within each month), and where it is not currently practical to adopt the Jevons formula (eg when prices are aggregated directly to a national elementary aggregate, rather than aggregated to a regional level).

Information about the consumers price index has more information on the Jevons and Dutot formulae.

Method of aggregating monthly collected prices from monthly to quarterly level

Prices are collected monthly for the food group and a number of non-food items in the CPI, including electricity, cigarettes and tobacco, alcoholic drinks, and air travel. To include them in the CPI, we average these prices over the quarter.

The method we use to calculate these averages is to obtain monthly regional average prices for the item – by outlet-weighting the prices collected at different outlets within each region. We use the monthly regional average prices to calculate quarterly regional average prices – by weighting each monthly regional average price by the number of days in the month in which it was collected. This is called day weighting. We aggregate all the regions to obtain the national quarterly index by weighting together regional price movements from the base (ie June 2014) quarter to the current quarter, using the regional expenditure weights.

We collect petrol and diesel prices weekly, usually on Fridays. The CPI petrol price index measures price changes of 91 octane petrol and 95/98 octane petrol. Within each CPI region, we calculate an average price per 10 litres of each fuel from the prices surveyed each week at individual service stations. Monthly regional average prices for each fuel are then calculated as simple averages of the averages for the weeks in each month. We calculate quarterly regional average prices for each fuel as the day-weighted averages of the averages for the three months in the quarter. We then weight regional price movements from the base (ie June 2014) quarter to the current quarter by the regional population-weighted share of the national expenditure weight, to calculate the national petrol and diesel price indexes for the current quarter.

Since we collect petrol and diesel prices either 12 or 13 times within each quarter, a price change during the quarter is only partly reflected in that quarter, with the remainder being reflected in the following quarter. This also occurs for commodities that are priced monthly, such as cigarettes and tobacco.

Regional expenditure weights

From the September 2014 quarter CPI onwards, we weight regional price change using regional expenditure weights for the five broad regions (Auckland, Wellington, rest of North Island, Canterbury, and rest of South Island). Regional expenditure weights use expenditure in each region to weight regional price change. This ensures that price change in regions where households spend more per person on a particular item relative to other regions (eg Auckland has 33.37 percent of the population and a CPI regional expenditure weight of 34.87 percent) has more influence on the combined national price change for that item.

For broad regions with multiple pricing centres (ie rest of North Island and rest of South Island), we use population shares to allocate the regional expenditure weight to the pricing centres.

Previously, we used national expenditure weights in each of the (then) 15 regional pricing centres, weighted by the centre's population share. This change was recommended by the 2013 CPI Advisory Committee (recommendation 6) and aligns with international best practice.

We calculate regional expenditure weights as proportions of national expenditure (eg 35.50 percent of food expenditure is in the Auckland region) for each CPI class or section (the lowest published level) using HES regional expenditure. We apply class/section level proportions to the individual items within that class or section (eg the regional proportions for fruit are applied to national expenditure on each fruit item) to derive regional expenditure on each individual item (eg spending on apples in Auckland).

Regional expenditure is then expressed in June 2014 prices for the respective region (eg 'apple expenditure in Auckland' is expressed in June 2014 apple prices collected in Auckland). The group level regional weights are calculated by aggregating all food expenditure in each broad region.

We publish CPIs for the five broad regions based on regional council area boundaries. These indexes are available from Infoshare.

For the 2014 regional expenditure weights for the five broad regions, see table 7 of this release.

Outlet weights

We give outlets appropriate weights to reflect their relative importance in terms of household spending.

'On special' prices

We include items that are 'on special' in the CPI at the price levels we observe when collecting prices. Quantity specials (eg 15-pack of beer at a cheaper shelf price than the 12-pack) are also considered where appropriate (as the price per bottle for the special is lower).

Key concepts

Standard and non-standard series
CPI series that contribute to the hierarchical structure of the overall CPI are known as standard series. For example, the clothing index, combined with the footwear index, contributes to the clothing and footwear index, which in turn contributes to the all groups index. Components of this pyramid-like structure are known as standard index series. In addition, we publish a selection of non-standard series in the information release tables; additional series are available from Infoshare. Examples of these non-standard series include:

- all groups CPI less each of the 11 CPI groups
- all groups CPI plus interest
- interest.

The CPI is published at the following levels: group, subgroup, and class – all at the national level. We also publish selected sections within the food group.

