

# Food Price Index: September 2014

Embargoed until 10:45am – 13 October 2014

## Key facts

### Monthly change

In September 2014 compared with August 2014:

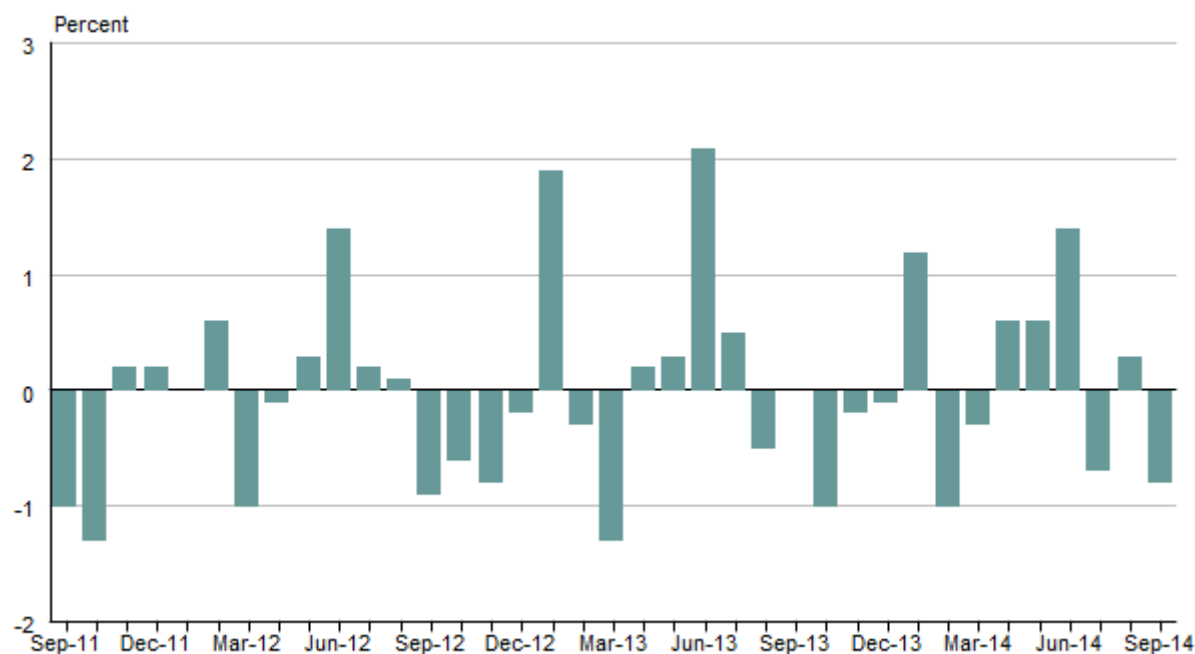
- Food prices **fell** 0.8 percent.
- Fruit and vegetable prices **fell** 6.5 percent.
- Meat, poultry, and fish prices **rose** 1.2 percent.
- Grocery food prices **fell** 0.2 percent.
- Non-alcoholic beverage prices **rose** 0.6 percent.
- Restaurant meals and ready-to-eat food prices **rose** 0.1 percent.

### Annual change

From September 2013 to September 2014:

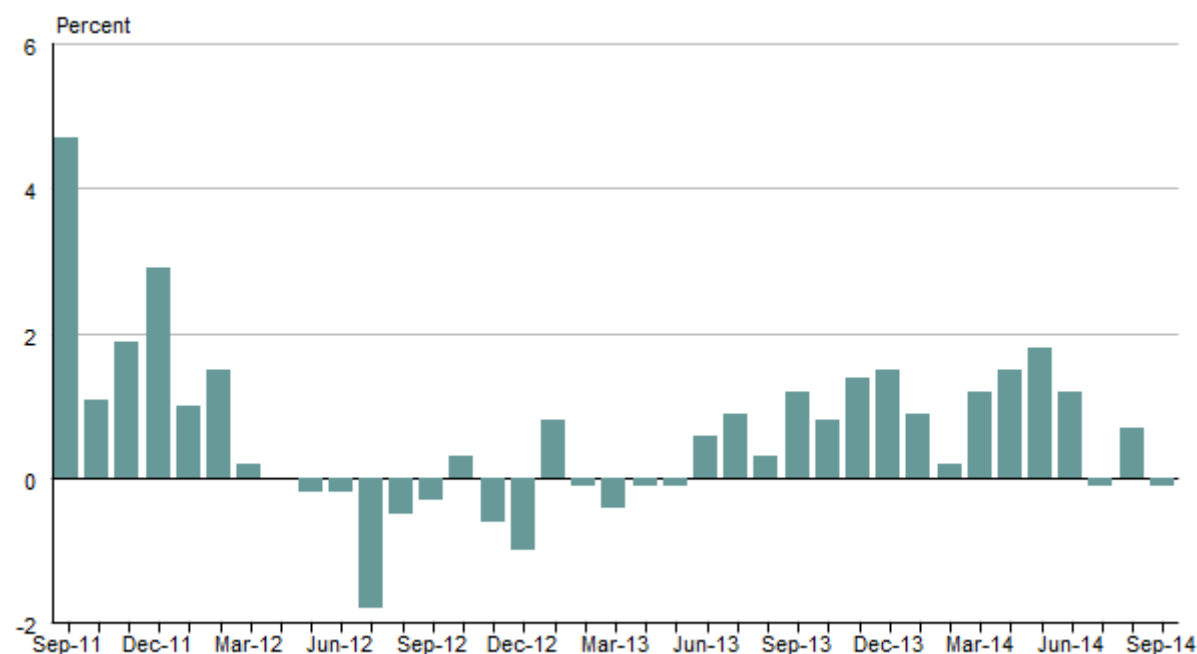
- Food prices **decreased** 0.1 percent.
- Fruit and vegetable prices **decreased** 3.3 percent.
- Meat, poultry, and fish prices **increased** 2.2 percent.
- Grocery food prices **decreased** 1.6 percent.
- Non-alcoholic beverage prices **increased** 2.9 percent.
- Restaurant meals and ready-to-eat food prices **increased** 1.7 percent.

