Food Price Index: March 2016

Embargoed until 10:45am – 13 April 2016

Key facts

Monthly change

Food prices rose 0.5 percent in the March 2016 month. After seasonal adjustment, food prices rose 0.8 percent.

In March 2016 compared with February 2016:

- Fruit and vegetable prices **rose** 1.9 percent (up 4.6 percent after seasonal adjustment).
- Meat, poultry, and fish prices **fell** 0.2 percent.
- Grocery food prices **rose** 0.3 percent (up 0.4 percent after seasonal adjustment).
- Non-alcoholic beverage prices **rose** 1.9 percent.
- Restaurant meals and ready-to-eat food prices **rose** 0.1 percent.

Annual change

Food prices decreased 0.1 percent in the year to March 2016.

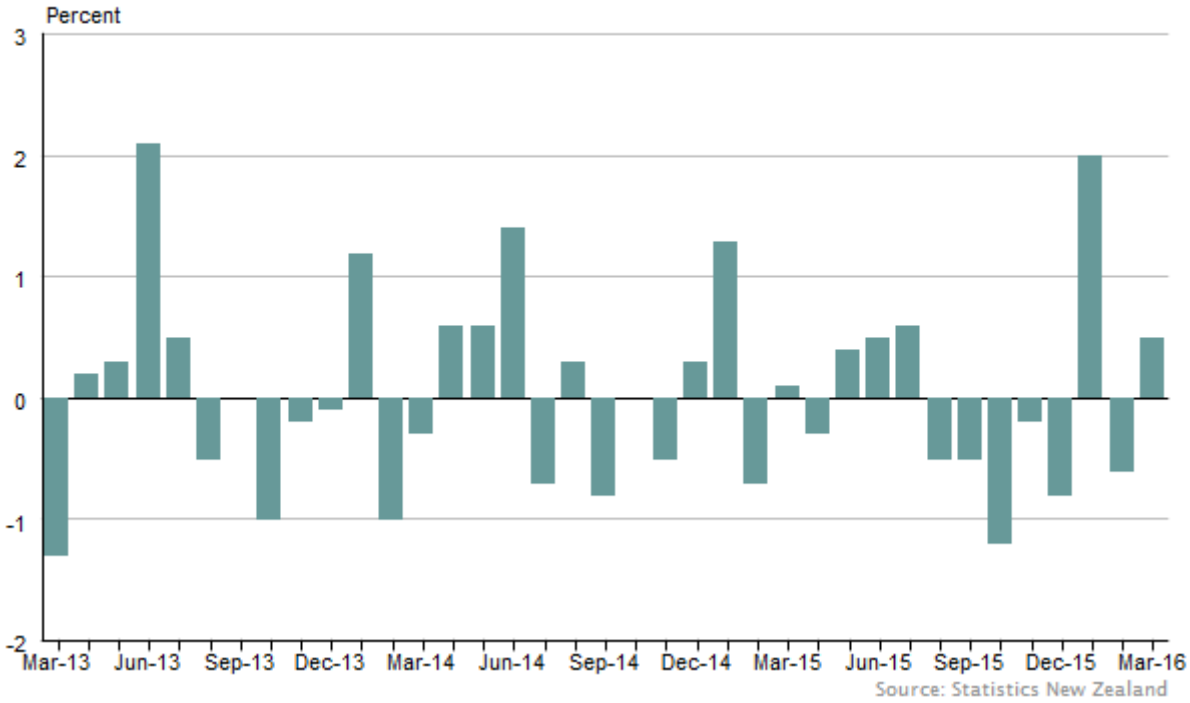
In March 2016 compared with March 2015:

- Fruit and vegetable prices **rose** 3.6 percent.
- Meat, poultry, and fish prices **fell** 0.6 percent.
- Grocery food prices **fell** 2.7 percent.
- Non-alcoholic beverage prices **rose** 1.0 percent.
- Restaurant meals and ready-to-eat food prices **rose** 1.9 percent.

