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## Food Price Index: February 2018

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## Food Price Index: February 2018

**Title**

Food Price Index: February 2018

**Alternate title**

FPI

**Publication date**

3/13/2018 12:00:00 AM

**Copyright**

Stats NZ

### Prices

**Name**

Prices

Unnamed item

### Stats NZ

**Name**

Stats NZ

Unnamed item

### Sample

Food Price Index

The population coverage of the FPI relates to the expenditure of private, New Zealand resident households living in permanent dwellings. The reference population covers approximately 98 percent of the usually-resident population .

### Related Materials

#### Other

- [Food Price Index: February 2018](#)

Subjects	Macroeconomic statistics, Economic accounts, Prices
Keywords	Food, Price, Fruit, Vegetables, Meat, Poultry, Fish, Seafood, Grocery, Beverages, Restaurant

Date	2018-02
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## Food Price Index Series 2011

### Title

Food Price Index Series 2011

### Alternate title

FPI

### Copyright

Statistics New Zealand

## Prices

### Name

Prices

Unnamed item

## Statistics New Zealand

### Name

Statistics New Zealand

Unnamed item

## Concepts

### Food Price Index

- [Food Price Index - Food Price Index](#)
- [Price Index - Price Index](#)
- [Expenditure weights - Expenditure weights](#)
- [Outlet weights - Outlet weights](#)
- [Index reference - Index reference](#)
- [Seasonally adjusted series - Seasonally adjusted series](#)
- [Upward/downward contributions - Upward/downward contributions](#)

### 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: 2020 \(table 4\)](#) 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.

### Price Index - Price Index

#### Price Index

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.

### Expenditure weights

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

### Outlet weights

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

### Index reference

The FPI has an index reference period of the June 2017 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.

### 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 (8, 9.01 and 9.02) in the 'Downloads' box on the release webpage. You can also extract the seasonally adjusted series from Infoshare.

### Upward/downward contributions

Items mentioned in the FPI 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.

## Price Index Concepts

- [Acquisitions approach](#)
- [Basket](#)
- [Bias](#)
- [Elementary aggregates](#)
- [Expenditure Weights](#)
- [Hedonic method](#)
- [Index number](#)
- [Index reference period](#)
- [Indexes](#)
- [Imputed price](#)
- [Laspeyres price index](#)
- [Payments approach](#)
- [Price reference period](#)
- [Pure price change](#)
- [Quality adjustment](#)
- [Reweighting](#)
- [Scanner data](#)
- [Seasonal products](#)
- [Use approach](#)
- [Weight reference period](#)

### Acquisitions approach

There are three key frameworks used to underpin index design; acquisition, payment, and use. Under the acquisition framework approach, index weights are derived from expenditure on the goods and services acquired by households during the weight reference period, irrespective of whether they were wholly paid for or consumed during that period.

### Basket

A specified set of goods and services that are used to track the progress of inflation in an economy or in a specific market.

### Bias

A systematic tendency for a calculated index to diverge from some ideal or preferred index, resulting from the method of data collection or processing, or the index formula used.

### Elementary aggregates

The smallest aggregate for which expenditure data are available and used for price index purposes. The values of the elementary aggregates are used to weight the price indices for elementary aggregates to obtain higher-level indices. The range of goods and services covered by an elementary aggregate should be relatively narrow,

and may be further narrowed by confining the goods and services to those sold in particular types of outlet or in particular locations. Elementary aggregates also serve as strata for the sampling of prices.

### Expenditure Weights

The measure of the relative importance of an item in the index basket, based on the expenditure of the item relative to expenditure on all items in the basket.

### Hedonic method

A regression model in which the market prices of different products are expressed as a function of their characteristics. The estimates may be used to predict the price of a new product for which the mix of characteristics is different from that of any product already on the market. The hedonic method can therefore be used to estimate the effects of quality changes on prices.

### Index number

Each index shows how a set of prices has changed over time. It is the change between two index numbers that is important. An individual index number has no meaning.

### Index reference period

The index reference period is the period for which the value of the index is set to equal 100 or 1000.

### Indexes

Indexes are used to measure the total impact of changes in the attributes of commodities which cannot be compared directly. In New Zealand the most common use of index numbers is to measure changes in prices, volumes, or money values over time. When calculating a price index the type, quantity, and quality of each commodity are all held constant so that the price movement can be measured.

### Imputed price

The price assigned to an item for which the price is missing in a particular period. This is often done by carrying forward the previous quarter's price. Another way of imputing is to apply the movements of similar categories of items, where the prices were not missing.

### Laspeyres price index

A fixed basket index in which the basket is composed of the actual quantities of goods and services in the earlier of the two periods compared, the price reference period. It can also be expressed as a weighted arithmetic average of the price relatives that uses the expenditure shares in the earlier period as weights. The earlier period serves as both the weight reference period and the price reference period.

 Payments approach

There are three key frameworks used to underpin index design; acquisition, payment, and use. Under the payments framework, expenditure weights are derived from the total payments made for goods and services during the weight reference period, regardless of when the goods and services were acquired or consumed.

 Price reference period

The prices of a period with which prices in the current-period are compared.

 Pure price change

The change in the price of a good or service of which the characteristics are unchanged; or the change in the price after adjusting for any change in quality.