**Food price index**  
Monthly change



Source: Statistics New Zealand

**Food price index**  
Annual change



Source: Statistics New Zealand

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## Commentary

- Monthly food prices down 0.8 percent, influenced by lower vegetable prices
- Annual food prices decrease 0.1 percent
- Longer-term retail picture for dairy, meat, and grain prices
- Updated CPI for the September 2014 quarter

### Monthly food prices down 0.8 percent, influenced by lower vegetable prices

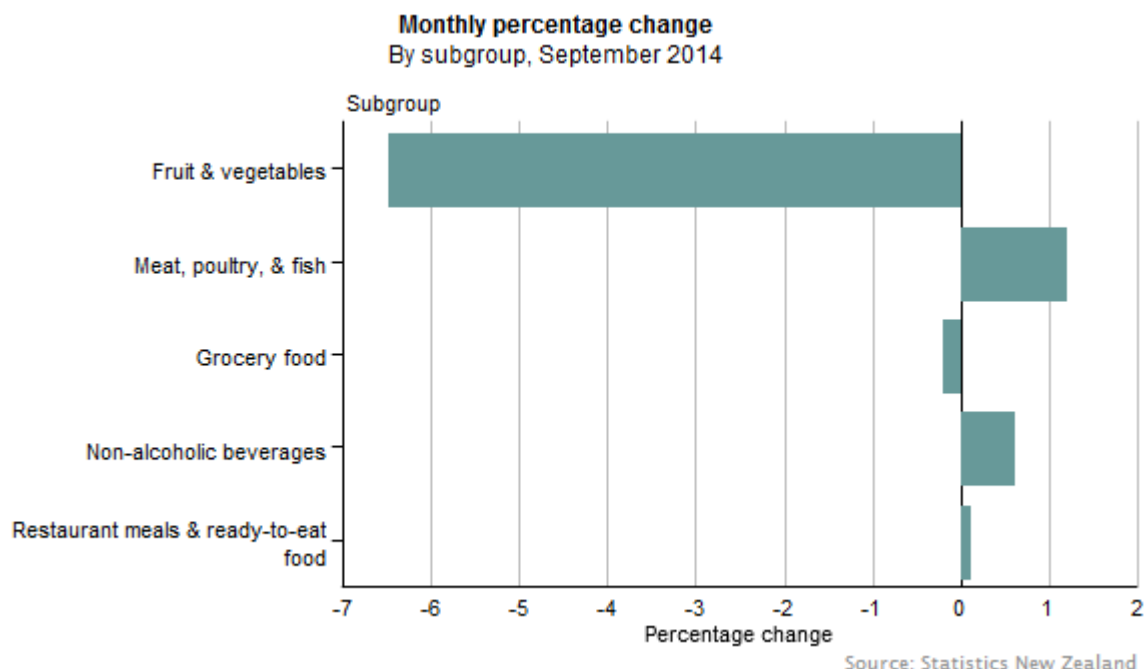
Food prices fell 0.8 percent in September 2014, following a 0.3 percent rise in August and a 0.7 percent fall in July.

