A Layperson's Guide

CPI

All about the Consumers Price Index

Statistics NEW ZEALAND
Te Tari Tatau

Published in January 2000
Statistics New Zealand
Te Tari Tatou
Wellington, New Zealand
Catalogue Number 18.041.2000
ISBN 0-478-20748-4
Recommended Retail Price $9.95
(includes 12.5% GST)

Preface

The Consumers Price Index (CPI) is one of New Zealand's best known statistics.

The CPI provides a measure of change in the prices of goods and services bought by households.

It is a measure of inflation which plays a crucial role in setting and monitoring monetary policy. It is also used to adjust benefit payments and in wage negotiations.

The CPI is regularly reviewed so that it reflects current household purchasing patterns. The reviews involve such things as updating the goods and services that are priced, the relative importance of items in the CPI, and the outlets from which prices are collected. The latest review was effective from the September 1999 quarter and resulted in the most significant change that has been made to the CPI for several decades, by excluding interest.

The review itself also gave impetus to increasing the number of measures of inflation that are available. In particular an outlays measure (an index whose weights are based on the expenditure on goods and services in the base period, regardless of when the goods and services were acquired or consumed) and a real disposable income measure (an index of the value of disposable income).

Len Cook
Government Statistician

Contents

1. What is the CPI?

New Zealand, like other countries, needs a general measure of the rate of price change of the goods and services purchased by households. The Consumers Price Index (CPI) is used for this purpose.

The simplest way to think of this is as a measure of the total cost of goods and services purchased by New Zealand consumers. Price changes of particular goods and services will alter the total cost. The Consumers Price Index measures this change over time.

Using a more precise definition, the CPI measures the changing cost over time of the goods and services purchased in New Zealand in a specified base period by private, New Zealand-resident households, regardless of the location of the supplier.

Where possible, prices are collected for exactly the same goods and services each period. This ensures that changes in the cost of the goods and services shown by the CPI are not due to changes in the quantity or quality of the goods and services purchased. The CPI reflects only "pure" price changes.

2. What is a price index?

A statistic is needed that will measure the change in the overall level of prices being paid by purchasers, while taking account of the numerous and diverse transactions being made by them. This need is met by a price index.

A price index is a single series of figures that shows how a whole set of prices has changed over a specified time period. For example, if a person asks what has happened to prices over the last 12 months, it is far simpler to reply that the overall price index has risen by 5 percent, say, rather than the price of milk has risen 20 percent and the price of videos has dropped 10 percent and so on.

A price index measure uses one number to represent the prices being charged for various goods and services at the wide range of outlets and locations where they are being purchased.

The average price level of goods and services in the base period is assigned an index number of 1000. This becomes the benchmark to which prices in other periods are compared. An index number for a subsequent period is calculated such that its ratio to the base period index number is the same as the ratio of the price level in that period to the price level in the base period.

An index number on its own means nothing. It must be compared with an index number from another period.

For example, if the index number for a period is 1150, this means that prices have increased by 15 percent since the base period. Similarly, if the index number is 950, then prices on average have fallen by 5 percent since the base period.

It is important to remember that the CPI measures price movements and not actual price levels. Suppose that the index numbers for petrol and bread for a period are 1300 and 1150 respectively. This does not mean that the price of petrol is higher than the price of bread. What it does say is that, since the base period, the price of petrol has risen twice as fast as the price of bread.

3. Who does the CPI relate to?

The CPI is designed to provide a broad measure of changes in prices as they affect New Zealand consumers in general. It does not reflect the price changes experienced by any one particular individual or household.

Typically, each household has spending habits that are different from other households and different from the average. Consequently, each household is likely to have a different experience of price change. Therefore, it is not possible to produce a CPI that will accurately reflect each household's individual experience.

The CPI includes an extensive list of goods and services and each household purchases some combination of these, but rarely all. It would be extremely unlikely to find any household purchasing everything in the selection at one point in time. For example, it would be unlikely to find a household which owned and lived in a house and rented a house to live in at the same time. However, both dwelling rentals and the costs of home ownership are included in the CPI since they are significant items in the expenditure patterns of New Zealand consumers in general.

Individual consumers are only affected by changes to the prices of goods and services they actually purchase. For example, a person who never buys beef will not be affected if beef prices increase or decrease. However, other consumers who do buy beef will be affected, and the more beef they buy, the greater the effect will be.