 Quality adjustment

An adjustment to the change in the price of a product that is designed to remove the contribution of the change in the product characteristics to the observed price change. The adjustment is needed when the price of a replacement product has to be compared with the price of the product it replaces. In practice, the required adjustment can only be estimated. Different methods of estimation, including hedonic methods, may be used in different circumstances.

 Reweighting

Updating the weights used in an index with a new set of weights, which reflects a more up to date relative importance of the goods and services in the basket.

 Scanner data

Detailed data on sales of consumer goods obtained by scanning the bar codes for individual products at electronic points of sale in retail outlets. The data can provide detailed information about quantities, characteristics and values of goods sold, as well as their prices. Scanner data constitute a rapidly expanding source of data with considerable potential for CPI purposes. They are increasingly used for purposes of hedonic analysis.

 Seasonal products

Seasonal products are products that either are not available on the market during certain seasons or periods of the year, or are available throughout the year but with regular fluctuations in their quantities and prices that are linked to the season or time of the year.

 Use approach

There are three key frameworks used to underpin index design; acquisition, payment, and use. Under the use framework, expenditure weights are based on the value of the goods and services used or consumed during the reference period.

 Weight reference period

The period for which value shares serve as weights for a set of price relatives or elementary price indices. It does not have to have the same duration as the periods for which the index is calculated and is typically longer, a year or more, rather than a month or quarter.

## Universes

 Food Price Index

- [Food Price Index - Food Price Index](#)

 Food Price Index

The population coverage of the FPI relates to the expenditure of private, New Zealand resident households living in permanent dwellings. The reference population covers approximately 98 percent of the usually-resident population .

## Variables

 FPI published variables July 2020

- [SE9011 - Fruit and vegetables](#)
- [SE901101 - Fruit](#)
- [SE901102 - Vegetables](#)
- [SE9012 - Meat, poultry, and fish](#)
- [SE901201 - Meat and poultry](#)
- [SE9012011 - Beef and veal](#)
- [SE9012012 - Pork](#)
- [SE9012013 - Mutton, lamb, and hogget](#)
- [SE9012014 - Poultry](#)
- [SE9012016 - Preserved, prepared, and processed meat](#)
- [SE901202 - Fish and other seafood](#)
- [SE9013 - Grocery food](#)
- [SE901301 - Bread and cereals](#)
- [SE9013011 - Bread](#)
- [SE9013012 - Cakes and biscuits](#)
- [SE9013013 - Breakfast cereals](#)
- [SE9013014 - Pasta products](#)
- [SE9013015 - Pastry cook-products](#)

- [SE9013016 - Other cereal products](#)
- [SE901302 - Milk, cheese, and eggs](#)
- [SE9013021 - Fresh milk](#)
- [SE9013022 - Preserved milk](#)
- [SE9013023 - Yoghurt](#)
- [SE9013024 - Cheese](#)
- [SE9013025 - Other milk products](#)
- [SE9013026 - Eggs](#)
- [SE901303 - Oils and fats](#)
- [SE901304 - Food additives and condiments](#)
- [SE901305 - Confectionery, nuts, and snacks](#)
- [SE901306 - Other grocery food](#)
- [SE9014 - Non-alcoholic beverages](#)
- [SE901401 - Coffee, tea, and other hot drinks](#)
- [SE901402 - Soft drinks, waters, and juices](#)
- [SE9015 - Restaurant meals and ready-to-eat food subgroup](#)
- [SE901501 - Restaurant meals](#)
- [SE901502 - Ready-to-eat food](#)
- [SE901 - Food group](#)

 SE9011 - Fruit and vegetables

Type	Unknown
Description	Food: Fruit and vegetables subgroup

 SE901101 - Fruit

Type	Unknown
Description	Food: Fruit and vegetables subgroup, fruit class

 SE901102 - Vegetables

Type	Unknown
Description	Food: Fruit and vegetables subgroup, vegetables class

 SE9012 - Meat, poultry, and fish

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup

 SE901201 - Meat and poultry

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class

 SE9012011 - Beef and veal

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class, Beef and veal section



 SE9012012 - Pork

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class, Pork section

 SE9012013 - Mutton, lamb, and hogget


Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class, Mutton, lamb, and hogget section

 SE9012014 - Poultry

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class, Poultry section

 SE9012016 - Preserved, prepared, and processed meat

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class, Preserved, prepared, and processed meat section

 SE901202 - Fish and other seafood

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Fish and other seafood class

 SE9013 - Grocery food


Type	Unknown
Description	Food: Grocery food subgroup

 SE901301 - Bread and cereals


Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class

 SE9013011 - Bread

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Bread section

 SE9013012 - Cakes and biscuits

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Cakes and biscuits section

 SE9013013 - Breakfast cereals

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Breakfast cereals section

#### SE9013014 - Pasta products

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Pasta products section

#### SE9013015 - Pastry cook-products

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Pastry cook-products section

#### SE9013016 - Other cereal products

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Other cereal products section

#### SE901302 - Milk, cheese, and eggs

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class

#### SE9013021 - Fresh milk

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, Fresh milk section

#### SE9013022 - Preserved milk

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, Preserved milk section

#### SE9013023 - Yoghurt

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, Yoghurt section

#### SE9013024 - Cheese

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, Cheese section

#### SE9013025 - Other milk products

Type	Unknown
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Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, Other milk products section
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#### SE9013026 - Eggs