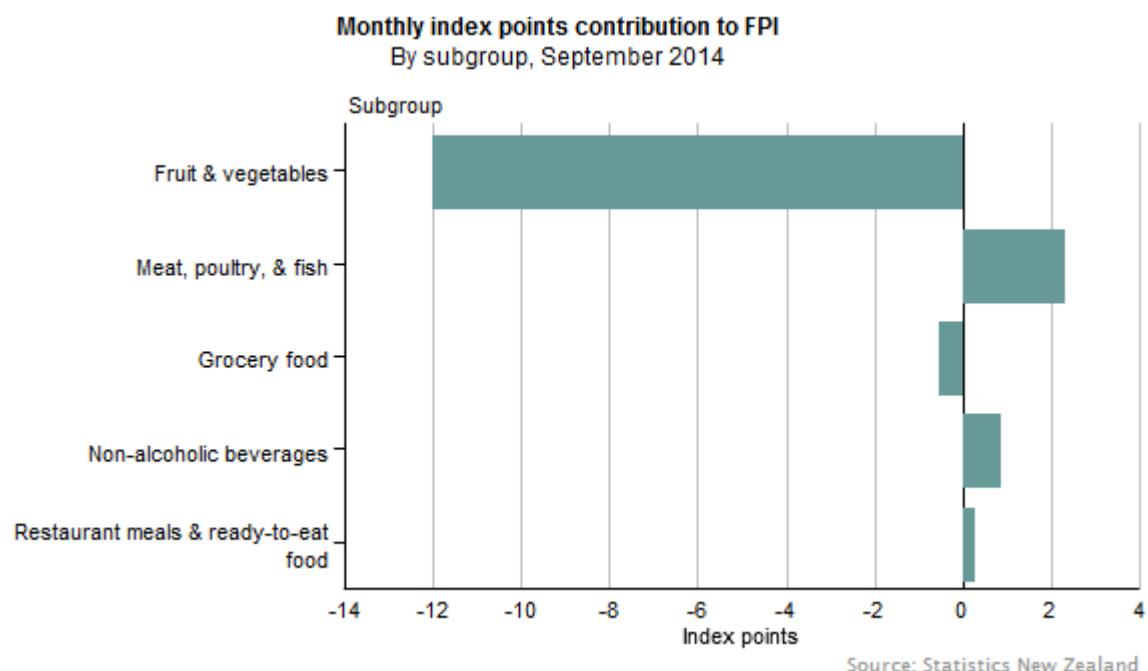
Fruit and vegetable prices fell 6.5 percent, influenced by seasonally lower prices for vegetables (down 11 percent). Prices fell for lettuce, tomatoes, cucumber, and capsicums. The fall in vegetable prices was partly offset by a rise in fruit prices (up 1.4 percent), influenced by higher prices for apples and bananas.

Meat, poultry, and fish prices rose 1.2 percent, influenced by higher prices for processed meat (up 1.8 percent), pork (up 6.5 percent), lamb (up 4.9 percent), and beef (up 1.6 percent).

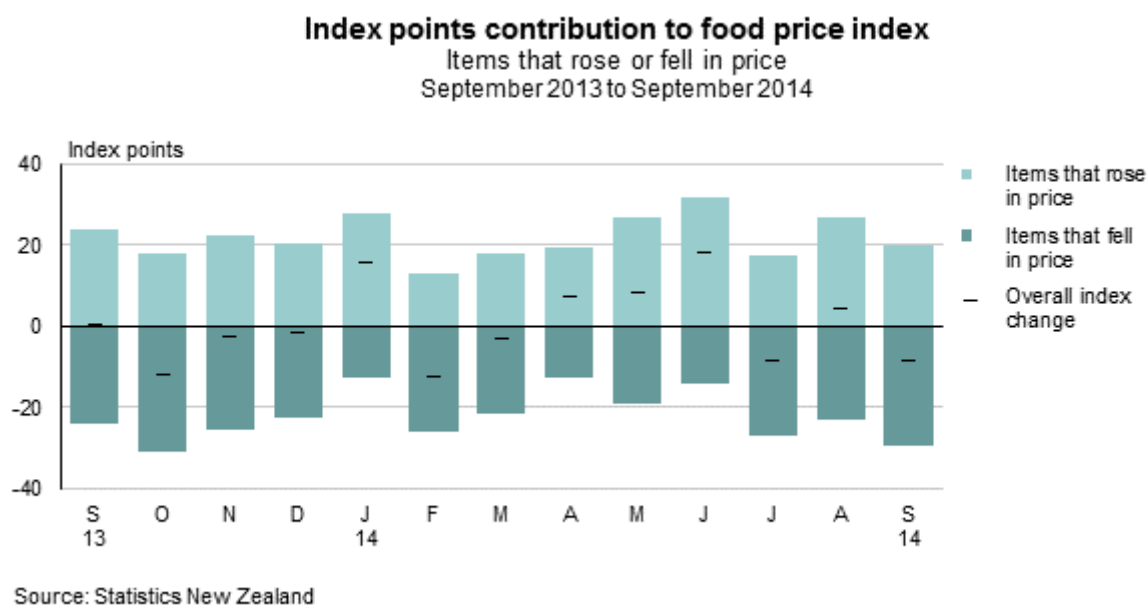
Grocery food prices fell 0.2 percent, influenced by lower prices for oils and fats (down 7.6 percent) and confectionery, nuts, and snacks (down 0.9 percent). The fall in prices for oils and fats was influenced by lower butter prices, while the fall in prices for confectionery, nuts, and snacks was influenced by snack foods and chocolate. These price falls were partly offset by a rise in prices for cakes and biscuits (up 4.4 percent).