The CPI is designed to measure the combined price movements of the tens of millions of retail transactions undertaken by people throughout New Zealand in a specified period. Any such statistical indicator is bound to have limitations for particular users and uses. However, the CPI is regarded as a good general measure of the effect of price change on the purchasing power of consumers in general.

4. Coverage of the CPI

The CPI covers goods and services purchased for the purpose of consumption (ie use) by private New Zealand households. Information on household expenditure is obtained from Statistics New Zealand's Household Economic Survey (HES).

In the HES, a randomly selected sample of households is interviewed to obtain detailed information on the goods and services purchased during a given period, together with the amounts spent on them. The survey covers all the residents of the North and South Islands, except those who reside in very remote locations.

Several types of expenditure are, by definition, excluded from the CPI because they are purchased as investments and not for consumption. For example, superannuation, shares and collectors' items are excluded. Residential sections are excluded because the land on which a house stands is not "used up" and is considered to represent the "investment component" of a dwelling purchase. Charitable donations, income tax and court fines are not included in the CPI, because they are not payments for a specific good or service which can be consumed.

Interest charges are incurred by households that have financed purchases by borrowings. As the total amount of interest charges incurred in any period typically bears no direct relationship to actual quantities of specific goods and services acquired by households in that period, interest charges are excluded.

A number of goods and services are excluded from the coverage of the CPI because prices for them cannot be adequately measured. These are mostly one-of-a-kind purchases such as paintings, antiques and pets but also include items like gambling for which adequate pricing indicators have not been developed.

The CPI is not a necessities index, so no attempt is made to exclude luxuries. Likewise, moral and social judgements are not reasons for excluding items from the CPI. For example, some people regard the use of alcohol or tobacco as socially undesirable, but these are included in the CPI because they are significant items in terms of household expenditure and their prices can be accurately surveyed.

5. How the CPI is organised

The goods and services covered by the CPI are classified into nine groups, 21 subgroups and 73 sections, so that similar goods and services are grouped together.

The nine groups in the New Zealand CPI are:

- Food
- Housing
- Household Operation
- Apparel
- Tobacco and Alcohol
- Transportation
- Personal and Health Care
- Recreation and Education
- Credit Services.

The full list of groups, subgroups and sections is outlined in the section entitled "The CPI regimen and expenditure weights".

A separate group, Interest Charges, is also calculated. Until the 1999 review, interest charges were included in the All Groups CPI. The on-going calculation of the Interest Charges index allows users to use a measure of inflation which includes interest if they wish.

6. Relative importance of items in the CPI

The impact of a particular item's price change on the overall change in the CPI depends on the relative importance of that item to consumers' expenditure in general. For example, because New Zealanders spend more on petrol than on newspapers, a 2 percent rise in the price of petrol would be expected to have a greater impact on the CPI than a 2 percent rise in the price of newspapers.

To ensure that the prices of goods and services on which consumers spend relatively more of their total expenditure have the greatest influence, the CPI is calculated using "weights". Expenditure on a particular good or service as a proportion of total household expenditure is calculated to give the relative importance or "weight" of that commodity in the CPI.

Expenditure data from the Household Economic Survey (HES) is used to estimate these "weights". Where this data is not considered sufficiently accurate, expenditure by households is estimated using information gathered from other sources.

7. Choosing items to be price surveyed

The price surveys of goods and services for the CPI don't include all the items purchased by consumers. However, it is not necessary to survey the prices of all the items consumers purchase as many related goods and services are subject to similar price movements. The solution is to survey the prices of a selection of goods and services that represent the price movements of the much wider range of items that households purchase. (This selection is sometimes referred to as the CPI "basket" of goods and services.)

The goods and services for which prices are surveyed were selected using information from the HES for the year to 31 March 1998. The factors taken into account when selecting items to be price surveyed are:

- That the selected goods and services should collectively comprise a representative sample of goods and services purchased by consumers.
- That the selected goods and services should have price movements which will accurately reflect those of a broad grouping of similar products.
- That the selected goods and services should have a high probability of being available in future. This reduces the difficulties encountered when items have to be replaced.

The CPI includes an extensive range of goods and services, ranging from apples through to dental fees, postal charges and new cars. In all, over 700 different goods and services are price surveyed for inclusion in the CPI.