Tradable and non-tradable non-standard series
The tradable and non-tradable component series that appear in table 1 allow users to decompose CPI goods and services into two components: one contains goods and services that are imported or in competition with foreign goods, either in domestic or foreign markets tradables); the other contains goods and services that do not face foreign competition (non-tradables).

Movements in the tradables component (tradable inflation) demonstrate how international price movements and exchange rates are affecting consumer prices. The non-tradables component shows how domestic demand and supply conditions are affecting consumer prices.

The June 2014 quarter expenditure weight of the tradables component is 43.59 percent, compared with 44.01 percent in 2011. The June 2014 quarter weight of non-tradables is 56.41 percent, compared with 55.99 percent in 2011.

Consumers price index review: 2014 (table 6) has the June 2014 quarter tradable/non-tradable weights for each group, subgroup, and class.

Consumers price index tradable and non-tradable series (published 2004) presents the methodology we use to categorise the tradable and non-tradable series.

Trend measures of price-level change
Over the long term, the CPI captures the broad pattern of price change, but it can be influenced by one-off events when analysing price change over shorter timeframes (eg a supply disturbance affecting petrol prices). To remove such influences, we calculate analytical measures of price change in an attempt to isolate the more persistent – or underlying – component of general price-level changes. We construct several analytical measures to give a good guide to underlying price-level change. These are a range of 'trimmed means' and a range of 'weighted percentiles', including a weighted median. See tables 11 and 12 of this release for trimmed means and weighted percentiles.

Trimmed means exclude the influence of the largest increases and decreases in the CPI. We do this at the item level of about 700 goods and services in the CPI basket (eg 91 octane petrol or strawberries). The trimmed means progressively remove the influence of the largest increases and decreases.

Weighted percentiles highlight the movement of lower-level indexes at points in the distribution of price changes for a particular time period.

Trend measures of price level change (published 2003) has detailed information on our methodology and how we compile trimmed means and weighted medians.

The **central and local government charges index**, which appears in tables 3.01, 3.02, and 3.03, made up 10.78 percent of the CPI at the June 2014 quarter.

The central and local government charges non-standard series includes items such as:

- Housing New Zealand and local authority rentals
- land transfer registration fees
- local authority rates
- water supply and part of refuse disposal, electricity
- prescription charges and oral contraception, general practitioner fees
- vehicle relicensing fees, road user charges, driver licensing fees
- postage
- State and integrated schools, tertiary education, other education
- cheque duty, and official passports, licences and certificates.

The **goods and services component series** that appear in tables 3.01, 3.02, and 3.03 allow customers to decompose the CPI into its goods and services components, respectively. The goods component made up 60.44 percent, and the services component 39.56 percent at the June 2014 quarter.

The **goods component** comprises:

- the food group (except restaurant meals)
- alcoholic beverages and tobacco group
- clothing and footwear group (except clothing services)
- purchase of new housing, property maintenance materials, water supply, and household energy
- household contents and services group (except repair and hire of household appliances, hire of major tools and equipment, and other household services)
- medical products, appliances and equipment; dentures
- purchase of vehicles, vehicle parts and accessories, petrol, other vehicle fuels and lubricants
- telecommunication equipment
- recreation and culture group (except recreational and cultural services, accommodation services, and package holidays)
- miscellaneous goods and services group (except hairdressing and personal grooming services, jewellery and watch repair, insurance, credit services, and other miscellaneous services).

The **services component** comprises all items not included in the goods component.

Consistency with other periods or datasets

Index reference period

All CPI indexes have an index reference period of the June 2006 quarter (=1000), except where we added additional indexes in subsequent CPI reviews.

Additions to the CPI basket at the June 2008 quarter resulted in our publishing two new indexes at the class level of the New Zealand Household Expenditure Classification (NZHEC). These classes are clothing accessories, and other education. Before the 2008 review, we allocated expenditure on goods and services within these two classes to other apparel and education items, respectively. There was also one new subgroup, for other education. As the two classes and one subgroup were new, they are expressed on the June 2008 quarter (=1000). Similarly, we added other property-related services to the CPI in 2011. The 'other property related services' class is expressed on the June 2011 quarter (=1000).

We did not add or discontinue any class or subgroup level series in the CPI as part of the 2014 review. However, the 'pet-related products' class was renamed 'pets and pet-related products' due to pets being added to the CPI scope.

Reconciling the FPI and food group of the CPI

When comparing the FPI and the food group of the CPI, strictly speaking, the quarterly food group index number is not the average of the relevant three monthly FPI numbers. There are some technical differences between the monthly FPI indexes and quarterly indexes.

