

# Food Price Index: September 2013

Embargoed until 10:45am – 11 October 2013

## Key facts

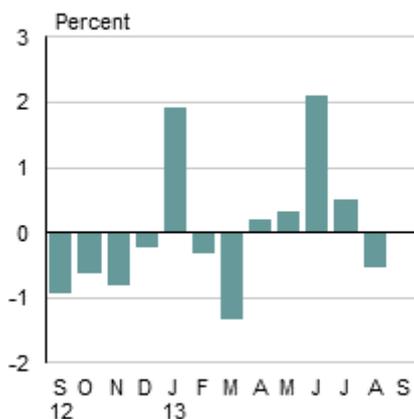
In September 2013 compared with August 2013:

- Food prices **showed no overall change**.
- Fruit and vegetable prices **fell** 4.3 percent.
- Meat, poultry, and fish prices **rose** 0.9 percent.
- Grocery food prices **rose** 0.9 percent.
- Non-alcoholic beverage prices **rose** 0.1 percent.
- Restaurant meals and ready-to-eat food prices **rose** 0.8 percent.

From September 2012 to September 2013:

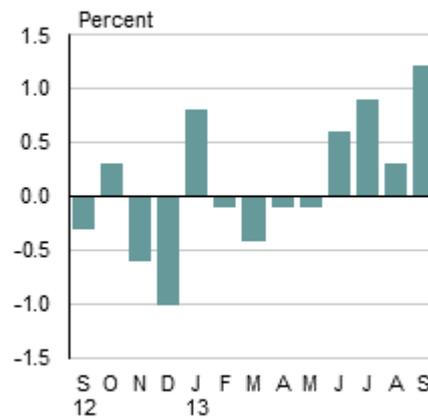
- Food prices **increased** 1.2 percent.
- Fruit and vegetable prices **decreased** 0.3 percent.
- Meat, poultry, and fish prices **increased** 0.3 percent.
- Grocery food prices **increased** 2.0 percent.
- Non-alcoholic beverage prices **increased** 1.9 percent.
- Restaurant meals and ready-to-eat food prices **increased** 1.1 percent.

**Food price index**  
Monthly change



Source: Statistics New Zealand

**Food price index**  
Annual change



Source: Statistics New Zealand

Liz MacPherson  
Government Statistician

11 October 2013  
ISSN 1178-0282

## Commentary

- [Monthly food prices show no overall change](#)
- [Annual 1.2 percent increase influenced by higher grocery food prices](#)
- [Rolling review of retail outlets](#)

### Monthly food prices show no overall change

Food prices showed no overall change in September 2013, following a 0.5 percent fall in August 2013.

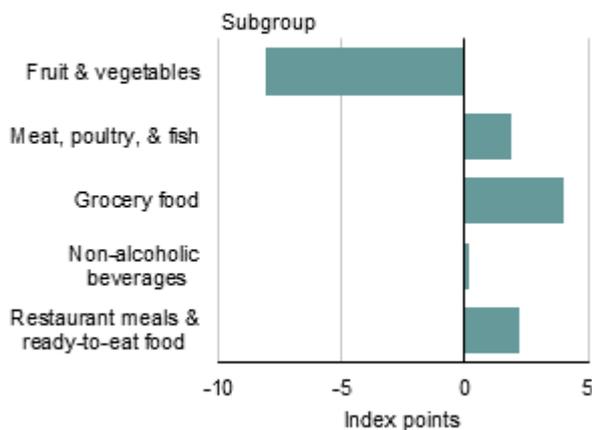
Grocery food prices rose 0.9 percent, influenced by higher prices for fresh milk (up 6.4 percent) as well as cakes and biscuits (up 4.2 percent).

Restaurant meals and ready-to-eat food prices rose 0.8 percent, influenced by higher prices for ready-to-eat food (up 1.2 percent).

Fruit and vegetable prices fell 4.3 percent, with lower prices for vegetables (down 7.4 percent), and higher prices for fruit (up 1.0 percent). There were seasonal price falls for lettuce and tomatoes.