8. Price surveys

Prices are surveyed for the goods and services selected for the CPI. Prices are collected in selected outlets in the 15 main urban areas: Whangarei, Auckland, Hamilton, Tauranga, Rotorua, Napier/Hastings, New Plymouth, Wanganui, Palmerston North, Wellington/Hutt, Nelson, Christchurch, Timaru, Dunedin and Invercargill.

Most prices for the CPI are collected by Statistics New Zealand survey interviewers, who personally visit the selected outlets. For some goods and services, postal surveys are undertaken to collect the appropriate data. For others, prices are collected off the Internet, over the telephone or by e-mail.

Price surveys are mainly conducted in the middle period of the quarter, centred on the fifteenth day of the second month. Monthly surveys are conducted for the following commodities: food (excluding fresh fruit and vegetables), non-food groceries, electricity, gas, petrol, alternative motor fuels, tobacco, alcoholic drinks, newspapers and domestic and international airfares. Weekly surveys are conducted for fresh fruit and vegetables. Some items, such as telephone call charges, are monitored throughout the quarter.

Price surveying is carried out in the range of outlet types at which New Zealand consumers purchase goods and services. The sample of outlets includes supermarkets, department stores, speciality stores, liquor outlets, dairies, travel agents, dentists, mail-order outlets and service stations. Items such as rail, bus and air fares, electricity and telephone charges are surveyed from the companies supplying such services. For price-regulated items, such as motor vehicle registration charges, the relevant national authority is surveyed.

Where appropriate, each item in the selection is price surveyed at a number of outlets in each urban area. For example, food and non-food grocery prices are surveyed at stores representing all the major supermarket chains. Food items which are often purchased at convenience stores are surveyed in these outlets. The balance between the different outlet types is designed to reflect the shopping habits of consumers.

To ensure that price movements reflect the buying experiences of consumers, a range of regularly purchased brands and varieties is surveyed.

The price recorded is the price consumers pay for the specified quantity and quality of the good or service. “Specials” and “sale” prices are accepted where there is a genuine reduction in price for a commodity which is not obsolete or of inferior quality. The prices of “obsolete” stock are not accepted, because these prices do not reflect the price trend for the range of goods they represent.

9. Dealing with changes in goods and services

Because the CPI aims to measure price changes for an identical selection of goods and services over time, the same or equivalent items are priced in successive time periods as far as possible. However, the size, components or ingredients of items do change and these changes can occur with or without a change to the price of the item. When this happens an adjustment is made to remove the effect of a quality or quantity change.

Various techniques are available to make the appropriate price adjustment. For example, if there was a change in the size of a bottle of soft drink from a 1.0 litre bottle to a 1.25 litre bottle of the same soft drink, then the new price would be multiplied by 1.0/1.25 to obtain the current price of the good.

A common method is to find a time period when both the variants of the item are available and to use the difference in their prices as a measure of the value of the extra features.

Another common approach is to ascertain the value to the purchaser of the additional features. For example, it may be possible to establish that power steering adds $700 to the value of a new model car. This value is subtracted from the price of the latest model to get the price of the equivalent earlier model without power steering. This price is comparable with the price recorded in the previous period.

Problems encountered in adjusting prices to account for changes in items are sometimes difficult to resolve. This is particularly so with regard to the quality of services. For example, it is fairly easy to monitor changes in the price of a rail or bus ticket, but extremely difficult to calculate the dollar value of the frequency and punctuality of the service. In the case of services, the assumption is generally made that the quality of the service provided remains unchanged through time.

A disguised price change occurs when a manufacturer adjusts the contents in a package, but leaves the price unchanged. In cases where the content is reduced, the price is adjusted by the change in the net weight or quantity, so that a price increase is recorded in the CPI. Alternatively, when extra product is provided with no corresponding price change, such as a larger block of chocolate, this is treated as a price decrease in the CPI.

10. Calculating the CPI

Once the required prices have been surveyed and recorded, they are examined for accuracy and validity before they are used for CPI calculations. This involves comparisons of goods and services between outlets and urban areas, and of price changes since the previous pricing period.