Food prices in the consumers price index and food price index (published 2008) has more information.

Treatment of fresh fruit and fresh vegetables – removal of seasonal adjustment

Until the June 2006 quarter, we adjusted fresh fruit and fresh vegetable items that exhibited a seasonal pattern – to remove the effect of normal seasonal change. This treatment reduced the influence of normal seasonal price fluctuations, but did not completely eliminate the effects of seasonal fluctuations if shifts in seasonal patterns occurred.

From the September 2006 quarter onwards, the CPI incorporates seasonally unadjusted prices for fresh fruit and fresh vegetables. This is in line with a recommendation the 2004 CPI Revision Advisory Committee made.

The ongoing, fully unadjusted CPI is linked at the June 2006 quarter to the previously published CPI, which is partly seasonally adjusted. As such, annual movements calculated over the annual period encompassing the June 2006 quarter are based on fully unadjusted index numbers for the latest quarter, compared with partly adjusted index numbers for the same quarter of the previous year. However, analytical time series provided annual movements on a fully unadjusted basis during the year-long transition of the official CPI. During this time, we based annual movements on fully unadjusted index numbers for the latest quarter, compared with partly adjusted index numbers for the same quarter of the previous year.

Availability of regional indexes

We publish indexes for five broad regions: Auckland, Wellington, Canterbury (Christchurch and Timaru until the September 2014 quarter, then Christchurch only), rest of North Island, and rest

of South Island. We consider these series to be fit for purpose and do not make significant use of national pricing indicators in compiling them.

Until the June 2006 quarter, we published indexes for 15 regional pricing centres. These series were not considered fit for purpose, as we used price movements from national or broad-region price collection to compile them. We calculate series for the 12 regional price centres (15 until the June 2014 quarter), which are only available on request.

Interpreting the data

Seasonal adjustment

The 2013 CPI Advisory Committee recommended we add analytical seasonally adjusted series to our publications. We are seasonally adjusting the CPI and FPI at the all groups, group, subgroup, and class levels. The headline CPI will remain unadjusted.

We have seasonally adjusted using direct adjustment rather than indirect since this produced better quality statistics. Indirect seasonal adjustment occurs when individual component series of the main aggregate series are seasonally adjusted, then aggregated to derive totals. For example, an indirect seasonally adjusted fruit series would be compiled by adding all the seasonally adjusted series (for apples, pears, kiwifruit, etc) together. Direct seasonal adjustment occurs when seasonally adjustment is done at the aggregate level, independently of seasonally adjusting the components. A direct seasonally adjusted fruit series would be made up by adjusting the aggregate of all the unadjusted series (for apples, pears, kiwifruit, etc).

We use the x13 ARIMA-SEATS package to run our seasonal adjustment.

See seasonal adjustment in Statistics New Zealand for more information.

See Analytical consumer price index seasonally adjusted series for how seasonal adjustment relates to the CPI.

Rounding index numbers and calculating percentage changes

We publish percentage changes to one decimal place and calculate them from index numbers rounded to the nearest index point. For comparisons that cross the index reference period, customers should compare rounded index numbers (for the later period) with unrounded index numbers (for the earlier period).

Distribution of item-level index movements table

The distribution of item-level index movements table in this release gives additional information on the distribution of price movements for the current quarter's CPI. The analytical statistics in the table indicate how widespread price changes are, and their relative magnitude when compared with previous quarters.

The weighted average price increase and decrease uses unrounded index numbers for the previous and current periods to calculate item-level price movements from the previous period – these are weighted using the previous period's expenditure weights. We calculated the previous period expenditure weight for an item by updating base-period expenditure weights, using the price change for the item from the base period to the previous period.

We use movements based on unrounded index numbers to determine whether items have increased, showed no change, or decreased in price. Previous period expenditure weights are used to indicate the proportion of the expenditure weight that has increased, showed no change, or decreased.

Detailed contribution information tables

Tables 8.01 and 8.02 include supplementary analytical information for group, subgroup, and class contributions to the overall change in the all groups CPI. We give the contribution information as index points, percentage points, and percentage contributions from the previous quarter and from the same quarter of the previous year. These tables provide a broader perspective of the categories contributing to movement in the all groups CPI. Where there is only one class within a subgroup, we omit the class to avoid unnecessary duplication.