Non-alcoholic beverage prices rose 0.6 percent, influenced by higher prices for soft drinks, waters, and juices (up 1.1 percent).





The following graph shows the index points contribution to the food price index (FPI) of items that rose or fell in price for the month.



## Annual food prices decrease 0.1 percent

In the year to September 2014, food prices decreased 0.1 percent, following an increase of 0.7 percent in the year to August 2014.

Grocery food prices decreased 1.6 percent in the year to September 2014, influenced by bread and cereals (down 5.2 percent) and confectionery, nuts, and snacks (down 2.1 percent). The price decrease for bread and cereals was influenced by lower bread prices (down 14 percent). This decrease was influenced by supermarkets discounting some of their own-brand

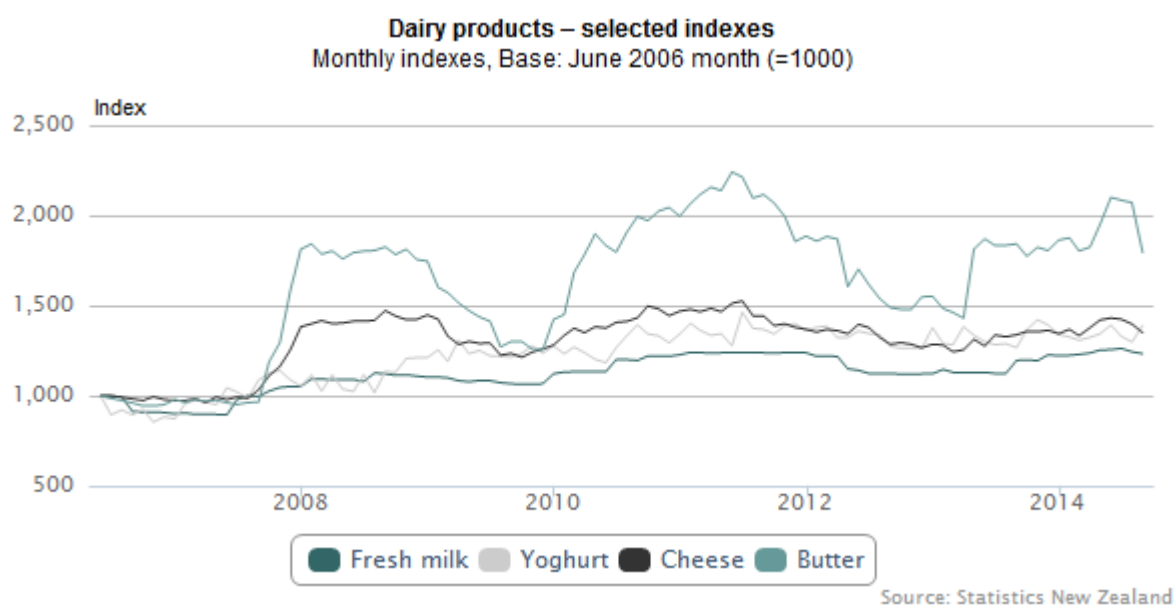
bread to about \$1.00 in July and August. The decreases for grocery food prices were partly offset by higher prices for dairy products including fresh milk and yoghurt.