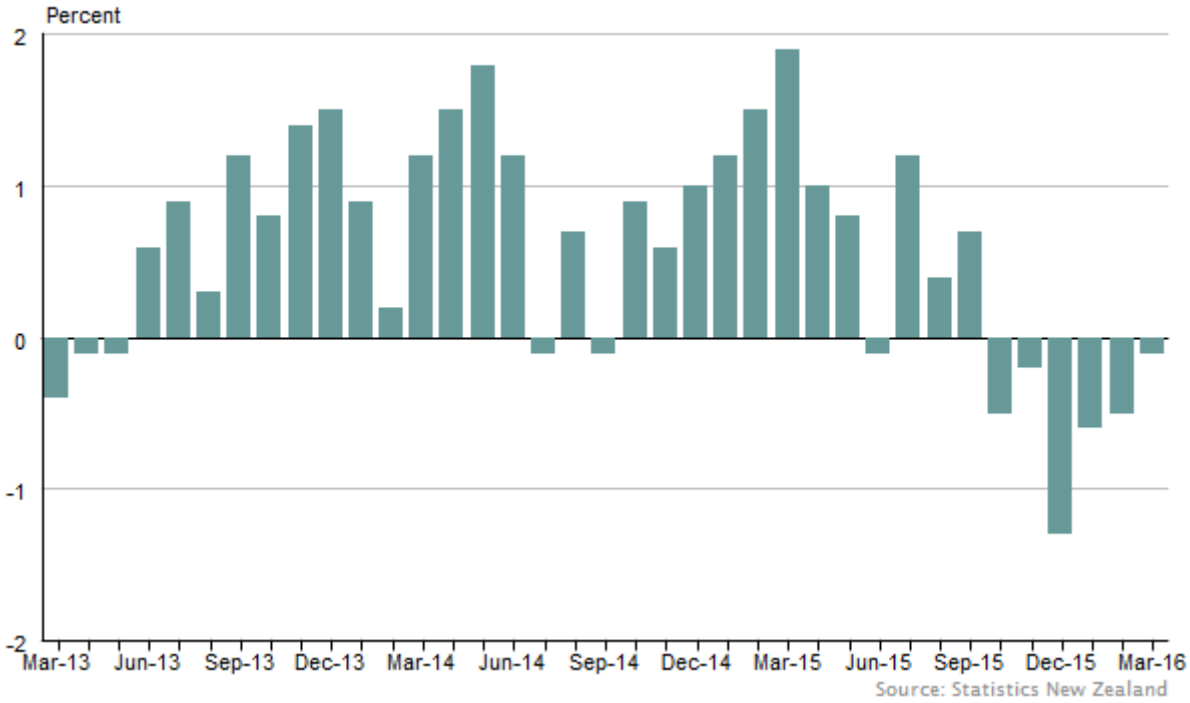
Average prices

- The average price for a kilogram of porterhouse steak was $30.37 in March 2016, compared with $27.28 in March 2015.
- The average price for a kilogram of beef mince was $13.87 in March 2016, compared with $12.58 in March 2015.
- The average price of the cheapest available 2 litres of blue-top milk was $3.28 in March 2016, compared with $3.63 in March 2015.

Food price index
Monthly change



Food price index
Annual change



Liz MacPherson, Government Statistician
ISSN 1178-0282
13 April 2016

Commentary

- Monthly food prices rise 0.5 percent, led by higher fruit and vegetable prices
- Annual food prices decrease 0.1 percent, led by lower grocery food prices
- Longer-term retail picture: beef prices continue to rise

Monthly food prices rise 0.5 percent, led by higher fruit and vegetable prices

Food prices rose 0.5 percent in March 2016, and seasonally adjusted food prices rose 0.8 percent.