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, eggs section

#### SE901303 - Oils and fats

Type	Unknown
Description	Food: Grocery food subgroup, Oils and fats class

#### SE901304 - Food additives and condiments

Type	Unknown
Description	Food: Grocery food subgroup, Food additives and condiments class

#### SE901305 - Confectionery, nuts, and snacks

Type	Unknown
Description	Food: Grocery food subgroup, Confectionery, nuts, and snacks class

#### SE901306 - Other grocery food

Type	Unknown
Description	Food: Grocery food subgroup, Other grocery food class

#### SE9014 - Non-alcoholic beverages

Type	Unknown
Description	Food: Non-alcoholic beverages subgroup

#### SE901401 - Coffee, tea, and other hot drinks

Type	Unknown
Description	Food: Non-alcoholic beverages subgroup, Coffee, tea, and other hot drinks class

#### SE901402 - Soft drinks, waters, and juices


Type	Unknown
Description	Food: Non-alcoholic beverages subgroup, Soft drinks, waters, and juices class

#### SE9015 - Restaurant meals and ready-to-eat food subgroup

Type	Unknown
Description	Food: Restaurant meals and ready-to-eat food subgroup

#### SE901501 - Restaurant meals

Type	Unknown
Description	Food: Restaurant meals and ready-to-eat food subgroup, Restaurant meals class

 SE901502 - Ready-to-eat food

Type	Unknown
Description	Food: Restaurant meals and ready-to-eat food subgroup, Ready-to-eat food class

 SE901 - Food group

Type	Unknown
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 FPI weighted prices published variables 2011

- [SAP0100 - Oranges](#)
- [SAP0101 - Bananas](#)
- [SAP0102 - Apples](#)
- [SAP0103 - Kiwifruit](#)
- [SAP0104 - Sultanas](#)
- [SAP0105 - Peaches, canned](#)
- [SAP0106 - Lettuce](#)
- [SAP0107 - Broccoli](#)
- [SAP0108 - Cabbage](#)
- [SAP0109 - Tomatoes](#)
- [SAP0110 - Carrots](#)
- [SAP0111 - Mushrooms](#)
- [SAP0112 - Potatoes](#)
- [SAP0113 - Peas, frozen](#)
- [SAP0114 - Beef steak, blade](#)
- [SAP0115 - Beef steak, porterhouse/sirloin](#)
- [SAP0116 - Beef, mince](#)
- [SAP0117 - Pork, loin chops](#)
- [SAP0118 - Lamb, chops](#)
- [SAP0119 - Bacon, middle rashers](#)
- [SAP0120 - Sausages](#)
- [SAP0121 - Tuna, canned](#)
- [SAP0122 - Bread, white sliced loaf](#)
- [SAP0123 - Biscuits, chocolate](#)
- [SAP0124 - Breakfast biscuits](#)
- [SAP0125 - Flour, white](#)
- [SAP0126 - Rice, long grain, white](#)
- [SAP0127 - Milk, standard homogenised](#)
- [SAP0128 - Yoghurt, flavoured](#)
- [SAP0129 - Cheese, mild cheddar](#)
- [SAP0130 - Eggs](#)
- [SAP0131 - Butter, salted](#)
- [SAP0132 - Sugar, white](#)

- [SAP0146 - Tomato sauce, canned](#)
- [SAP0134 - Chocolate, block](#)
- [SAP0145 - Potato crisps](#)
- [SAP0136 - Spaghetti, canned](#)
- [SAP0137 - Coffee, instant](#)
- [SAP0138 - Tea bags](#)
- [SAP0139 - Soft drink](#)
- [SAP0140 - Bottled water](#)
- [SAP0144 - Fruit juice, apple based](#)
- [SAP0142 - Fish and chips](#)
- [SAP0143 - Meat pie, hot](#)

#### SAP0100 - Oranges

Type	Unknown
Description	Weighted average retail price of 1 kg of oranges.

#### SAP0101 - Bananas

Type	Unknown
Description	Weighted average retail price of 1 kg of bananas.

#### SAP0102 - Apples

Type	Unknown
Description	Weighted average retail price of 1 kg of apples.

#### SAP0103 - Kiwifruit

Type	Unknown
Description	Weighted average retail price of 1 kg of kiwifruit.

#### SAP0104 - Sultanas

Type	Unknown
Description	Weighted average retail price of 375 grams of sultanas. Supermarket prices only.

#### SAP0105 - Peaches, canned

Type	Unknown
Description	Weighted average retail price of 410 grams of canned peaches. Supermarket prices only.

#### SAP0106 - Lettuce

Type	Unknown
Description	Weighted average retail price of 1 kg of lettuce.

#### SAP0107 - Broccoli

Type	Unknown
Description	Weighted average retail price of 1 kg of broccoli.

#### SAP0108 - Cabbage

Type	Unknown
Description	Weighted average retail price of 1 kg of cabbage.

#### SAP0109 - Tomatoes

Type	Unknown
Description	Weighted average retail price of 1 kg of tomatoes.

#### SAP0110 - Carrots

Type	Unknown
Description	Weighted average retail price of 1 kg of carrots.

