Food Price Index: December 2012

Embargoed until 10:45am – 15 January 2013

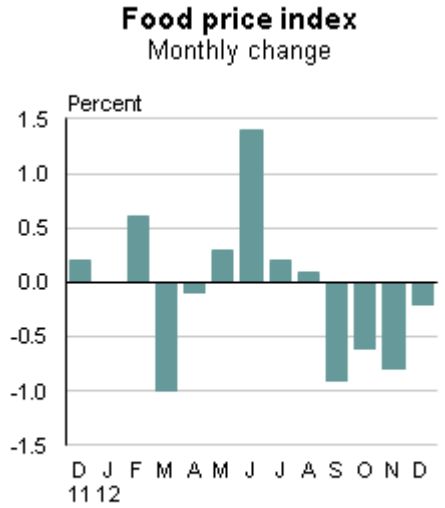
Key facts

In December 2012 compared with November 2012:

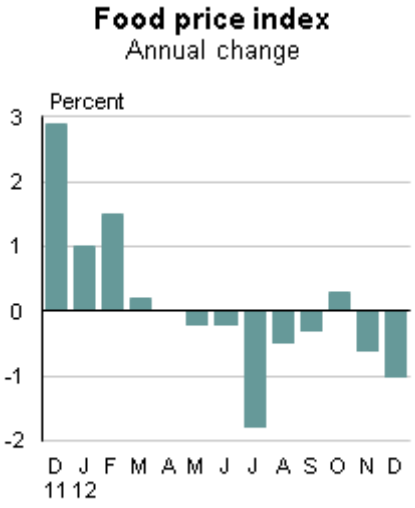
- Food prices **fell** 0.2 percent.
- Fruit and vegetable prices **rose** 0.7 percent.
- Meat, poultry, and fish prices **rose** 0.9 percent.
- Grocery food prices **fell** 0.2 percent.
- Non-alcoholic beverage prices **fell** 2.8 percent.
- Restaurant meals and ready-to-eat food prices showed no overall change.

From December 2011 to December 2012:

- Food prices **decreased** 1.0 percent.
- Fruit and vegetable prices **increased** 6.0 percent.
- Meat, poultry, and fish prices **decreased** 2.1 percent.
- Grocery food prices **decreased** 3.6 percent.
- Non-alcoholic beverage prices **decreased** 1.2 percent.
- Restaurant meals and ready-to-eat food prices **increased** 0.6



Source: Statistics New Zealand



Source: Statistics New Zealand

percent.

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Commentary

- Monthly food prices fall 0.2 percent
- Annual food prices decrease 1.0 percent

Monthly food prices fall 0.2 percent

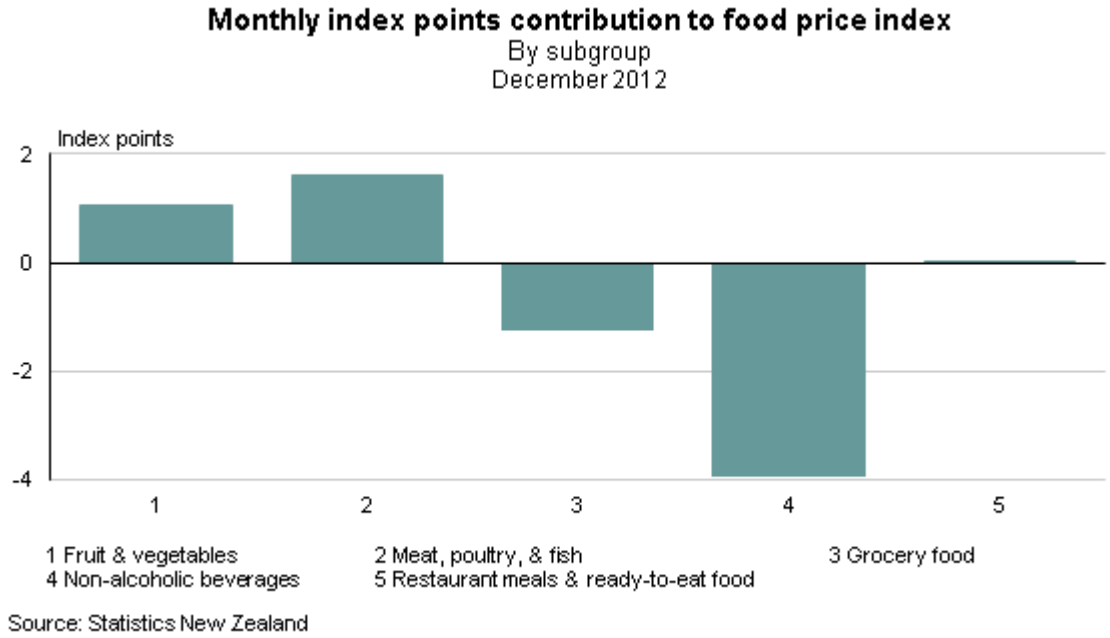
The December 2012 fall follows a 0.8 percent fall in November 2012 and is the fourth in a row. The last time food prices fell for four or more consecutive months was for August to December 2009.