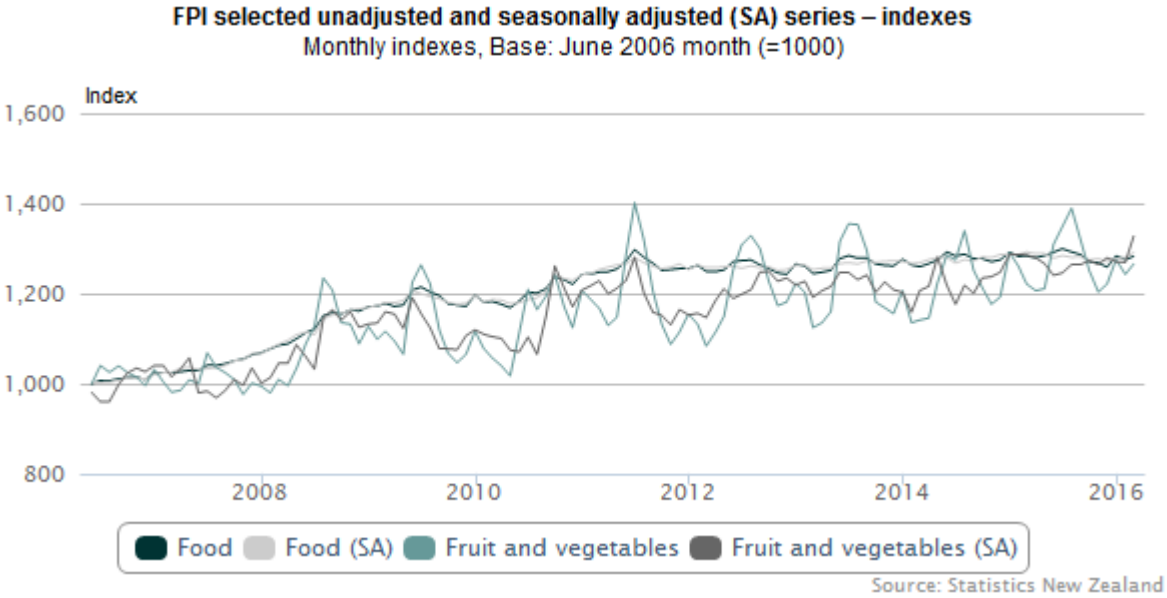
Fruit and vegetable prices rose 1.9 percent, following a fall of 2.6 percent in February and a rise of 4.4 percent in January. Vegetable prices rose 3.8 percent (up 5.6 percent after seasonal adjustment). Dry weather has contributed to higher prices for tomatoes (up 30 percent), lettuce (up 20 percent), and cauliflower (up 66 percent). Cauliflowers are now at their highest price since our series began in 1994. Fruit prices fell 0.4 percent (but rose 1.3 percent after seasonal adjustment), influenced by lower prices for apples, grapes, and pears.

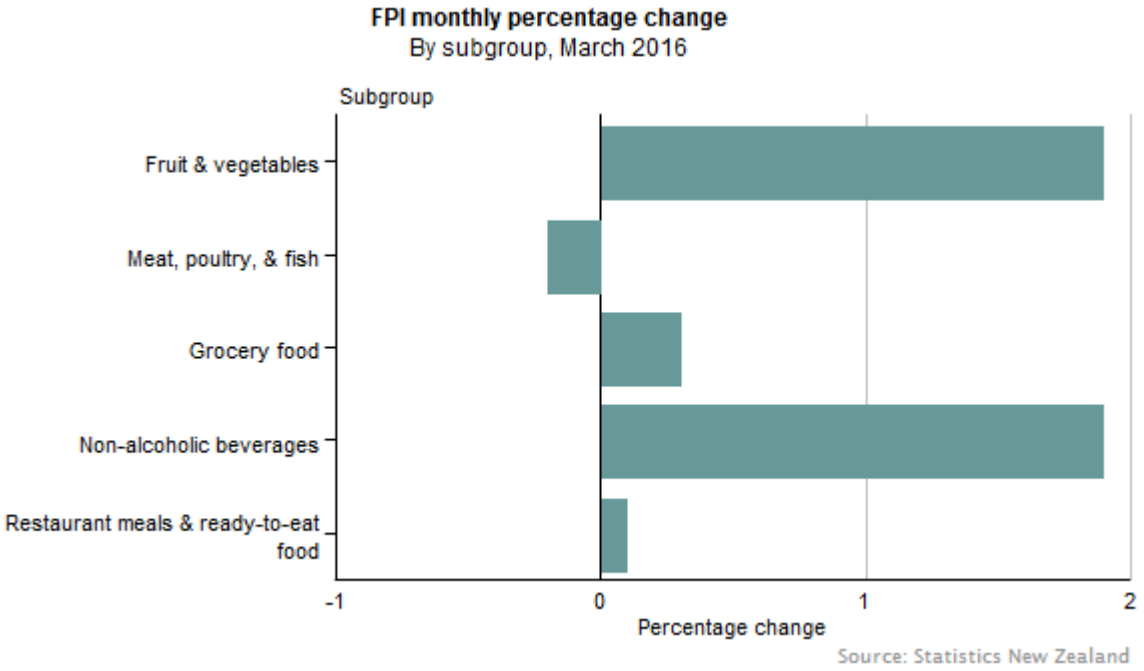
Non-alcoholic beverage prices rose 1.9 percent, influenced by higher prices for energy drinks and soft drinks. Energy drink prices rose by 10 percent – slightly lower than their highest rise, which was in November 2014.