#### SAP0111 - Mushrooms

Type	Unknown
Description	Weighted average retail price of 1 kg of mushrooms.

#### SAP0112 - Potatoes

Type	Unknown
Description	Weighted average retail price of 1 kg of potatoes.

#### SAP0113 - Peas, frozen

Type	Unknown
Description	Weighted average retail price of 1 kg of frozen peas. Supermarket prices only. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.

#### SAP0114 - Beef steak, blade

Type	Unknown
Description	Weighted average retail price of 1 kg of beef steak (blade steak).

#### SAP0115 - Beef steak, porterhouse/sirloin

Type	Unknown
Description	Weighted average retail price of 1 kg of beef steak (porterhouse/sirloin steak).

#### SAP0116 - Beef, mince

Type	Unknown
Description	Weighted average retail price of 1 kg of beef (mince).



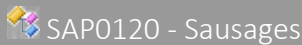
Type	Unknown
Description	Weighted average retail price of 1 kg of pork loin chops.



Type	Unknown
Description	Weighted average retail price of 1 kg of lamb chops.



Type	Unknown
Description	Weighted average retail price of 1 kg of bacon (middle rashers). Supermarket prices only.



Type	Unknown
Description	Weighted average retail price of 1 kg of sausages.



Type	Unknown
Description	Weighted average retail price of 185 grams of canned tuna. Supermarket prices only.



Type	Unknown
Description	Weighted average retail price of 700 grams sliced loaf of white bread. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.




Type	Unknown
Description	Weighted average retail price of 200 grams packet of chocolate biscuits.



Type	Unknown
Description	Weighted average retail price of 1 kg of breakfast biscuits.



Type	Unknown
Description	Weighted average retail price of 1.5 kg of white flour. Supermarket prices only. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.



Type	Unknown
Description	Weighted average retail price of 1 kg of white, long grained rice. Supermarket prices only.



Type	Unknown
Description	Weighted average retail price of 2 litres of standard homogenised milk. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.



Type	Unknown
Description	Weighted average retail price of pack of six 150 grams pottles of flavoured yoghurt. Supermarket prices only.



Type	Unknown
Description	Weighted average retail price of 1 kg of mild cheddar cheese. Supermarket prices only. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.



Type	Unknown
Description	Weighted average retail price of 1 dozen eggs. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.



Type	Unknown
Description	Weighted average retail price of 500 grams of salted butter. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.




Type	Unknown
Description	Weighted average retail price of 1.5 kg of white sugar. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.



Type	Unknown
Description	Weighted average retail price of 560 grams canned tomato sauce.





Type	Unknown
Description	Weighted average retail price of 250 grams block of chocolate. Supermarket prices only.



Type	Unknown
Description	Weighted average retail price of 190 grams of potato crisps.



Type	Unknown
Description	Weighted average retail price of 420 grams canned spaghetti.



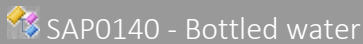
Type	Unknown
Description	Weighted average retail price of 100 grams of instant coffee.



Type	Unknown
Description	Weighted average retail price of a box of 100 tea bags. Supermarket prices only.



Type	Unknown
Description	Weighted average retail price of 1.5 litres of soft drink.



Type	Unknown
Description	Weighted average retail price of 750 mls of bottled water.



Type	Unknown
Description	Weighted average retail price of 3 litres of apple based fruit juice. Supermarket prices only. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.



Type	Unknown
Description	Weighted average retail price of 1 fish and chips.



Type	Unknown
Description	Weighted average retail price of 1 hot meat pie.

## Data Collections

### Food Price Index Series 2011

#### Methodology

##### **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.

##### **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 New Zealand 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 reference**

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.

### **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 increased by 15.0 percent since the index reference period. Prices for later periods can also be compared in the same fashion.

## Collection Events

1960 -

**Intended Frequency**

Monthly

Date	2011-07 - 2014-06
Spatial Coverage	New Zealand
Highest Level	New Zealand
Lowest Level	Whangarei, Auckland, Hamilton, Tauranga, Rotorua, Napier-Hastings, New Plymouth, Wanganui, Palmerston North, Wellington, Nelson, Christchurch, Timaru, Dunedin, and Invercargill.



## Food Price Index Series February 2018

**Title**

Food Price Index Series February 2018

**Alternate title**

FPI

**Copyright**

Statistics New Zealand

## Prices

**Name**

Prices

Unnamed item

Statistics New Zealand

**Name**

Statistics New Zealand

Unnamed item

## Concepts



## Food Price Index

- [Food Price Index - Food Price Index](#)
- [Price Index - Price Index](#)
- [Expenditure weights - Expenditure weights](#)
- [Outlet weights - Outlet weights](#)

- [Index reference - Index reference](#)
- [Seasonally adjusted series - Seasonally adjusted series](#)
- [Upward/downward contributions - Upward/downward contributions](#)

### 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: 2020 \(table 4\)](#) 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.

### Price Index - Price Index

#### Price Index

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.

### Expenditure weights

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

### Outlet weights

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

### Index reference

The FPI has an index reference period of the June 2017 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.

### 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 (8,

9.01 and 9.02) in the 'Downloads' box on the release webpage. You can also extract the seasonally adjusted series from Infoshare.