When all the prices have been checked an average price is calculated for each item in each urban area. Movements in these averages are then "weighted" together according to the population of each urban area. This ensures that the price movements in, for example, the Auckland urban area have a greater effect on the CPI than those in Timaru, a much smaller urban area.

The CPI is calculated using the Laspeyres formula.[1] This involves calculation of the total expenditure in the current period required to purchase the same selection of goods and services that was surveyed in the base period. The ratio of this expenditure to that required in the base quarter is then multiplied by 1000 to give the current index number.

Calculating the CPI involves the use of thousands of prices. To give a basic understanding of how this works, the following table presents a simple example of the way a price index is calculated using a Laspeyres index.

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1. Mathematically the Laspeyres formula calculates the index for period t on base period o by:

$$INDEX = \frac{\sum(P_t Q_o)}{\sum(P_o Q_o)} \times 1000$$

where Q is the quantity and P the price of the item. This is equivalent to the "price relatives" formula:

$$INDEX = \frac{\sum(\frac{P_t}{P_o} \times E_o)}{\sum E_o} \times 1000 \qquad \text{where } E_o = P_o Q_o.$$

Dairy Products Price Index

		Price		Expenditure			
Item	Base quantity $E_0/P_0 = Q_0$	Base $ P_0	Current $ P_t	Price relative	Base $ $P_0Q_0=E_0$	Current $ P_tQ_0	Percent of total expend. in base period
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Milk	7.5	1.20	1.70	1.417	9.00	12.75	38%
Butter	3.3	1.90	1.70	0.895	6.27	5.61	26%
Yoghurt	4.0	0.85	0.90	1.059	3.40	3.60	14%
Cheese	0.7	7.50	8.00	1.067	5.25	5.60	22%
Total Expenditure					23.92	27.56	100%
Index Number					1000	1152	

The items in column (1) make up a selection of dairy products for which prices have been surveyed in both the base period and the current period. Columns (3) and (4) contain the resulting average prices for each item in the base and current periods respectively. These prices are used to derive the price relative figures in column (5) by dividing the current price (4) by the base price (3).

The base expenditures in column (6) are derived household expenditures from the HES. In column (8) these are expressed as percentages of the total expenditure on dairy products (comparable percentages for the CPI are listed in the section titled "The CPI regimen and expenditure weights").

Column (2) contains the quantity for each item. These are calculated by dividing the base expenditure (6) on each item by the base price for that item (3). For example, the milk quantity equals 9.00 divided by 1.20.

The resulting quantities represent the amount of each type of dairy product that is bought by households on average, and are used to "weight" each item in the selection relative to the other items.

Current expenditure column (7) is the product of the quantity (2) and the current price (4). For example, milk current expenditure equals 7.5 multiplied by 1.70. The expenditures on each item are summed to calculate a total for both the current (27.56) and the base (23.92) period. These expenditures are used in a Laspeyres index in the following way:

$$Index\ number = \frac{\sum P_t Q_0\ (7)}{\sum P_0 Q_0 (6)} \times 1000$$

$$= \frac{27.56}{23.92} \times 1000$$

$$Index = 1152$$

This figure means there has been a 15.2 percent increase in the price of the selection of dairy goods since the base period.

Note that the prices of milk, butter and cheese have the greatest influence on the index because they have the greatest expenditure weights (38 percent, 24 percent and 22 percent respectively). There has been a large increase in the price of yoghurt, but its impact on the index is limited by its low expenditure weight.

11. Using index numbers

As the CPI is released quarterly, the index represents the price level over the quarter as a whole. If users require the index for a particular day, eg 1 August 1999, they would use the September 1999 quarter index, as the September quarter includes August.

The months are covered by each quarter's index as follows:

Quarter	**Months covered**		
March	January	February	March
June	April	May	June
September	July	August	September
December	October	November	December

To illustrate some of the common calculations carried out using price indexes, the following data will be used:

All Groups Consumers Price Index (June 1999 quarter = 1000)

	Year		
Quarter	**1997**	**1998**	**1999**
March	986	999	998
June	987	1004	1000
September	992	1009	
December	997	1001	

From this table of index numbers, it is possible to construct an average for any period. For instance, an annual average index for the year ended June 1999 would be an average of the indexes for the September and December 1998 and March and June 1999 quarters.

The changes measured by the Consumers Price Index are often expressed as percentages. Two of the changes most frequently calculated and published are:

- The change between the current quarter and previous quarter.
- The change between the current quarter and the same quarter of the previous year.