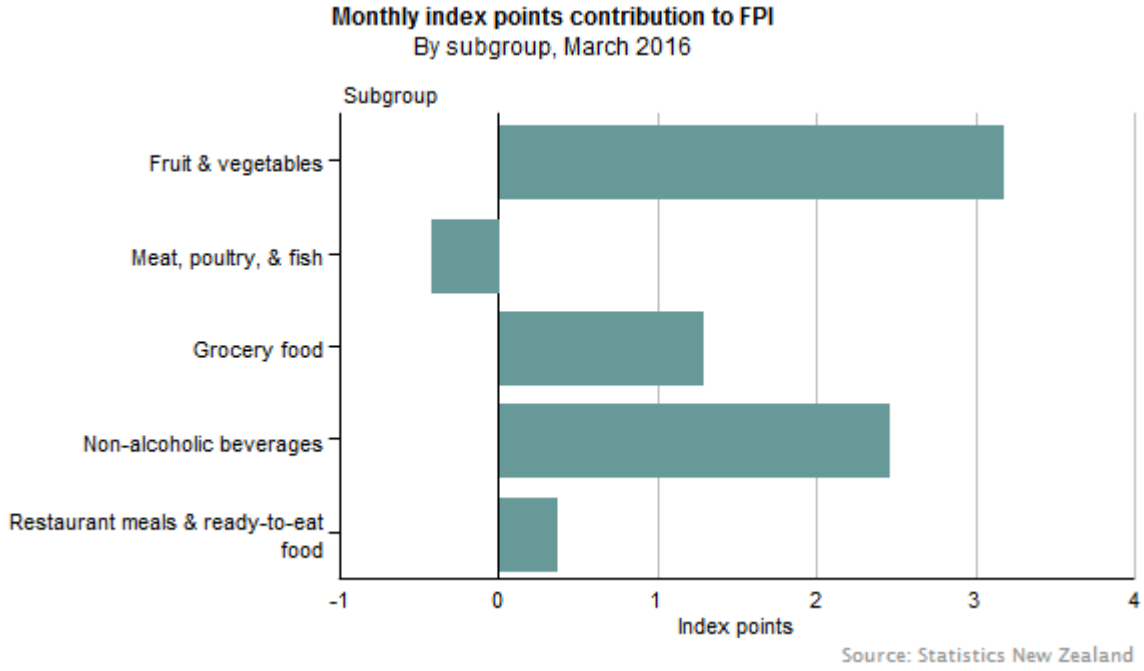
Grocery food prices rose 0.3 percent, led by higher prices for confectionery (up 8.7 percent), snack foods (up 5.3 percent), and bread (up 1.6 percent). This was offset by lower prices for cakes and biscuits.

Meat, poultry, and fish prices fell 0.2 percent, led by lower prices for lamb (down 5.0 percent). These lower prices were partly offset by a rise for beef (up 0.7 percent – and at a new high).

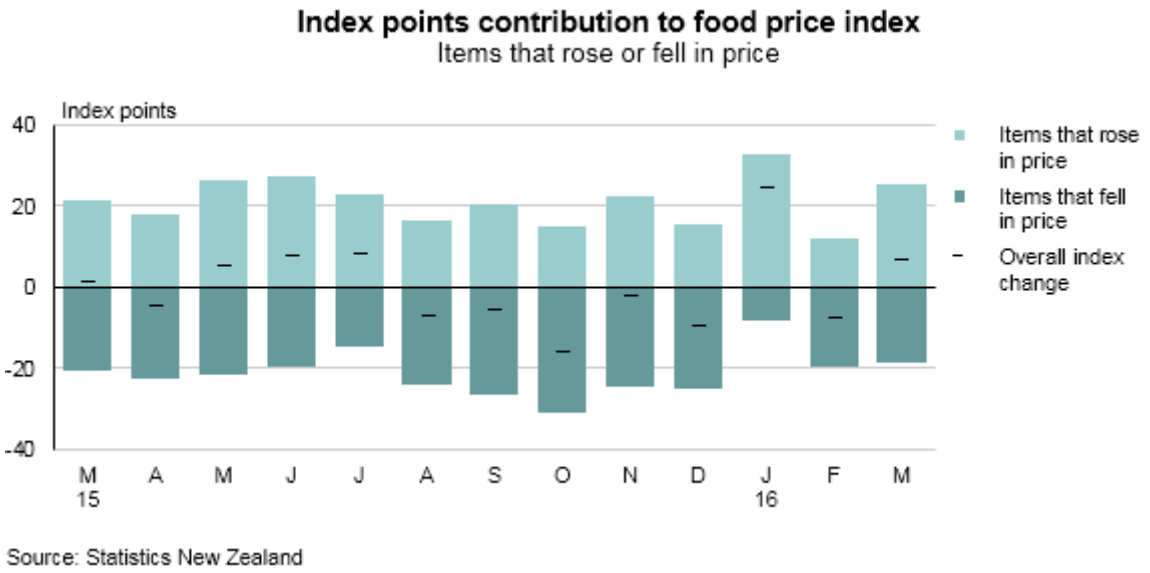
Restaurant meals and ready-to-eat food showed a price increase of 0.1 percent in March 2016.