We calculate the information in tables 8.01 and 8.02 from unrounded index numbers. Percentage changes are calculated from index numbers rounded to the nearest index point (see 'Rounding of index numbers and calculation of percentage changes', above). As such, the sum of each of the group, subgroup, or class percentage point contributions may differ from the overall percentage change in the CPI all groups.

Weighted average retail prices of selected food items

We include a selection of average retail prices for the current and previous quarter in table 5 of this release. The weighted average prices are calculated by applying index movements to weighted average prices for the June 2006 quarter CPI. They are not statistically accurate measures of average transaction price levels, but do provide a reliable indicator of percentage changes in prices.

Determining the effect of a specified change in a lower-level index

As we reweighted the CPI and FPI at the June 2014 quarter, but continue to publish on an index reference period of June 2006 quarter (=1000), we have modified the method used to determine the effect that a specified change in a lower-level index would have on a higher-level index to which it contributes – for the September 2014 and subsequent quarters.

The index points effect and percentage contribution on a higher-level index of a specified percentage change in a lower-level index that contributes to the higher-level index can be determined by:

1. Adjusting the lower-level index for the previous period ($I_{n-1,low}$) by the specified percentage change ($PC_{n,low}$) to derive the index number for the current period:

$$I_{n,low} = I_{n-1,low} \times \left(1 + \left(\frac{PC_{n,low}}{100}\right)\right)$$

2. Calculating the index points effect on the higher-level index of the specified change in the lower-level index:

$$PE_{low-on-high} = \left(\frac{I_{Jun14,high}}{I_{Jun14,low}}\right) \times \left(\frac{W_{Jun14,low}}{W_{Jun14,high}}\right) \times \left(I_{n,low} - I_{n-1,low}\right)$$

3. Calculating the percentage change in the higher-level index that would be caused by the specified change in the lower-level index:

$$PC_{n,high} = \left(\left(\frac{I_{n-1,high} + PE_{low-on-high}}{I_{n-1,high}} \right) - 1 \right) \times 100$$

I : index
n : period n, where n is the September 2014 quarter or a subsequent quarter (CPI), or the July 2014 month or a subsequent month (FPI)
n-1 : period n-1
Jun14 : June 2014 quarter (CPI) or June 2014 month (FPI)
low : lower-level index
high : higher-level index
W : expenditure weight, expressed as a percentage of the all groups (CPI) or group (FPI) index
PC : percentage change
PE : index points effect
low-on-high : lower-level index on higher-level index

Example:
The effect of a 5.0 percent increase in the petrol index (weight is 5.03 percent in the CPI) from the June 2014 quarter to the September 2014 quarter on the all groups CPI index is calculated by:

1. Increasing the petrol index for the June 2014 quarter by 5.0 percent to derive the index number for the September 2014 quarter:

$$I_{Sep14,low} = I_{Jun14,low} \times \left(1 + \left(\frac{PC_{Sep14,low}}{100} \right) \right)$$

$$= 1260 \times \left(1 + \left(\frac{5.0}{100} \right) \right)$$

$$= 1323$$

2. Calculating the index points effect on the all groups CPI index of the 5.0 percent increase in the petrol index:

$$PE_{low-on-high} = \left(\frac{I_{Jun14,high}}{I_{Jun14,low}} \right) \times \left(\frac{W_{Jun14,low}}{W_{Jun14,high}} \right) \times \left(I_{n,low} - I_{n-1,low} \right)$$

$$= \left(\frac{1195}{1260} \right) \times \left(\frac{5.03}{100} \right) \times (1323 - 1260)$$

$$= 3.01$$

3. Calculating the percentage change in the all groups CPI index that would be caused by a 5.0 percent change in the petrol index:

$$PC_{n,high} = \left(\left(\frac{I_{n-1,high} + PE_{low-on-high}}{I_{n-1,high}} \right) - 1 \right) \times 100$$

$$= \left(\left(\frac{1195 + 3.01}{1195} \right) - 1 \right) \times 100$$

$$= 0.3 \text{ percent}$$

Timing of published data

We publish the CPI 12 working days after the reference quarter.

CPI rolling review of retail outlets

Between our three-yearly updates of the CPI basket and weights, we undertake rolling reviews. We have begun work on the rolling review for 2015/16. This review will refresh the sample of field outlets and product specifications to ensure they continue to represent where consumers shop and what they buy.

We will also consider our mix of price-collection modes (physical visits, online price collection, and postal surveys) to ensure prices are collected efficiently and maintain relevance.