To illustrate, the quarterly percentage change in the index between the June and September 1998 quarters is calculated as follows:

$$\frac{1009 - 1004}{1004} \times 100 = 0.5 \text{ percent}$$

The annual percentage change in the year from the December 1997 quarter to the December 1998 quarter:

$$\frac{1001 - 997}{997} \times 100 = 0.4 \text{ percent}$$

12. Using the CPI

The CPI figure with the highest public profile is officially called the All Groups Consumers Price Index. It measures the average change in prices over all the nine "groups" in the index and is appropriate as a general measure of consumer inflation.

However, for some uses of the CPI, it may be more appropriate to use the CPI at a lower level of detail. For example, indexes are available at the "group", "subgroup", "section" and "subsection" level. If a person is wanting to determine what has happened to the price of clothing over a given period, it would be more appropriate to use the clothing subgroup index than the All Groups index. Statistics New Zealand has the capacity to produce indexes customised to the specific requirements of individuals.

Before attempting to use the CPI or components of the CPI to measure price change, users should also determine whether the index is the most appropriate for their needs, as it is only one of many measures of price change produced by Statistics New Zealand.

13. Examples of specific uses of the CPI

Indexation / Escalation

A common use of the CPI is to determine the amount of money that would be needed in the present to have the same purchasing power as an amount that was specified in the past.

The following two examples demonstrate how the CPI can be used in this way and uses the data found in the following table:

	Year	
Quarter	**1997**	**1999**
March	986	998
June		1000

Someone may be interested in knowing, for example, what after-tax wage they would need to get in the March 1999 quarter to have the same buying power as the $200 they were receiving "in the hand" in the March 1997 quarter. Using the index numbers above, this can be calculated as:

$$\$200 \times \frac{998}{986} = \$202.43$$

This means that on average, to buy the goods and services obtained for $200 in March 1997, the person would need $202.43 in March 1999.

This type of calculation is often used when an amount of money has been specified in a will, a trust deed or some other legal document at some time in the past. Multiplying the amount specified by the ratio of the current index number to the index number for the period in

which the amount was specified, will give the amount needed to have the same purchasing power at the current time. This practice is often referred to as indexation.

Similarly, if $10,000 was specified in a matrimonial agreement in March 1997, someone may need to know what amount was required in June 1999 to have the same purchasing power. The method for calculating this is as follows:

$$\$10{,}000 \times \frac{1000}{986} = \$10{,}141.99$$

This means that the amount specified in the agreement would need to be increased, if the recipient was not to suffer from a loss of purchasing power.

When used in this way the CPI is being employed as an indexation tool. Sometimes the CPI may be referred to in an agreement or contract so that the sum of money is automatically adjusted each quarter by changes in the CPI. Such an instruction is often called an "escalation clause".

A Statistics New Zealand publication titled *Contract Indexation*: *Statistics New Zealand's Guide for Business* provides information on the price indexes produced by Statistics New Zealand and issues relating to their use. To find out how to obtain a copy of this publication, see "How to obtain further information" page 43.

Deflation

A different use of the CPI reverses the method described above. For example, if we use the data from the following table we find the purchasing power of the dollar in the September 1998 quarter compared with the March 1986 quarter dollar is given as:

	Year	
Quarter	**1986**	**1998**
March	589	
September		1009

$$\$1.00 \times \frac{589}{1009} = \$0.58$$

This means that, on average, in the September 1998 quarter a dollar would purchase goods that could have been purchased for only 58 cents in the March 1986 quarter. When used in this way the CPI is referred to as a deflator. The "real" value (or purchasing power) of the September 1998 quarter dollar has declined in comparison with the March 1986 quarter dollar because, according to the CPI, prices have gone up by 71 percent during the period.

When the CPI is used as a deflator, the aim is to alter a series of money values, so that the effect of price changes over the period are eliminated. Deflated values are referred to as "constant dollar" values.

14. Reviews of the CPI

Regular reviews of the Consumers Price Index are carried out to ensure that the selection of goods and services being price surveyed is relevant to the current spending habits of consumers.

As part of a review, the base period for the CPI (the period which is given a value of 1000) is changed to indicate that the index has been reviewed. The current base period is the June 1999 quarter.