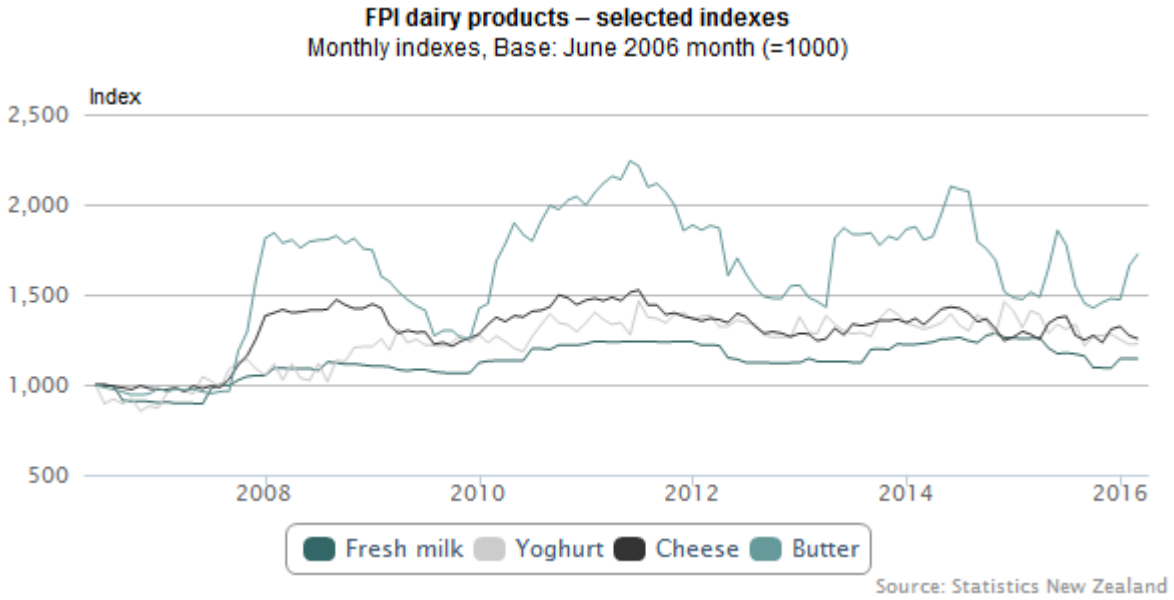
The following graph shows the index points contribution to the food price index (FPI) of items that rose or fell in price for each month.



Annual food prices decrease 0.1 percent, led by lower grocery food prices

In March 2016 compared with March 2015, food prices decreased 0.1 percent. This follows falls of 0.5 percent in the year to February 2016, and 0.6 percent in the year to January 2016.