### Upward/downward contributions

Items mentioned in the FPI 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.

### Price Index Concepts

- [Acquisitions approach](#)
- [Basket](#)
- [Bias](#)
- [Elementary aggregates](#)
- [Expenditure Weights](#)
- [Hedonic method](#)
- [Index number](#)
- [Index reference period](#)
- [Indexes](#)
- [Imputed price](#)
- [Laspeyres price index](#)
- [Payments approach](#)
- [Price reference period](#)
- [Pure price change](#)
- [Quality adjustment](#)
- [Reweighting](#)
- [Scanner data](#)
- [Seasonal products](#)
- [Use approach](#)
- [Weight reference period](#)

### Acquisitions approach

There are three key frameworks used to underpin index design; acquisition, payment, and use. Under the acquisition framework approach, index weights are derived from expenditure on the goods and services acquired by households during the weight reference period, irrespective of whether they were wholly paid for or consumed during that period.

### Basket

A specified set of goods and services that are used to track the progress of inflation in an economy or in a specific market.

 Bias

A systematic tendency for a calculated index to diverge from some ideal or preferred index, resulting from the method of data collection or processing, or the index formula used.

 Elementary aggregates

The smallest aggregate for which expenditure data are available and used for price index purposes. The values of the elementary aggregates are used to weight the price indices for elementary aggregates to obtain higher-level indices. The range of goods and services covered by an elementary aggregate should be relatively narrow, and may be further narrowed by confining the goods and services to those sold in particular types of outlet or in particular locations. Elementary aggregates also serve as strata for the sampling of prices.

 Expenditure Weights

The measure of the relative importance of an item in the index basket, based on the expenditure of the item relative to expenditure on all items in the basket.

 Hedonic method

A regression model in which the market prices of different products are expressed as a function of their characteristics. The estimates may be used to predict the price of a new product for which the mix of characteristics is different from that of any product already on the market. The hedonic method can therefore be used to estimate the effects of quality changes on prices.

 Index number

Each index shows how a set of prices has changed over time. It is the change between two index numbers that is important. An individual index number has no meaning.

 Index reference period

The index reference period is the period for which the value of the index is set to equal 100 or 1000.

 Indexes

Indexes are used to measure the total impact of changes in the attributes of commodities which cannot be compared directly. In New Zealand the most common use of index numbers is to measure changes in prices, volumes, or money values over time. When calculating a price index the type, quantity, and quality of each commodity are all held constant so that the price movement can be measured.

 Imputed price



The price assigned to an item for which the price is missing in a particular period. This is often done by carrying forward the previous quarter's price. Another way of imputing is to apply the movements of similar categories of items, where the prices were not missing.

#### Laspeyres price index

A fixed basket index in which the basket is composed of the actual quantities of goods and services in the earlier of the two periods compared, the price reference period. It can also be expressed as a weighted arithmetic average of the price relatives that uses the expenditure shares in the earlier period as weights. The earlier period serves as both the weight reference period and the price reference period.

#### Payments approach

There are three key frameworks used to underpin index design; acquisition, payment, and use. Under the payments framework, expenditure weights are derived from the total payments made for goods and services during the weight reference period, regardless of when the goods and services were acquired or consumed.

#### Price reference period

The prices of a period with which prices in the current-period are compared.

#### Pure price change

The change in the price of a good or service of which the characteristics are unchanged; or the change in the price after adjusting for any change in quality.

#### Quality adjustment

An adjustment to the change in the price of a product that is designed to remove the contribution of the change in the product characteristics to the observed price change. The adjustment is needed when the price of a replacement product has to be compared with the price of the product it replaces. In practice, the required adjustment can only be estimated. Different methods of estimation, including hedonic methods, may be used in different circumstances.

#### Reweighting

Updating the weights used in an index with a new set of weights, which reflects a more up to date relative importance of the goods and services in the basket.

#### Scanner data

Detailed data on sales of consumer goods obtained by scanning the bar codes for individual products at electronic points of sale in retail outlets. The data can provide detailed information about quantities, characteristics and values of goods sold, as well as their prices. Scanner data constitute a rapidly expanding

source of data with considerable potential for CPI purposes. They are increasingly used for purposes of hedonic analysis.



### Seasonal products

Seasonal products are products that either are not available on the market during certain seasons or periods of the year, or are available throughout the year but with regular fluctuations in their quantities and prices that are linked to the season or time of the year.



### Use approach

There are three key frameworks used to underpin index design; acquisition, payment, and use. Under the use framework, expenditure weights are based on the value of the goods and services used or consumed during the reference period.



### Weight reference period

The period for which value shares serve as weights for a set of price relatives or elementary price indices. It does not have to have the same duration as the periods for which the index is calculated and is typically longer, a year or more, rather than a month or quarter.

## Universes



### Food Price Index

- [Food Price Index - Food Price Index](#)



### Food Price Index

The population coverage of the FPI relates to the expenditure of private, New Zealand resident households living in permanent dwellings. The reference population covers approximately 98 percent of the usually-resident population .