A major part of a review includes updating existing expenditure weights to reflect any changes in the spending patterns of New Zealand consumers. The current expenditure weights for the CPI are based on HES data for the year ended 31 March 1998. These weights are listed in "CPI regimen and expenditure weights".

The selection of items price surveyed and the outlets where prices are collected are also updated to incorporate changes in the availability of goods and services and in consumer purchasing patterns.

Following each review the new series is linked to earlier series to form a continuous series. The linking is carried out in such a way that the resulting series reflects only price changes and not differences between the old and new selections of goods and services. A long-term linked series which can be used to make comparisons across reviews is published by Statistics New Zealand.

15. A short history of inflation measurement and inflation in New Zealand

Official indexes of the changing level of retail prices have been available in one form or another in New Zealand since 1914. In that year an investigation of retail prices was begun and published in the *Report on Cost of Living 1891-1914,* with details obtained of prices from earlier periods and from which indexes were calculated. Since that time, the item and geographic coverage of the CPI has been gradually expanded and amended over successive reviews.

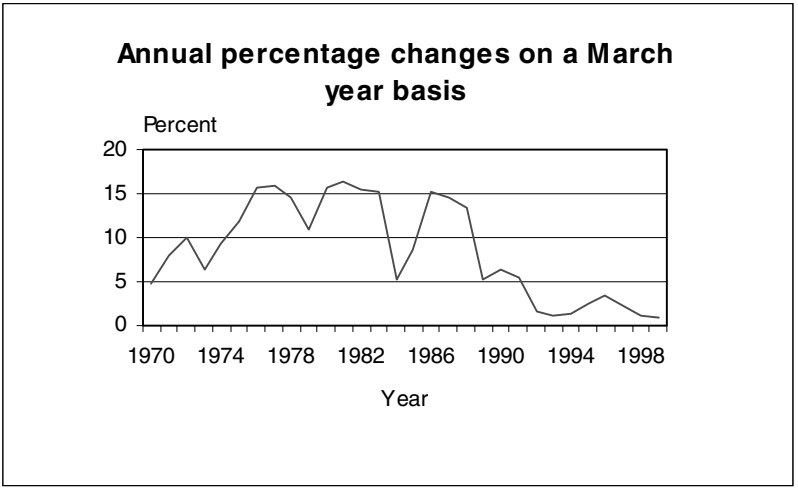
However, the basic form and content of the current CPI substantially dates from 1949. Then, an official committee, examining the proper construction of an index to measure post-war consumer price changes, made its report and the modern index was instituted. The index was to cover "the whole range of goods and services used in the average household" and not just essential goods and services as previously.

As referred to in the section "Reviews of the CPI", periodic reviews take place to ensure that the index remains up to date. Changes have been made to index methodology where and when appropriate, with probably the most significant being the 1974 review. The change made then was from a consumption-based approach to an acquisitions-based approach (see "Glossary"). This change reflected the view that an acquisitions-based approach relates more closely to the actual experience of consumers, therefore making it more comprehensible to users and more relevant to their needs. The acquisitions approach has been used since then.

Since the 1991 review, changes in the labour market brought about by the introduction of the Employment Contracts Act have led to the CPI having a less prominent role in wage negotiations. In addition, the Reserve Bank Act 1989 has seen the CPI (excluding interest rates) assume a key role as a target for monetary policy. In 1999 there is now a stronger case for regarding the measurement of inflation as the principal purpose of the CPI.

The major change made during the 1999 review was to exclude interest charges from the official CPI.

The graph below shows the annual rate of inflation (price changes) since 1970. An increasing rate of inflation throughout the 1970s continued through the early-to-mid 1980s. The price freeze from 1982 until 1984 is visible, as is the introduction of GST in 1986. The decline in the rate of inflation which has occurred since then can also be seen.



16. Summary points

- The CPI is one of New Zealand's best known statistics.
- The main purpose of the CPI is as a measure of inflation.
- The CPI is constructed using the acquisitions approach.
- The CPI is reviewed every three years to ensure that it is kept up to date.
- The CPI is used by the Reserve Bank in setting and monitoring monetary policy.
- The CPI is used in business and index contracts.