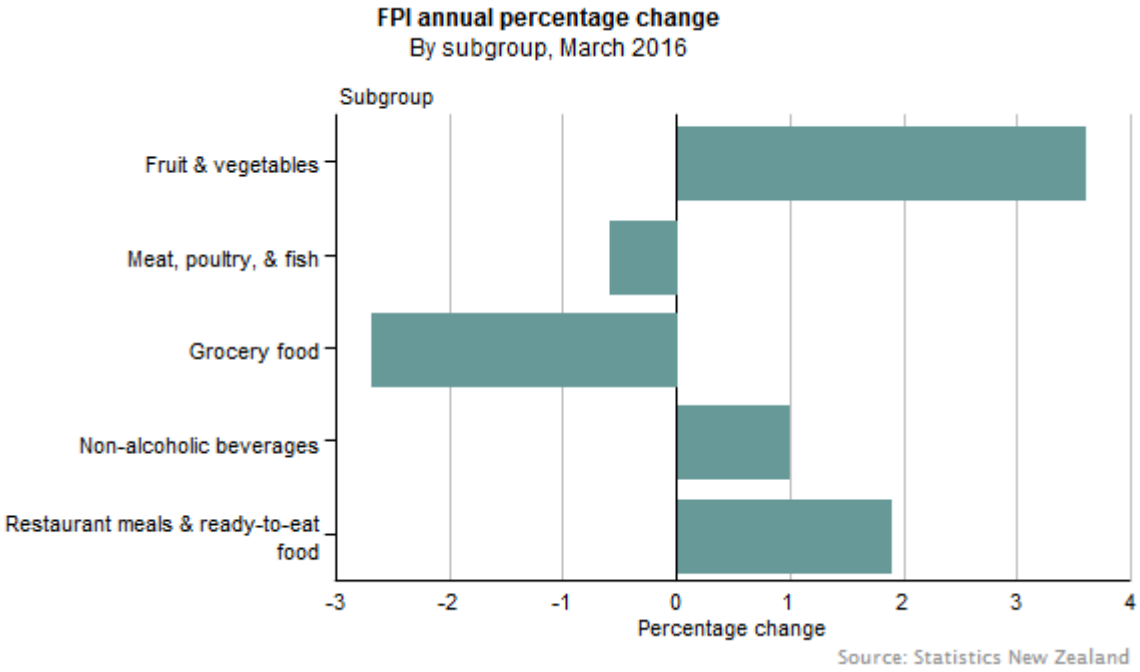
Grocery food prices decreased 2.7 percent over the year, which is the lowest annual movement for March since the series began. Prices decreased for fresh milk (down 9.0 percent), cakes and biscuits (down 7.7 percent), and yoghurt (down 13 percent). These price decreases were partly offset by higher prices for chocolate and butter.

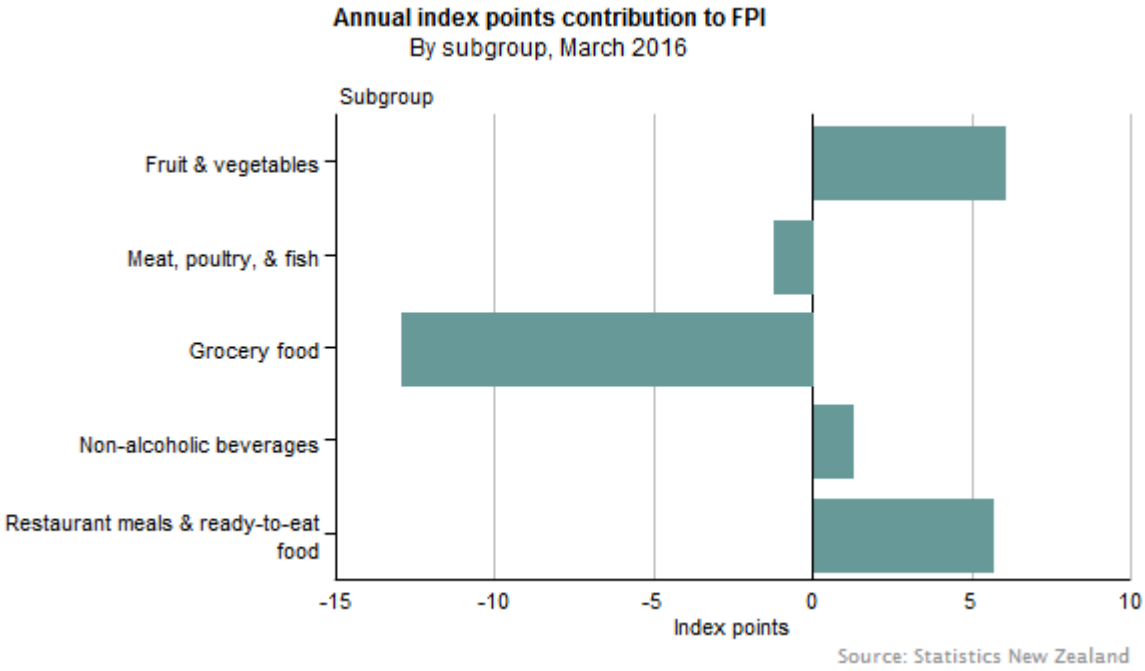


Meat, poultry, and fish prices fell 0.6 percent in the year to March 2016. Prices for processed meat (down 4.4 percent), lamb (down 11 percent), and chicken (down 3.8 percent) contributed to the fall. This was partly offset by higher prices for beef (up 9.1 percent).