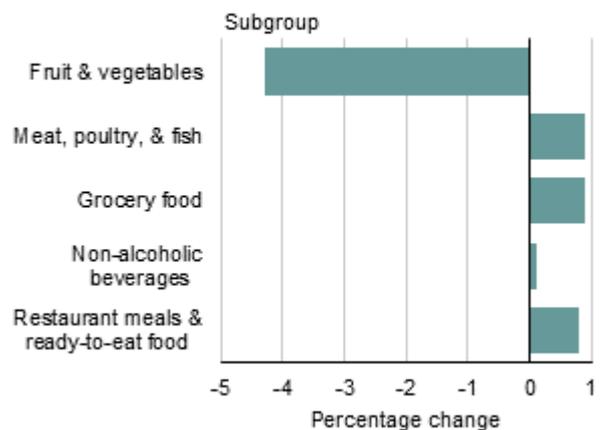
See [Data influencers and context](#) for more details.

**Monthly index points contribution to FPI**  
By subgroup  
September 2013



Source: Statistics New Zealand

**Monthly percentage change**  
By subgroup  
September 2013

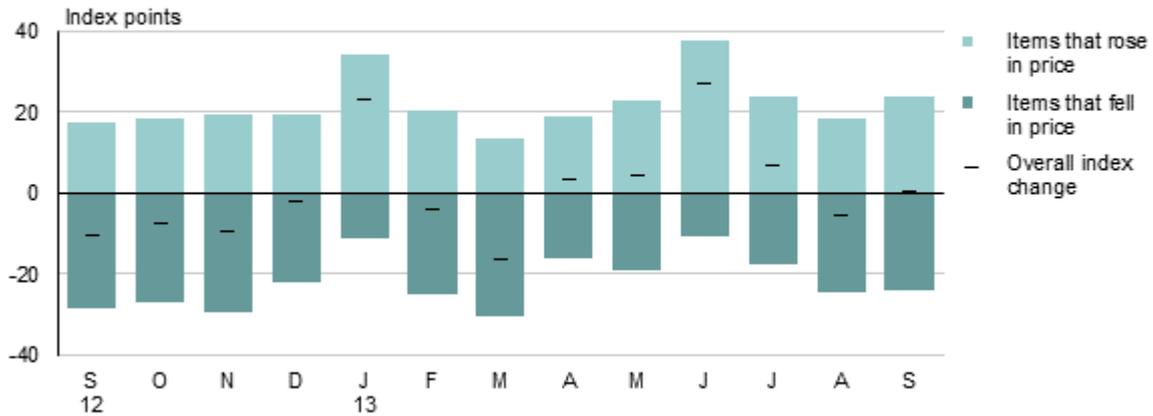


Source: Statistics New Zealand

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.

### Index points contribution to food price index

Items that rose or fell in price  
September 2012 to September 2013



Source: Statistics New Zealand

## Annual 1.2 percent increase influenced by higher grocery food prices

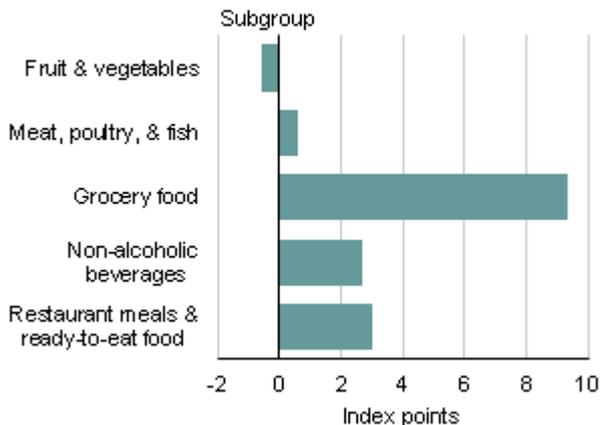
In the year to September 2013, grocery food prices increased 2.0 percent, influenced by fresh milk (up 6.4 percent), bread (up 3.7 percent), and butter (up 24 percent).

Other increases were restaurant meals and ready-to-eat food (up 1.1 percent) and non-alcoholic beverages (up 1.9 percent).

Fruit and vegetable prices decreased 0.3 percent. Vegetable prices decreased 2.3 percent influenced by cheaper broccoli (down 29 percent), lettuce (down 18 percent), and tomatoes (down 7.1 percent). See [Data influencers and context](#) for more details.