The 2.8 percent fall for non-alcoholic beverages was led by soft drinks (down 2.6 percent), coffee (down 5.6 percent), and fruit juice (down 6.1 percent), which were all lower due to more discounting.

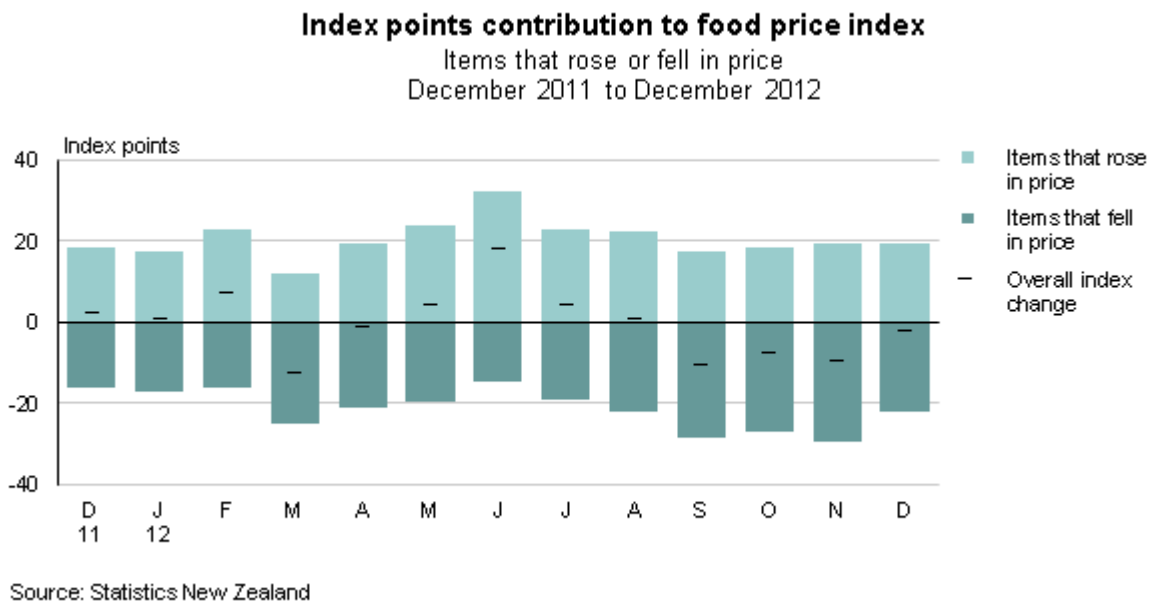
The 0.9 percent rise in meat, poultry, and fish prices was mainly influenced by higher prices for chicken pieces (up 10 percent), due to less discounting.

Fruit prices rose 4.3 percent while vegetable prices fell 2.2 percent.

See Data influencers and context for more details.



The graph below shows the index points contribution to the food price index (FPI) of items that rose or fell in price for the month. This information is now included in table 5 of this release. The food expenditure weights (previously table 5) and population weights (previously table 6) now appear in tables 6 and 7, respectively.