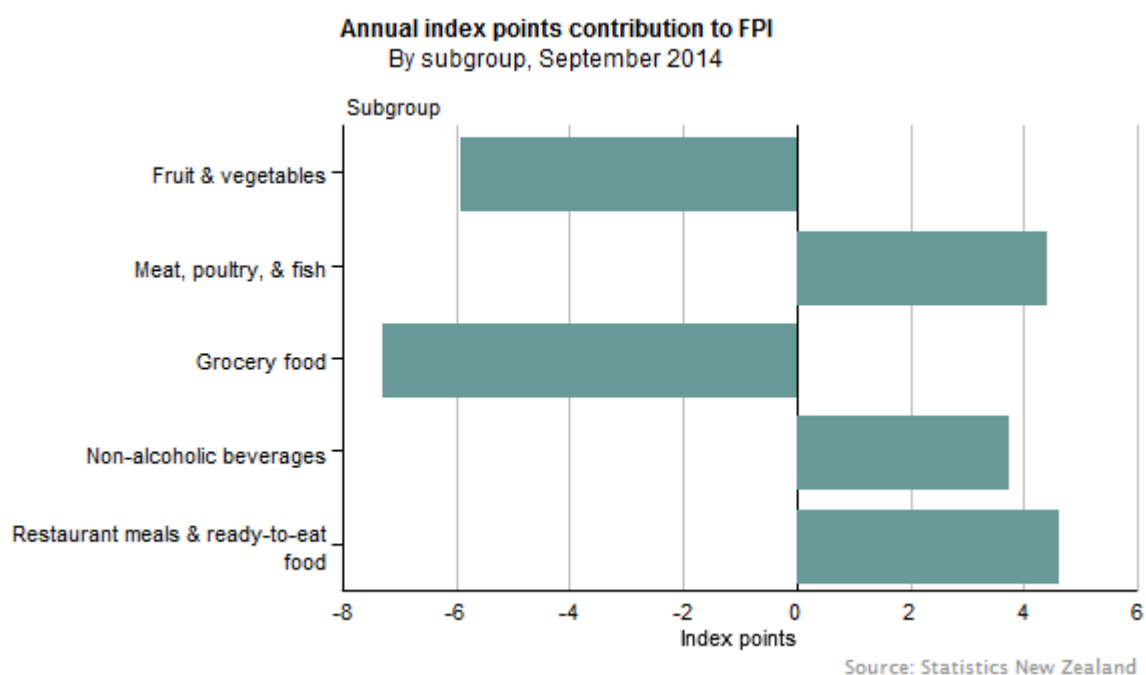
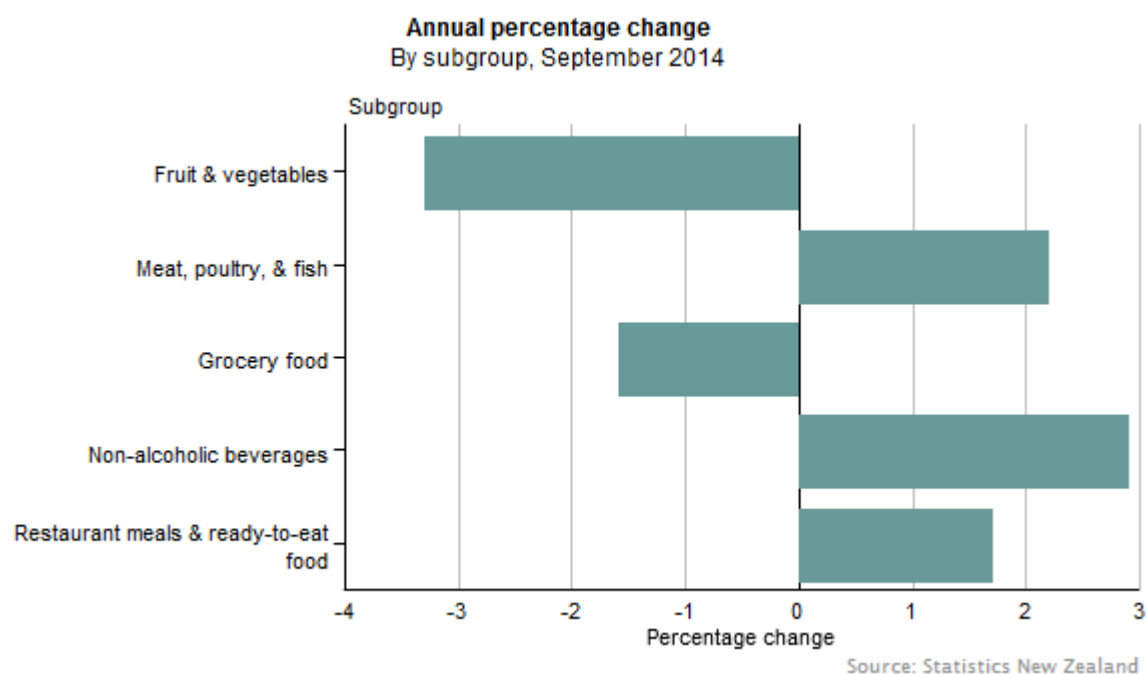
Fruit and vegetable prices decreased 3.3 percent, influenced by lower prices for vegetables (down 5.7 percent). Prices decreased for tomatoes, kumara, and avocados.

Restaurant meals and ready-to-eat food prices increased 1.7 percent, with higher prices for ready-to-eat food (up 1.7 percent) and restaurant meals (up 1.6 percent).

Meat, poultry, and fish prices increased 2.2 percent in the year to September 2014, influenced by higher prices for chicken (up 5.5 percent), lamb (up 12 percent), and beef (up 2.3 percent). These increases were partly offset by lower prices for processed meat and pork.

Non-alcoholic beverage prices increased 2.9 percent, influenced by higher prices for soft drinks, waters, and juices.