### Annual index points contribution to FPI

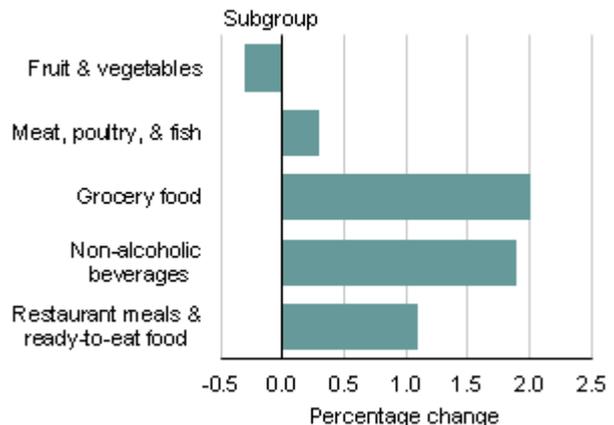
By subgroup  
September 2013



Source: Statistics New Zealand

### Annual percentage change

By subgroup  
September 2013



Source: Statistics New Zealand

## **Rolling review of retail outlets**

Statistics NZ price collectors visit retail outlets to collect prices for the FPI and consumers price index (CPI). We are undertaking an ongoing rolling review of these outlets.

See [Rolling review of retail outlets](#) in the Data quality section of this release for further details.

Changes actioned in the review groups related to food were implemented in the *Food Price Index: April 2013* and the *Food Price Index: August 2013*.

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

## 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.

The FPI represents \$16.9 billion spent on food by New Zealand households each year (at June 2011 prices). This is based on information from the 2009/10 Household Economic Survey and other sources, and is equivalent to each household spending about \$199 a week on food.

See [Food price index review: 2011](#) (tables 3 and 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 2013* will be released on 13 November 2013.

[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](#)
- [Data influencers and context](#)
- [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](#)
- [Rolling review of retail outlets](#)
- [More information](#)

## Period-specific information

### Reference period

Prices for the food price index (FPI) were collected during the period 10–17 September 2013, with the exception of fresh fruit and vegetable prices. Fresh fruit and vegetable prices were collected each Friday in most urban areas, and each Thursday in remaining urban areas.

### Data influencers and context

#### Monthly

For fruit and vegetables:

- Lettuce (down 44 percent), tomatoes (down 8.4 percent), capsicum (down 26 percent), and cucumber (down 27 percent) all had seasonal price falls in September.
- Courgette prices rose 122 percent. The last time courgette prices rose by more than 100 percent was in July 2007.

For grocery food:

- Fresh milk prices rose 6.4 percent, the largest monthly rise since a 9.6 percent rise in July 2007. Fresh milk prices are at their highest level since April 2012, and 3.6 percent below their peak in February 2011.
- Cake prices rose 11 percent, influenced by packaged cake slices (up 22 percent, reflecting less discounting).

## **Annual**

For grocery food:

- Butter prices increased 24 percent in the year, and are 18 percent lower than their peak in June 2011.

## **Sample size**

About 22,000 prices were collected from 650 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.

The FPI represents about \$16.9 billion spent on food goods and services by New Zealand households each year (at June 2011 month prices). This is based on information from the 2009/10 Household Economic Survey and other sources.

New Zealand households spent \$15.7 billion on food goods and services in the year to June 2010 (which is the latest period available). Once the effect of price change between the year to June 2010 and the year to June 2011 is taken into account (called 'price updating'), spending on food rises to \$16.9 billion.

The relative importance of the FPI subgroups shows that about \$38 of every \$100 households spend on food is spent on grocery food. About \$21 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 \$11 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 15 urban areas: Whangarei, Auckland, Hamilton, Tauranga, Rotorua, Napier-Hastings, New Plymouth, Wanganui, Palmerston North, Wellington, Nelson, Christchurch, Timaru, Dunedin, and Invercargill.

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 650 outlets in the 15 surveyed urban areas. Of these, about 70 are supermarkets, 30 greengrocers, 30 fish shops, 30 butchers, 50 convenience stores (with half being service stations and the other half being dairies, grocery stores, and superettes), 120 restaurants (for evening meals), and more than 300 other suitable outlets (for breakfast, lunch, and takeaway food).

Statistics NZ collects prices from a sample of supermarkets in each of the 15 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 2006.

## **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 the July 2011 FPI. The review involved reselecting the basket of representative food goods and services, calculating new national expenditure weights, and updating regional population weights.

The previous product sample's final price collection period was June 2011. The updated FPI sample of products also had prices collected in June 2011. 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: 2011](#) for more information.