Prices for non-alcoholic beverages rose 1.0 percent, and restaurant meals and ready-to-eat food prices increased 1.9 percent in the year to March 2016.

Fruit and vegetable prices rose 3.6 percent, with higher prices for fruit (up 5.6 percent) and vegetables (up 1.9 percent). Higher prices for avocados, lettuce, and tomatoes were partly offset by lower prices for kumara and carrots.





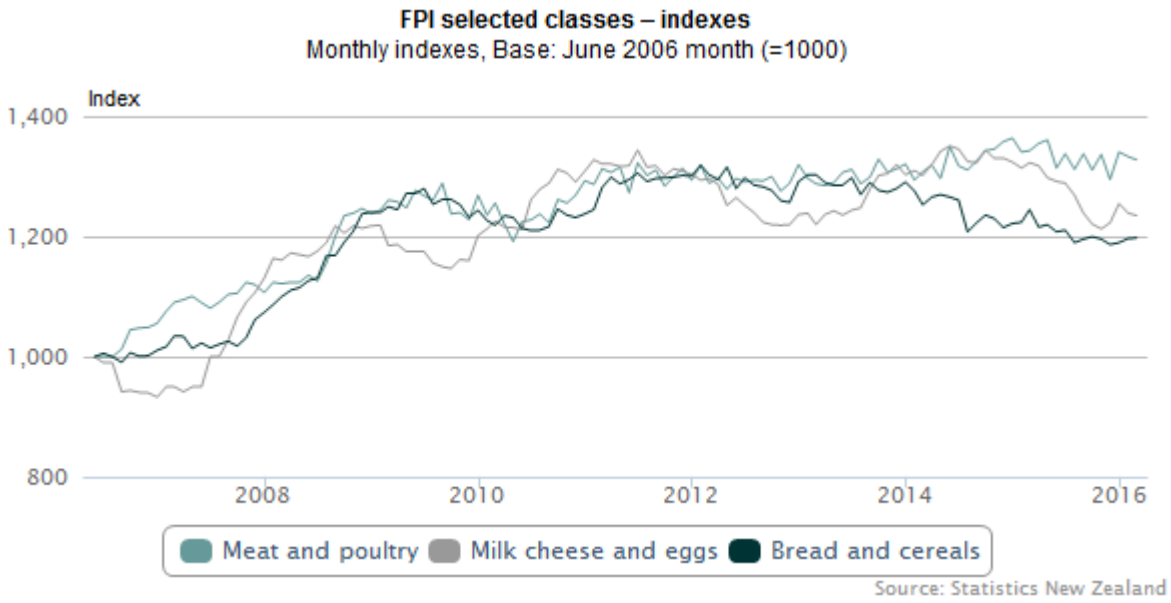
Longer-term retail picture: beef prices continue to rise

Beef prices are continuing to rise. In the year to March 2016, beef prices increased 9.1 percent. For the third consecutive month beef prices have reached a new high in the series, which began

in 1989. The price of beef has only fallen once annually since April 2013. The average price of a kilogram of beef mince was $13.87 in March 2016, compared with $12.58 in March 2015, and $12.03 in March 2011.

See Price Index News: January 2016 – Beef prices reach their highest level for more information.

Fresh milk prices have been falling annually since May 2015, and decreased 9.0 percent in March 2016 compared with March 2015. The average price of the cheapest available 2 litres of blue-top milk was $3.28 in March 2016, compared with $3.63 in March 2015, and $3.68 in March 2011. For other average prices see table 3 in the Excel tables.



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.

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

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

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

More definitions

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

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

Upward/downward contributions: Items mentioned in this release are usually those that made a large contribution to the overall movement in the FPI. An item's contribution is a combination of its weight in the index (ie its relative importance, based on its share of household spending on food) and the magnitude of price movement. For example, for two items recording the same percentage rise in price, the item with the larger weight in the FPI will have a larger contribution to the overall movement. This contribution is also referred to as points (or index points) contribution.