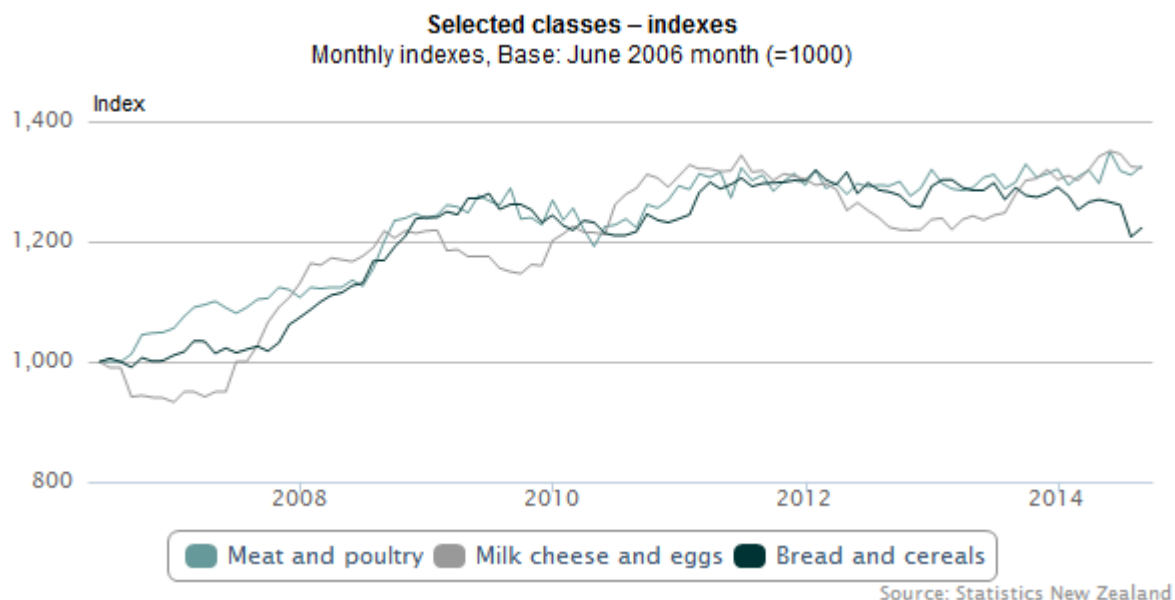


## Longer-term retail picture for dairy, meat, and grain prices

Milk, cheese, and egg prices increased 3.4 percent in the year to September 2014. Fresh milk prices increased 3.2 percent in the year to September 2014, and are 2.2 percent below their peak in July 2014.

Meat and poultry prices increased 2.1 percent in the year to September 2014. Chicken prices increased 5.5 percent in the year to September 2014, and are 4.0 percent below their peak in December 2013. Beef prices increased 2.3 percent in the year to September 2014, and are 3.5 percent below their peak in June 2014.

Bread and cereal prices have decreased 5.2 percent in the year to September 2014, influenced by a 14 percent fall in bread prices. Bread prices are at their lowest level since September 2008.



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

## Updated CPI for the September 2014 quarter

We will publish *Consumers Price Index: September 2014 quarter* on 23 October 2014, a week later than usual, as we are implementing a review of the index. CPI reviews happen every three years and help ensure the index remains relevant.

The reviewed index will incorporate:

- an updated basket of goods and services
- an updated expenditure weighting pattern
- a move to regional expenditure weights (as recommended by the 2013 CPI Advisory Committee).

Please see our [release calendar](#) for information on release dates.

The information paper, [Consumers price index review: 2014](#) was published on 8 October 2014. The paper includes:

- the new expenditure weights down to the third (class) level of the expenditure classification
- details of changes made to the basket of goods and services.

For more information about the CPI review contact:

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## Definitions

### About the food price index

The food price index (FPI) measures the rate of price change of a fixed basket of food goods and services purchased by households. The FPI aims to measure price changes of the same items (brand and relevant details) 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 the price change shown in the FPI is not affected by the change in size or quality.

See Food price index review: 2014 (table 4) for a list of the representative food items monitored in the FPI.

Food prices are also included in the consumers price index (CPI). The food group is the only group of the CPI for which an index is prepared each month. The all groups CPI is prepared quarterly.

Food prices in the consumers price index and food price index explains the sources and methods used to compile food prices.

### More definitions

A **price index** measures the change in price between time periods for a given set of goods and services. It summarises a set of prices, collected from many outlets, for this set of goods and services.

**Grocery food specials:** For items that are 'on special' or come 'off special', we use the price at the time of collection. We often give an analysis of these items for the subgroups meat, poultry, and fish; grocery food; and non-alcoholic beverages in the 'Commentary' and 'Data quality' sections of this release. To be included in this analysis, the item will have been on special last month, this month, or in both months.

**Upward/downward contributions:** Items mentioned in this release are usually those that made a large contribution to the overall movement in the FPI. 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 food) 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 FPI will have a larger contribution to the overall movement. This contribution is also referred to as points (or index points) contribution.

## **Related links**

### **Upcoming releases**

*Food Price Index: October 2014* will be released on 13 November 2014.

[Subscribe to information releases](#), including this one, by completing the online subscription form.

[The release calendar](#) lists all our upcoming information releases by date of release.

### **Past releases**

[Food Price Index](#) has links to past releases.

## **Related information**

[Consumers price index](#) (CPI) measures price change of goods and services purchased by New Zealand households.

[Food prices in the consumers price index and food price index](#) gives an explanation of the sources and methods used to compile food prices.

[Electronic card transactions](#) measure the number and value of electronic card transactions with New Zealand-based merchants.

[Retail Trade Survey](#) measures sales of a range of household and personal goods and services.

## Data quality

### Period-specific information

This section contains information about data that has changed since the last release.