### **Population weights**

Population weights are used to allocate the national expenditure weights of goods and services to the FPI pricing centres. For example, the population weights ensure that a price change in Auckland (which has 33.43 percent of the population weight) would have about three times the effect on the national FPI than the same price change in Wellington (which has 11.07 percent of the population weight).

The latest subnational population estimates, which are published annually, are used to calculate the population weights at each FPI review. Estimates at 30 June 2010 were the latest figures available at the time of the 2011 FPI review. This means that any potential population movements following the Christchurch earthquakes in 2010/11 are not reflected in these weights. Population weights will be monitored, and if considered necessary, updated to maintain the accuracy of the FPI.

Statistics NZ publishes FPI and CPI 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 population weights of each region in the FPI, 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 15 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 FPI. In June 2011, 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.

### **Rolling review of retail outlets**

We are undertaking an ongoing rolling review of the retail outlets we visit for FPI and consumers price index (CPI) price collection.

The [July 2012 issue of Price Index News](#) has more information on the review's scope.

Changes implemented in the review groups related to food are:

- Group 4 – convenience stores, liquor stores, bars, hospitality clubs, and ready-to-eat food outlets
- Group 5 – supermarkets (food)
- Group 6 – supermarkets (food and non-food)

The sample of retail outlets we visit each month for the fourth review group was reallocated for the following items tracked in the FPI and CPI:

- ready-to-eat food – we have expanded the range of fast food chains we visit.

We have also added online price collection for takeaway pizzas. Takeaway pizzas are part of the ready-to-eat food category. Now that takeaway pizzas are priced online for the pizza chain stores, we can reduce the number of chain stores visited in the field by our price collectors.

Changes to the fourth review group (convenience stores) were implemented in the *Food Price Index: April 2013* and the Consumers Price Index: June 2013 quarter.

The fifth and sixth review groups comprised food and non-food items tracked at supermarkets. For these groups, we reviewed the mix of brands tracked at supermarkets, to ensure they continue to reflect market shares. The mix of brands were adjusted for 13 of the 149 branded food and non-food items tracked at supermarkets. The mix of brands for the remaining items already aligned closely with their market shares.

Changes to the fifth group and the food items of the sixth group were implemented in the *Food Price Index: August 2013*. All changes to the fifth and sixth groups will be implemented in the *Consumers Price Index: September 2013 quarter*, released 16 October 2013.

For more information on the review, please contact:

Nick Martelli  
Wellington  
04 931 4600  
[info@stats.govt.nz](mailto:info@stats.govt.nz)

## **More information**

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

## **Liability**

While all care and diligence has been used in processing, analysing, and extracting data and information in this publication, Statistics NZ gives no warranty it is error-free and will not be liable for any loss or damage suffered by the use directly, or indirectly, of the information in this publication.

## **Timing**

Our information releases are delivered electronically by third parties. Delivery may be delayed by circumstances outside our control. Statistics NZ does not accept responsibility for any such delay.

**Crown copyright©**



This work is licensed under the Creative Commons Attribution 3.0 New Zealand licence. You are free to copy, distribute, and adapt the work, as long as you attribute the work to Statistics NZ and abide by the other licence terms. Please note you may not use any departmental or governmental emblem, logo, or coat of arms in any way that infringes any provision of the Flags, Emblems, and Names Protection Act 1981. Use the wording 'Statistics New Zealand' in your attribution, not the Statistics NZ logo.

## Contacts

**For media enquiries contact:**

Chris Pike

Wellington 04 931 4600

**Email:** [info@stats.govt.nz](mailto:info@stats.govt.nz)

**For technical information contact:**

David Lum or Sarah Williams

Wellington 04 931 4600

**Email:** [info@stats.govt.nz](mailto:info@stats.govt.nz)

**For general enquiries contact our Information Centre:**

Phone: 0508 525 525 (toll-free in New Zealand)

+64 4 931 4600 (outside New Zealand)

**Email:** [info@stats.govt.nz](mailto:info@stats.govt.nz)

**Subscription service:**

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

**Correction notifications:**

Subscribe to receive an email if a correction notice is published for Food Price Index.

Unsubscribe to correction notifications for Food Price Index.

Subscribe to all to receive an email if a correction notice is published for any of our information releases.

Unsubscribe to all if you change your mind.

## 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 changes, 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. Population 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 15 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.](#)