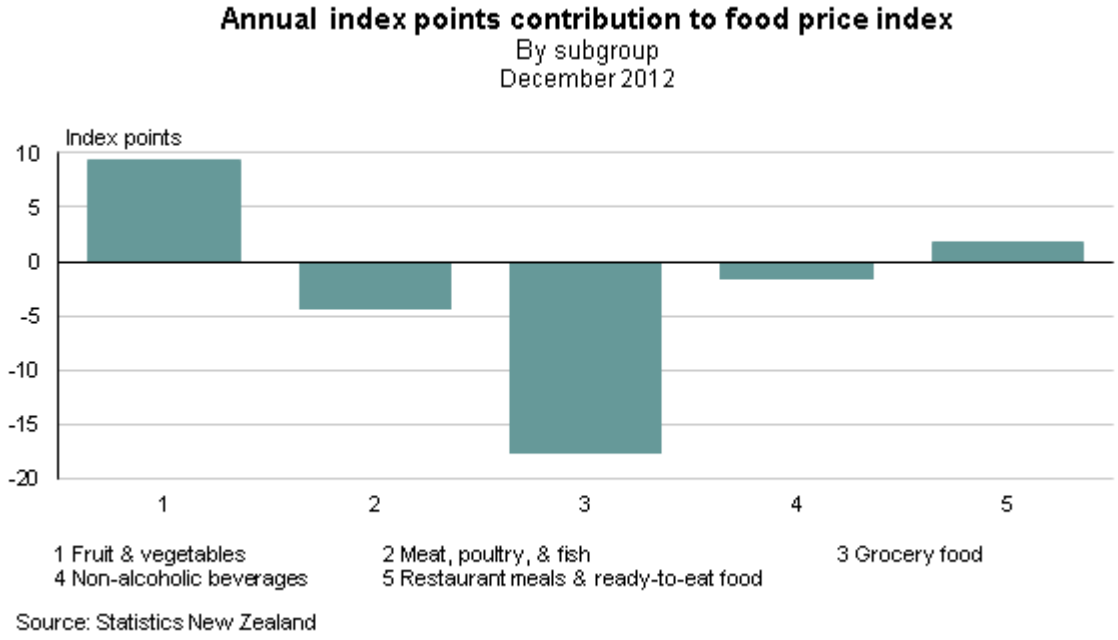


Annual food prices decrease 1.0 percent

Within grocery food (down 3.6 percent), fresh milk (down 9.4 percent), cheese (down 8.2 percent), and bread prices (down 4.2 percent) made significant downward contributions.

For fruit and vegetables (up 6.0 percent), kumara, avocados, apples, and pumpkin made the most significant upward contributions. See Data influencers and context for more details.

The decrease in meat, poultry, and fish prices (down 2.1 percent) was largely due to lamb (down 24 percent). The price of takeaway pizzas decreased 12 percent.



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

Definitions

About the food price index

The food price index (FPI) measures the rate of price change of a fixed basket of food goods and services purchased by households. The FPI aims to measure price changes of the same items (brand and relevant details) at each outlet over time. When there is a change in the size or quality of any of the goods or services in the basket, we make an adjustment to ensure the price change shown in the FPI is not affected by the change in size or quality.

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

A full listing of the representative food items monitored in the FPI is available in Food price index review: 2011 (see tables 3 and 4).

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.

The sources and methods used to compile food prices are explained in Food prices in the consumers price index and food price index.

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: Items that are 'on special' or come 'off special' are included in the FPI at the price levels observed at the time prices are collected. An analysis of the price quotes for these items is often given for the meat, poultry, and fish; grocery food; and non-alcoholic beverages subgroups in the 'Commentary' section of this information release. To be included in this analysis, the priced item will have been on special either last month or this month, or have been on special in both months.

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

Related links

Upcoming releases

The *Food Price Index: January 2013* will be released on 14 February 2013.

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Past releases

Food Price Index has links to past releases.

Related information

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

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

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

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

Data quality

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

- Reference period
- Data influencers and context
- Sample size
- Imputation

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

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

Period-specific information

Reference period

Prices for the food price index (FPI) were collected during the period 6–13 December 2012, with the exception of fresh fruit and vegetable prices, which were collected each Friday in most urban areas, and each Thursday in remaining urban areas for the first three weeks of December.

Data influencers and context

Monthly

For non-alcoholic beverages:

- The last time soft drinks (down 2.6 percent) fell by more was in December 2010 (down 5.8 percent).
- Fruit juice prices were 9.2 percent lower in December 2012 than their peak in August 2012.