- [Reference period](#)
- [Sample size](#)
- [Imputation](#)

### General information

This section contains information that does not change between releases.

- [Reference population](#)
- [Expenditure weights](#)
- [Collection methods](#)
- [Sample design](#)
- [Accuracy of the data](#)
- [Consistency with other periods or datasets](#)
- [Interpreting the data](#)
- [More information](#)

## Period-specific information

### Reference period

Prices for the food price index (FPI) were collected during the period 8–15 September 2014, with the exception of fresh fruit and vegetable prices which are collected weekly throughout the month. Fresh fruit and vegetable prices were collected each Friday in most urban areas, and each Thursday in remaining urban areas.

### Sample size

About 19,000 prices were collected from 560 retail outlets.

### Imputation

Due to being unavailable at the time of price collection, on average 0.7 percent of prices (not including seasonal fresh fruit and vegetables) are imputed each month – by carrying forward the previous month's price.

## General information

### Reference population

The reference population of the FPI covers approximately 98 percent of the usually-resident New Zealand population living in permanent dwellings. There are no exclusions based on income source or geographic location.

## **Expenditure weights**

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

Expenditure weights are updated every three years as part of regular FPI reviews. The weights are derived largely from the [2012/13 Household Economic Survey \(HES\)](#). We also used information from food manufacturers and distributors, and supermarket scan data from The Nielsen Company.

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

The relative importance of the FPI subgroups shows that about \$37 of every \$100 that households spend on food is spent on grocery food. About \$23 is spent on eating out or takeaways, and about \$16 is spent on meat, poultry, and fish. Fruit and vegetables account for \$14, and the remaining \$10 is spent on non-alcoholic beverages, such as packaged coffee, soft drinks, and juices.

More information on the relative importance of FPI subgroups, classes, and selected sections is in table 6 of this release.

## **Collection methods**

Prices are surveyed by visiting retail outlets in 12 urban areas: Whangarei, Auckland, Hamilton, Tauranga, Napier-Hastings, New Plymouth, Palmerston North, Wellington, Nelson, Christchurch, Dunedin, and Invercargill.

Before 1 July 2014, we also collected FPI 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 will be directly represented by Tauranga, Palmerston North, and Christchurch, respectively.

Fresh fruit and vegetable prices are surveyed weekly, and the remaining food prices are generally surveyed between the 8th and 16th day of the month, although sometimes surveying starts and finishes earlier or later.

## **Sample design**

Food prices are collected from about 560 outlets in the 12 surveyed urban areas. Of these, about 60 are supermarkets, 30 greengrocers, 20 fish shops, 30 butchers, 60 convenience stores (with about half being service stations and the rest being dairies, grocery stores, and superettes), 110 restaurants (for evening meals), and about 250 other suitable outlets (for breakfast, lunch, and takeaway food).

Statistics NZ collects prices from a sample of supermarkets in each of the 12 FPI pricing regions. This sample is designed to be representative of household purchases in each region. It was last reviewed in 2011. The sample of other stores was last reviewed in 2013 as part of the rolling review of outlets.

See [CPI rolling review of retail outlets](#) for more information.

## **Accuracy of the data**

### **Review of the food price index**

Reviews of the FPI are undertaken every three years, as part of wider reviews of the consumers price index (CPI). The latest review was implemented with the publication of *Food Price Index: July 2014* onwards. The review involved reselecting the basket of representative food goods and services, calculating new national expenditure weights, and moving to regional expenditure weights.

The previous product sample's final price collection period was June 2014. The updated FPI sample of products also had prices collected in June 2014. An overlapping price collection is necessary when changing a price index, to ensure changes in basket composition (eg basket additions, different outlets) are not reflected as price changes.

See Food price index review: 2014 for more information.

### **Population weights**

From the July 2014 FPI onwards, regional price change is weighted 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, which has 33.37 percent of the population and an FPI regional expenditure weight of 35.52 percent) has more influence on the combined national price change for that item.

For broad regions with multiple pricing centres (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 calculated regional expenditure weights as proportions of national expenditure (eg 35.52 percent of food expenditure is in the Auckland region) for each FPI class or section (the lowest published level) using Household Economic Survey regional expenditure. We applied class/section-level proportions to the individual items within that class or section (eg the regional proportions for fruit was applied to national expenditure on each fruit item) to derive regional expenditure on each individual item (eg spending on apples in Auckland).

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

Statistics NZ publishes food and consumers price indexes for five broad regions based on regional council area boundaries. These indexes are available from Infoshare. These regions are Auckland, Wellington, rest of North Island, Canterbury, and rest of South Island.

For the 2014 regional expenditure weights for the five broad regions and 12 regional pricing centres, see table 7 of this release.

## **Outlet weights**

Outlets are given appropriate weights to reflect their relative importance in terms of household spending.

## **Elementary aggregate formulae**

Regional elementary aggregates are calculated for each of the 12 pricing centres from all prices collected for an item within that region. Regional elementary aggregates are calculated using a 'geometric mean of price relatives', or Jevons formula.