## Variables



### FPI published variables February 2018

- [SE9011 - Fruit and vegetables](#)
- [SE901101 - Fruit](#)
- [SE901102 - Vegetables](#)
- [SE9012 - Meat, poultry, and fish](#)
- [SE901201 - Meat and poultry](#)
- [SE9012011 - Beef and veal](#)
- [SE9012012 - Pork](#)
- [SE9012013 - Mutton, lamb, and hogget](#)
- [SE9012014 - Poultry](#)


- [SE9012016 - Preserved, prepared, and processed meat](#)
- [SE901202 - Fish and other seafood](#)
- [SE9013 - Grocery food](#)
- [SE901301 - Bread and cereals](#)
- [SE9013011 - Bread](#)
- [SE9013012 - Cakes and biscuits](#)
- [SE9013013 - Breakfast cereals](#)
- [SE9013014 - Pasta products](#)
- [SE9013015 - Pastry cook-products](#)
- [SE9013016 - Other cereal products](#)
- [SE901302 - Milk, cheese, and eggs](#)
- [SE9013021 - Fresh milk](#)
- [SE9013022 - Preserved milk](#)
- [SE9013023 - Yoghurt](#)
- [SE9013024 - Cheese](#)
- [SE9013025 - Other milk products](#)
- [SE9013026 - Eggs](#)
- [SE901303 - Oils and fats](#)
- [SE901304 - Food additives and condiments](#)
- [SE901305 - Confectionery, nuts, and snacks](#)
- [SE901306 - Other grocery food](#)
- [SE9014 - Non-alcoholic beverages](#)
- [SE901401 - Coffee, tea, and other hot drinks](#)
- [SE901402 - Soft drinks, waters, and juices](#)
- [SE9015 - Restaurant meals and ready-to-eat food subgroup](#)
- [SE901501 - Restaurant meals](#)
- [SE901502 - Ready-to-eat food](#)
- [SE901 - Food group](#)

 SE9011 - Fruit and vegetables

Type	Unknown
Description	Food: Fruit and vegetables subgroup

 SE901101 - Fruit

Type	Unknown
Description	Food: Fruit and vegetables subgroup, fruit class

 SE901102 - Vegetables

Type	Unknown
Description	Food: Fruit and vegetables subgroup, vegetables class

 SE9012 - Meat, poultry, and fish


Type	Unknown
Description	Food: Meat, poultry, and fish subgroup

 SE901201 - Meat and poultry

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class

 SE9012011 - Beef and veal

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class, Beef and veal section

 SE9012012 - Pork

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class, Pork section

 SE9012013 - Mutton, lamb, and hogget

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class, Mutton, lamb, and hogget section

 SE9012014 - Poultry

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class, Poultry section

 SE9012016 - Preserved, prepared, and processed meat

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Meat and poultry class, Preserved, prepared, and processed meat section

 SE901202 - Fish and other seafood

Type	Unknown
Description	Food: Meat, poultry, and fish subgroup, Fish and other seafood class

 SE9013 - Grocery food

Type	Unknown
Description	Food: Grocery food subgroup

 SE901301 - Bread and cereals

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class

 SE9013011 - Bread

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Bread section

#### SE9013012 - Cakes and biscuits

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Cakes and biscuits section

#### SE9013013 - Breakfast cereals

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Breakfast cereals section

#### SE9013014 - Pasta products

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Pasta products section

#### SE9013015 - Pastry cook-products

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Pastry cook-products section

#### SE9013016 - Other cereal products

Type	Unknown
Description	Food: Grocery food subgroup, Bread and cereals class, Other cereal products section

#### SE901302 - Milk, cheese, and eggs

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class

#### SE9013021 - Fresh milk

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, Fresh milk section

#### SE9013022 - Preserved milk

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, Preserved milk section

#### SE9013023 - Yoghurt

Type	Unknown
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Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, Yoghurt section
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#### SE9013024 - Cheese

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, Cheese section

#### SE9013025 - Other milk products

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, Other milk products section

#### SE9013026 - Eggs

Type	Unknown
Description	Food: Grocery food subgroup, Milk, cheese, and eggs class, eggs section

#### SE901303 - Oils and fats

Type	Unknown
Description	Food: Grocery food subgroup, Oils and fats class

#### SE901304 - Food additives and condiments

Type	Unknown
Description	Food: Grocery food subgroup, Food additives and condiments class

#### SE901305 - Confectionery, nuts, and snacks

Type	Unknown
Description	Food: Grocery food subgroup, Confectionery, nuts, and snacks class

#### SE901306 - Other grocery food

Type	Unknown
Description	Food: Grocery food subgroup, Other grocery food class

#### SE9014 - Non-alcoholic beverages

Type	Unknown
Description	Food: Non-alcoholic beverages subgroup

#### SE901401 - Coffee, tea, and other hot drinks

Type	Unknown
Description	Food: Non-alcoholic beverages subgroup, Coffee, tea, and other hot drinks class

#### SE901402 - Soft drinks, waters, and juices

Type	Unknown
Description	Food: Non-alcoholic beverages subgroup, Soft drinks, waters, and juices class

#### SE9015 - Restaurant meals and ready-to-eat food subgroup

Type	Unknown
Description	Food: Restaurant meals and ready-to-eat food subgroup

#### SE901501 - Restaurant meals

Type	Unknown
Description	Food: Restaurant meals and ready-to-eat food subgroup, Restaurant meals class

#### SE901502 - Ready-to-eat food

Type	Unknown
Description	Food: Restaurant meals and ready-to-eat food subgroup, Ready-to-eat food class