For fruit and vegetables:

- The main upward contributions came from seasonal rises in apple (up 14 percent) and potato prices (up 13 percent). Apple prices are at their highest level since January 2009.
- The main downward contributions came from seasonal price falls for tomatoes (down 30 percent) and broccoli (down 31 percent).
- Tomato prices often fall in the spring and early summer months. They have fallen 30 percent or more in each of the past three months, and in December 2012 were

75 percent lower than their off-season peak in August 2012 (which was caused by a supply shortage).

Annual

For grocery food:

- Milk prices peaked in February 2011, and in December 2012 were 9.7 percent lower than this peak.
- Cheese prices are the lowest since December 2009, and 17 percent lower than in July 2011 when they peaked.

For fruit and vegetables:

- The main upward contributions came from kumara (up 109 percent), avocados (up 107 percent), apples (up 20 percent), and pumpkin (up 32 percent).
- Kumara prices are at their highest level since the series began in June 1999. High kumara prices were influenced by poor weather conditions in both the planting and harvesting seasons, which affected the crop in 2012.
- Avocados enjoyed a bumper season in 2011, with a large quantity available on the market and an average price of $4.11 per kilo in December 2011. Avocado harvests follow a two-year pattern, with a smaller crop every other year. They had an average price of $8.51 per kilo in December 2012, compared with $7.91 per kilo in December 2010.

Sample size

About 22,000 prices were collected from 650 retail outlets.

Imputation

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

General information

Reference population

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

Expenditure weights

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

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

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

The relative importance of the FPI subgroups shows that about $38 of every $100 households spend on food is spent on grocery food. About $21 is spent on eating out or takeaways, and about $16 is spent on meat, poultry, and fish. Fruit and vegetables account for $14, and the remaining $11 is spent on non-alcoholic beverages, such as packaged coffee, soft drinks, and juices.

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

Collection methods

Prices are surveyed by visiting retail outlets in 15 urban areas: Whangarei, Auckland, Hamilton, Tauranga, Rotorua, Napier-Hastings, New Plymouth, Wanganui, Palmerston North, Wellington, Nelson, Christchurch, Timaru, Dunedin, and Invercargill.

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

Sample design

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

Statistics 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

Price collection did not take place in March 2011, following the Christchurch earthquake on 22 February 2011. For the March FPI, price movements for the rest of New Zealand were used to calculate price movements in Christchurch.

Statistics NZ began collecting food (and non-food grocery) prices again in April 2011. While we were able to collect prices from most outlets in Christchurch in April, some were not open for business. For these outlets, price movements from other Christchurch outlets where prices were collected were used. In May 2011, most outlets that had not reopened were replaced with suitable alternative outlets.

In June 2011, further earthquakes interrupted price collection in Christchurch. About half the prices used to calculate the June 2011 FPI had been collected before the 13 June earthquakes, and price collection was put on hold for the remainder of the week. Collection was completed on 20 and 21 June, two working days later than other regions where we collect prices for the FPI.

Index base

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

Seasonal adjustment of prices – fresh fruit and vegetables

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

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

Reconciling the FPI and food group of the CPI

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

See Food prices in the consumers price index and food price index for more information.

Interpreting the data

Seasonal availability of fruit and vegetables

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

Weighted average retail prices of selected food items

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

More information

See information about the Food Price Index.

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Tables

The following tables are available in Excel format from the 'Downloads' box. If you have problems viewing the files, see opening files and PDFs.

1. Food price index, subgroups
2.01 Food price index, subgroups, classes, and selected sections – index numbers
2.02 Food price index, subgroups, classes, and selected sections, percentage change from previous month
2.03 Food price index, subgroups, classes, and selected sections, percentage change from same month of previous year
3. Weighted average retail prices of selected food items
4. Contribution 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. Population weights, by region/pricing centre

Supplementary tables

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

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

Access more data on Infoshare

Use Infoshare to access time-series data specific to your needs. For this release, select the following categories from the Infoshare home page:

Subject category: **Economic indicators**
Group: **Consumers Price Index**

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

- index series for the FPI and its subgroups, classes, and selected sections
- the FPI for the 15 pricing centres and five broad regions
- non-standard aggregations of indexes (eg fresh fruit and vegetables)
- historical seasonally unadjusted index series
- average prices for a selection of items in the FPI basket.

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

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

See more information about Infoshare.