The Jevons formula is used to calculate average prices for all food goods and services in the basket, except fresh fruit and fresh vegetables. The Jevons formula assumes that households spend the same amount at each surveyed outlet in each period. This implies that increased quantities are purchased from outlets showing lower-than-average relative price change and decreased quantities from outlets showing higher-than-average price change. The calculation of fresh fruit and vegetable average prices uses the Dutot formula.

Information about the Food Price Index gives more information on the Jevons and Dutot formulae (see elementary aggregate formulae).

## **'On special' prices**

Items that are 'on special' are included in the FPI at the price levels observed at the time of price collection. Quantity specials (for example, three loaves of bread for \$5.00) are also taken into account (as the price per loaf for the special is usually lower than the price of a single loaf). Where discounted prices are available only to customers who belong to discount schemes, this is represented in the FPI by collecting these prices at some outlets within a region, but not others.

## **Consistency with other periods or datasets**

### **Impact of the Christchurch earthquakes on price collection**

Following the Christchurch earthquake on 22 February 2011 price movements for the rest of New Zealand were used to calculate price movements in Christchurch for the March 2011 FPI. About half the prices used to calculate the June 2011 FPI had been collected before the 13 June earthquakes; collection was completed on 20 and 21 June, two working days later than other regions where we collect prices for the FPI.

## **Index base**

The FPI has an index reference period of the June 2006 month (=1000). This is 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 the same fashion.

## **Seasonal adjustment of prices – fresh fruit and vegetables**

Until the June 2006 month, fresh fruit and vegetable items that exhibited a seasonal pattern were adjusted to remove the effect of normal seasonal change. From the July 2006 month onwards, the FPI incorporates seasonally unadjusted prices for fresh fruit and vegetables. This change is in line with a recommendation made by the 2004 CPI Revision Advisory Committee.

The ongoing, fully unadjusted FPI is linked at the June 2006 month to the previously published FPI, which is partly seasonally adjusted. As such, care is required when comparing annual movements over this transition period. Annual movements calculated over the annual period encompassing the June 2006 month were based on fully unadjusted index numbers for the latest month, compared with adjusted index numbers for fresh fruit and vegetables for the same month of the previous year.

### **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.

See [Food prices in the consumers price index and food price index](#) for more information.

### **Interpreting the data**

#### **Seasonal availability of fruit and vegetables**

Fruit and vegetable prices are reflected in the FPI when there is enough produce available to estimate representative average prices. For example, prices for nectarines are historically not included in the April and May FPI. Similarly, prices for strawberries are not included in the May and June FPI. This is because not enough prices can be collected from stores during these months. No price change is shown in the FPI for these items during these months. When produce returns to sufficient levels, the prices are again reflected in the FPI. Price movements then reflect the price change from the month that the item was last included to the current month.

#### **Weighted average retail prices of selected food items**

Table 3 contains a selection of weighted average retail prices for the current and previous months. These weighted average retail prices were calculated from prices collected in the June 2006 month. Subsequent months' weighted average prices are then calculated by applying price index movements for the relevant items. These are not statistically accurate measures of average transaction price levels, but are reliable indicators of percentage changes in prices.

### **More information**

See [information about the Food Price Index](#).

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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## 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. Food price index, subgroups
- 2.01 Food price index, subgroups, classes, and selected sections – index numbers
- 2.02 Food price index, subgroups, classes, and selected sections, percentage change from previous month
- 2.03 Food price index, subgroups, classes, and selected sections, percentage change from same month of previous year
3. Weighted average retail prices of selected food items
4. Contributions to food price index and percentage change, by subgroup, class, or selected section
5. Distribution of national item-level index movements from previous month
6. Food expenditure weights, by subgroup, class, or selected section
7. Regional weights, by region/pricing centre

## Supplementary tables

The following tables are available in Excel format from the 'Downloads' box. These tables provide longer time-series information than the tables above. Given the long time-series nature of the tables, they are not suitable for printing.

1. Food price index, subgroups
- 2.01 Food price index, subgroups, classes, and selected sections – index numbers
- 2.02 Food price index, subgroups, classes, and selected sections, percentage change from previous month
- 2.03 Food price index, subgroups, classes, and selected sections, percentage change from same month of previous year

## Access more data on Infoshare

Infoshare allows you to access time-series data and organise it in the way that best meets your needs.

### Use Infoshare

For this release, select the following categories from the Infoshare homepage:

Subject category: **Economic indicators**

Group: **Consumers Price Index**

The FPI series are listed immediately after the CPI series. Additional information includes:

- index series for the FPI and its subgroups, classes, and selected sections
- the FPI for the 12 pricing centres and five broad regions
- non-standard aggregations of indexes (eg fresh fruit and vegetables)
- historical seasonally unadjusted index series
- average prices for a selection of items in the FPI 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.

[See more information about Infoshare.](#)