#### SE901 - Food group

Type	Unknown
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#### FPI weighted prices published variables February 2018

- [SAP0148 - Chicken breast](#)
- [SAP0147 - Bacon, middle rashers](#)
- [SAP0102 - Apples](#)
- [SAP0101 - Bananas](#)
- [SAP0114 - Beef steak, blade](#)
- [SAP0115 - Beef steak, porterhouse/sirloin](#)
- [SAP0116 - Beef, mince](#)
- [SAP0123 - Biscuits, chocolate](#)
- [SAP0140 - Bottled water](#)
- [SAP0122 - Bread, white sliced loaf](#)
- [SAP0124 - Breakfast biscuits](#)
- [SAP0107 - Broccoli](#)
- [SAP0131 - Butter, salted](#)
- [SAP0108 - Cabbage](#)
- [SAP0110 - Carrots](#)
- [SAP0129 - Cheese, mild cheddar](#)
- [SAP0130 - Eggs](#)
- [SAP0134 - Chocolate, block](#)
- [SAP0137 - Coffee, instant](#)
- [SAP0142 - Fish and chips](#)
- [SAP0125 - Flour, white](#)
- [SAP0144 - Fruit juice, apple based](#)
- [SAP0103 - Kiwifruit](#)

- [SAP0118 - Lamb, chops](#)
- [SAP0106 - Lettuce](#)
- [SAP0143 - Meat pie, hot](#)
- [SAP0127 - Milk, standard homogenised](#)
- [SAP0111 - Mushrooms](#)
- [SAP0100 - Oranges](#)
- [SAP0105 - Peaches, canned](#)
- [SAP0113 - Peas, frozen](#)
- [SAP0117 - Pork, loin chops](#)
- [SAP0145 - Potato crisps](#)
- [SAP0112 - Potatoes](#)
- [SAP0126 - Rice, long grain, white](#)
- [SAP0120 - Sausages](#)
- [SAP0139 - Soft drink](#)
- [SAP0136 - Spaghetti, canned](#)
- [SAP0132 - Sugar, white](#)
- [SAP0104 - Sultanas](#)
- [SAP0138 - Tea bags](#)
- [SAP0146 - Tomato sauce, canned](#)
- [SAP0109 - Tomatoes](#)
- [SAP0121 - Tuna, canned](#)
- [SAP0128 - Yoghurt, flavoured](#)

#### SAP0148 - Chicken breast

Type	Unknown
Description	Weighted average retail price of 1 kg of chicken breast.

#### SAP0147 - Bacon, middle rashers

Type	Unknown
Description	Weighted average retail price of 700 grams of bacon (middle rashers). Supermarket prices only.

#### SAP0102 - Apples

Type	Unknown
Description	Weighted average retail price of 1 kg of apples.

#### SAP0101 - Bananas

Type	Unknown
Description	Weighted average retail price of 1 kg of bananas.

#### SAP0114 - Beef steak, blade

Type	Unknown
Description	Weighted average retail price of 1 kg of beef steak (blade steak).

#### SAP0115 - Beef steak, porterhouse/sirloin



Type	Unknown
Description	Weighted average retail price of 1 kg of beef steak (porterhouse/sirloin steak).

#### SAP0116 - Beef, mince

Type	Unknown
Description	Weighted average retail price of 1 kg of beef (mince).

#### SAP0123 - Biscuits, chocolate

Type	Unknown
Description	Weighted average retail price of 200 grams packet of chocolate biscuits.

#### SAP0140 - Bottled water

Type	Unknown
Description	Weighted average retail price of 750 mls of bottled water.

#### SAP0122 - Bread, white sliced loaf

Type	Unknown
Description	Weighted average retail price of 700 grams sliced loaf of white bread. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.

#### SAP0124 - Breakfast biscuits

Type	Unknown
Description	Weighted average retail price of 1 kg of breakfast biscuits.

#### SAP0107 - Broccoli

Type	Unknown
Description	Weighted average retail price of 1 kg of broccoli.

#### SAP0131 - Butter, salted

Type	Unknown
Description	Weighted average retail price of 500 grams of salted butter. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.

#### SAP0108 - Cabbage

Type	Unknown
Description	Weighted average retail price of 1 kg of cabbage.

#### SAP0110 - Carrots

Type	Unknown
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Description	Weighted average retail price of 1 kg of carrots.
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#### SAP0129 - Cheese, mild cheddar

Type	Unknown
Description	Weighted average retail price of 1 kg of mild cheddar cheese. Supermarket prices only. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.

#### SAP0130 - Eggs

Type	Unknown
Description	Weighted average retail price of 1 dozen eggs. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.

#### SAP0134 - Chocolate, block

Type	Unknown
Description	Weighted average retail price of 250 grams block of chocolate. Supermarket prices only.

#### SAP0137 - Coffee, instant

Type	Unknown
Description	Weighted average retail price of 100 grams of instant coffee.

#### SAP0142 - Fish and chips

Type	Unknown
Description	Weighted average retail price of 1 fish and chips.

#### SAP0125 - Flour, white

Type	Unknown
Description	Weighted average retail price of 1.5 kg of white flour. Supermarket prices only. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.