For more information on this CPI rolling review for 2015/16 contact:

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More information

More information about the consumers price index is available on our website.

Statistics in this release have been produced in accordance with the Official Statistics System principles and protocols for producers of Tier 1 statistics for quality. They conform to the Statistics NZ Methodological Standard for Reporting of Data Quality.

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Timing

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Tables

See the following Excel tables in the 'Downloads' box. If you have problems viewing the files, see opening files and PDFs.

We have updated the consumers price index table formatting from the June 2012 quarter.

1. Consumers price index, tradables, non-tradables, and all groups – index numbers and percentage changes
2.01 Consumers price index, groups and subgroups – index numbers
2.02 Consumers price index, groups and subgroups, percentage change from previous quarter
2.03 Consumers price index, groups and subgroups, percentage change from same quarter of previous year
3.01 Consumers price index, selected groupings – index numbers
3.02 Consumers price index, selected groupings, percentage change from previous quarter
3.03 Consumers price index, selected groupings, percentage change from same quarter of previous year
4. International comparisons of consumer price indexes, excluding housing and household utilities group and credit services class – index numbers and percentage change
5. Weighted average retail prices of selected items
6. Consumers price index, expenditure weights, by group
7. Consumers price index, regional expenditure weights
8.01 Contribution to all groups and percentage change from previous quarter, by group, subgroup, or class
8.02 Contribution to all groups and percentage change from same quarter of previous year, by group, subgroup, or class
9. Consumers price index, expenditure weights, by group, subgroup, or class
10. Consumers price index, COICOP divisions – index numbers and percentage changes
11. Consumers price index, trimmed means and all groups – percentage changes
12. Consumers price index, weighted percentiles and all groups – percentage changes
13. Distribution of national item-level index movements from previous quarter
14. Consumers price index, seasonally adjusted tradables, non-tradables, and all groups – index numbers and percentage changes
15.01 Consumers price index, seasonally adjusted groups and subgroups – index numbers
15.02 Consumers price index, seasonally adjusted groups and subgroups, percentage change from previous quarter

Supplementary tables

These tables provide longer time-series information than the tables above. Given this, they are not suitable for printing. See the 'Downloads' box.

1. Consumers price index, tradables, non-tradables, and all groups – index numbers and percentage changes
2.01 Consumers price index, groups and subgroups – index numbers
2.02 Consumers price index, groups and subgroups, percentage change from previous quarter
2.03 Consumers price index, groups and subgroups, percentage change from same quarter of previous year
3.01 Consumers price index, selected groupings – index numbers
3.02 Consumers price index, selected groupings, percentage change from previous quarter
3.03 Consumers price index, selected groupings, percentage change from same quarter of previous year

4.01 Consumers price index, purchase of housing class, selected regions – index numbers and percentage changes
4.02 Consumers price index, actual rentals for housing subgroup, selected regions – index numbers and percentage changes
5.01 Consumers price index, percentage of prices that were discounted in quarter
5.02 Consumers price index, average quarterly percentage price change of items that were discounted in quarter
6. Consumers price index, seasonally adjusted tradables, non-tradables, and all groups – index numbers and percentage changes
7.01 Consumers price index, seasonally adjusted groups and subgroups – index numbers
7.02 Consumers price index, seasonally adjusted groups and subgroups, percentage change from previous quarter
8. Consumers price index, all groups and selected groups – index numbers and percentage changes, by region

Access more data on Infoshare

Use Infoshare, a free online tool to access time-series data specific to your needs.

To access the CPI time series, select the following from the homepage:
Subject category: **Economic indicators**
Group: **Consumers Price Index**

The CPI series provide additional information to that in this release, including:

- index series for the CPI and its groups, subgroups, classes, and selected sections
- indexes compiled under the international classification of Classification of Individual Consumption according to Purpose (COICOP)
- the CPI, and selected groups, for the five broad regions
- non-standard aggregations of indexes (for example, alcoholic beverages consumed off licensed premises)
- analytical measures of price change
- historical seasonally unadjusted index series
- average prices for a selection of items in the CPI basket.

The time series can be downloaded in Excel or comma delimited format. Percentage movements can be calculated using the following formula:

((Index number for later period minus index number for earlier period) divided by index number for earlier period) multiplied by 100.

More information about Infoshare can be found on our website.

Next release

Consumers Price Index: September 2015 quarter will be released on 16 October 2015.