Seasonally adjusted series: Seasonal adjustment aims to eliminate the impact of regular seasonal events (such as annual cycles in fruit and vegetable production, winter or pre-Christmas shopping) on time series. Seasonal patterns obscure the underlying behaviour of the series. For more detail on the seasonally adjusted series, see the Excel tables in the 'Downloads' box. You can also extract the seasonally adjusted series from Infoshare.

Related links

Next release

Food Price Index: April 2016 will be released on 12 May 2016.

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

Past releases

Food Price Index has links to past releases.

Related information

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

Food prices in the consumers price index and food price index gives an explanation of the sources and methods used to compile food prices.

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

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

Data quality

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

- Reference period
- Sample size
- Imputation

General information
This section contains information that does not change between releases.

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

Period-specific information

Reference period

We collected prices for the food price index (FPI) during the period 10–17 March 2016, 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.

Sample size

In a typical month, we collect about 19,000 prices from 560 retail outlets.

Imputation

Due to being unavailable at the time of price collection, we impute, on average, 0.7 percent of prices (not including seasonal fresh fruit and vegetables) in a typical 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. We make 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.

We update expenditure weights every three years as part of regular FPI reviews. The weights are derived largely from the 2012/13 Household Economic Survey (HES). We also use 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

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

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

We survey fresh fruit and vegetable prices 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

We collect food prices 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).

We collect 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

We undertake reviews of the FPI 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*. In the review, we reselected the basket of representative food goods and services, calculated new national expenditure weights, and moved to regional expenditure weights.

The previous basket's final price collection period was June 2014. We also collected prices for the updated FPI sample of products 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, we weight regional price change using regional expenditure weights for the five broad regions (Auckland, Wellington, rest of North Island, Canterbury, and rest of South Island). Regional expenditure weights use expenditure in each region to weight regional price change. This ensures that price change in regions where households spend more per person on a particular item relative to other regions (eg Auckland, 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. The 2013 CPI Advisory Committee recommended this change (recommendation 6), which 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 were 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). We calculated the group-level regional weights by aggregating all food expenditure in each broad region.

We publish the FPI and CPI 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. We also publish the FPI for the 12 regional pricing centres.

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

Outlet weights

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

Elementary aggregate formulae

We calculate regional elementary aggregates for each of the 12 pricing centres from all prices collected for an item within that region. We use a 'geometric mean of price relatives', or Jevons formula.

We use the Jevons formula 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 households purchase increased quantities 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

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

Consistency with other periods or datasets

Effect of the Christchurch earthquakes on price collection

Following the Christchurch earthquake on 22 February 2011, we used price movements for the rest of New Zealand 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; we completed the collection 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 we use to compare prices in other periods with (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 be compared in the same fashion.

Seasonal adjustment of prices – fresh fruit and vegetables

Until the June 2006 month, we adjusted fresh fruit and vegetable items that exhibited a seasonal pattern 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. Take care when you compare 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 seasonally adjustment is done at the aggregate level, independently of seasonally adjusting the components. A direct seasonally adjusted fruit series would be made up by adjusting the aggregate of all the unadjusted series (for apples, pears, kiwifruit, etc).

We use the x13 ARIMA-SEATS package to run our seasonal adjustment. 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' in Price Index News: July 2015 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, we do not include prices for nectarines in the April and May FPI. Similarly, prices for strawberries are not included in the May and June FPI. This is because we cannot collect enough prices 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. We calculated these weighted average retail prices from prices collected in the June 2006 month. Subsequent months' weighted average prices are then calculated by applying price

index movements for the relevant items. These are not statistically accurate measures of average transaction price levels, but are reliable indicators of percentage changes in prices.

More information

See information about the Food Price Index.

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

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Tables

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

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

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
3. Food price index, seasonally adjusted subgroups
4.01 Food price index, seasonally adjusted subgroups and classes – index numbers
4.02 Food price index, seasonally adjusted subgroups and classes, percentage change from previous month

Access more data on Infoshare

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

Use Infoshare
For this release, select the following categories from the Infoshare homepage:
Subject category: **Economic indicators**
Group: **Consumers Price Index**

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

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

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

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

See more information about Infoshare.

Next release

Food Price Index: April 2016 will be released on 12 May 2016.