#### SAP0144 - Fruit juice, apple based

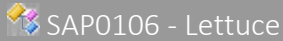
Type	Unknown
Description	Weighted average retail price of 3 litres of apple based fruit juice. Supermarket prices only. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.

#### SAP0103 - Kiwifruit

Type	Unknown
Description	Weighted average retail price of 1 kg of kiwifruit.



Type	Unknown
Description	Weighted average retail price of 1 kg of lamb chops.



Type	Unknown
Description	Weighted average retail price of 1 kg of lettuce.



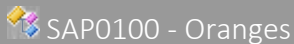
Type	Unknown
Description	Weighted average retail price of 1 hot meat pie.



Type	Unknown
Description	Weighted average retail price of 2 litres of standard homogenised milk. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.



Type	Unknown
Description	Weighted average retail price of 1 kg of mushrooms.



Type	Unknown
Description	Weighted average retail price of 1 kg of oranges.




Type	Unknown
Description	Weighted average retail price of 410 grams of canned peaches. Supermarket prices only.



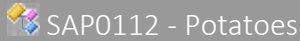
Type	Unknown
Description	Weighted average retail price of 1 kg of frozen peas. Supermarket prices only. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.



Type	Unknown
Description	Weighted average retail price of 1 kg of pork loin chops.



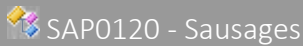
Type	Unknown
Description	Weighted average retail price of 190 grams of potato crisps.



Type	Unknown
Description	Weighted average retail price of 1 kg of potatoes.



Type	Unknown
Description	Weighted average retail price of 1 kg of white, long grained rice. Supermarket prices only.



Type	Unknown
Description	Weighted average retail price of 1 kg of sausages.



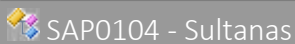
Type	Unknown
Description	Weighted average retail price of 1.5 litres of soft drink.



Type	Unknown
Description	Weighted average retail price of 420 grams canned spaghetti.



Type	Unknown
Description	Weighted average retail price of 1.5 kg of white sugar. Based on the cheapest available brand or variety in each retail outlet at the time of price collection.



Type	Unknown
Description	Weighted average retail price of 375 grams of sultanas. Supermarket prices only.



Type	Unknown
Description	Weighted average retail price of a box of 100 tea bags. Supermarket prices only.



Type	Unknown
Description	Weighted average retail price of 560 grams canned tomato sauce.

#### SAP0109 - Tomatoes

Type	Unknown
Description	Weighted average retail price of 1 kg of tomatoes.

#### SAP0121 - Tuna, canned

Type	Unknown
Description	Weighted average retail price of 185 grams of canned tuna. Supermarket prices only.

#### SAP0128 - Yoghurt, flavoured

Type	Unknown
Description	Weighted average retail price of pack of six 150 grams pottles of flavoured yoghurt. Supermarket prices only.

## Data Collections

### Food Price Index Series 2014

#### Methodology

#### Food price index review for July 2014

We have reviewed the FPI, as part of a wider, three-yearly consumer price index (CPI) review to ensure the index remains relevant. We updated the basket of representative food items being tracked in the FPI, and updated the relative importance.

The updated weights show that about \$37 of every \$100 that households spend on food, is spent on grocery food. About \$23 is spent on restaurant meals and ready-to-eat food, and about \$16 is spent on meat, poultry, and fish. Fruit and vegetable spending accounts for \$14, and the remaining \$10 is spent on non-alcoholic beverages.

Three items have been added to the FPI basket and none have been removed, taking the number of items in the basket to 166. The items added to the basket are:

- frozen prawns
- packaged leaf salad
- breakfast food drinks.

There were changes to product specifications for chicken pieces and energy drinks. We are now tracking prices for chicken breasts separately from other types of chicken pieces. The weighted average price for 1kg of chicken breast is now included in table 3 of the release. We are also now collecting prices for 250ml containers of energy drinks in supermarkets in addition to 350ml containers in convenience stores. Previously, prices for energy drinks were collected for 350ml in both store types.

#### 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.

**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 Timaru, Rotorua, and Wanganui. 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 HES 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 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 FPI 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 seasonal 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. For more information about seasonal adjustment see [Seasonal adjustment in Statistics New Zealand](#) and for how it relates to the CPI see [Price Index News: CPI sources and methods articles](#).

See [Analytical consumer price index seasonally adjusted series](#) for further information.

### 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.

Date	2014-07 -
Spatial Coverage	New Zealand
Highest Level	New Zealand
Lowest Level	Whangarei, Auckland, Hamilton, Tauranga, Napier-Hastings, New Plymouth, Palmerston North, Wellington, Nelson, Christchurch, Dunedin, and Invercargill.


## Conceptual Variables

### Food Price Index Series 2014

- [Food group - Food group](#)
- [Fruit and vegetables - Fruit and vegetables](#)
- [Grocery food - Grocery food](#)
- [Meat, poultry, and fish - Meat, poultry, and fish](#)
- [Non-alcoholic beverages - Non-alcoholic beverages](#)

- Restaurant meals and ready-to-eat food - Restaurant meals and ready-to-eat food


 Food group

 Fruit and vegetables

 Grocery food

 Meat, poultry, and fish

 Non-alcoholic beverages

 Restaurant meals and ready-to-eat food