17. The CPI regimen and expenditure weights

(June 1999 quarter revision)
Groups, Subgroups
and Sections

(Percent)

ALL GROUPS	*100.00*		
FOOD			**18.17**
FRUIT AND VEGETABLES		2.41	
Fresh Fruit	0.81		
Fresh Vegetables	1.08		
Processed Fruit	0.22		
Processed Vegetables	0.29		
MEAT, FISH AND POULTRY		2.73	
Beef and Veal	0.88		
Lamb	0.28		
Pork	0.16		
Smallgoods and Prepared Meats	0.56		
Fish	0.35		
Poultry	0.49		
GROCERY FOOD, SOFT DRINKS AND CONFECTIONERY		9.03	
Dairy Products and Eggs	1.96		
Cereals and Cereal Products	2.22		
Jams and Spreads	0.17		
Other Grocery Foods	1.09		
Beverages	0.36		
Soft and Fruit Drinks	1.15		
Frozen Confectionery and Milk Shakes	0.35		
Sweets, Crisps and Nuts	1.72		

FOOD - *continued*			
RESTAURANT MEALS AND READY-TO-EAT FOOD		4.00	
Restaurant Meals	1.44		
Ready-to-eat Food	2.56		
HOUSING			**23.04**
RENTED DWELLINGS		6.16	
HOME OWNERSHIP		16.87	
Purchase and Construction of New Dwellings	9.87		
Expenses of Dwelling Purchase	1.80		
Maintenance Materials and Services	2.37		
Dwelling Insurance and Rates	2.83		
HOUSEHOLD OPERATION			**14.79**
ENERGY		3.44	
HOUSEHOLD APPLIANCES AND FURNISHINGS		5.08	
Household Appliances and Equipment	2.10		
Furniture	1.42		
Floor Coverings	0.38		
Household Textiles	0.56		
Dinner and Kitchenware	0.44		
Tools, Brushes and Garden Equipment	0.19		
HOUSEHOLD SUPPLIES AND SERVICES		6.27	
Household Supplies	1.89		
Household Services	1.80		
Communication Equipment and Services	2.58		

APPAREL			**3.73**
CLOTHING		3.02	
Men's Clothing	0.85		
Women's Clothing	1.46		
Boys' Clothing	0.25		
Girls' Clothing	0.22		
Infants' Clothing	0.07		
Clothing Fabrics	0.10		
Sewing and Knitting Materials	0.07		
FOOTWEAR		0.71	
Men's Footwear	0.24		
Women's Footwear	0.29		
Children's Footwear	0.18		
TRANSPORTION			**15.43**
PUBLIC TRANSPORT		3.99	
Land and Sea Travel	0.66		
Air Travel	3.33		
PRIVATE TRANSPORT		11.44	
Purchase of Vehicles	4.84		
Motor Vehicle Running and Maintenance	6.60		
TOBACCO AND ALCOHOL			**9.25**
CIGARETTES AND TOBACCO		3.11	
Cigarettes	2.53		
Tobacco	0.57		
ALCOHOLIC DRINKS		6.14	
Beer	3.31		
Spirits and Liqueurs	1.45		
Wine	1.39		

PERSONAL AND HEALTH CARE			**6.07**
PERSONAL GOODS AND SERVICES		2.95	
Personal Care Supplies	1.39		
Personal Accessories	0.35		
Personal Services	1.21		
HEALTH CARE		3.13	
Medical and Health Services	2.20		
Medical and Health Supplies	0.93		
RECREATION AND EDUCATION			**8.82**
STATIONERY, BOOKS, MAGAZINES AND NEWSPAPERS		1.81	
Stationery Supplies	0.43		
Newspapers, Magazines and Books	1.38		
LEISURE AND RECREATION		4.98	
Leisure and Recreation Supplies	2.45		
Leisure and Recreation Services	1.82		
Accommodation and Board	0.70		
EDUCATION AND CHILD CARE		2.03	
Tuition and Examinations	1.82		
Child Care	0.22		
CREDIT SERVICES			**0.69**
FINANCIAL AND CREDIT SERVICE CHARGES		0.69	
Financial Service Charges		0.62	
Credit and Store Card Fees		0.08	

18. Glossary

Acquisitions Approach

Also known as the Expenditure approach. The concept whereby the weight of an item in the CPI is based on the value of expenditure on the goods and services acquired in the base period regardless of when the goods and service were consumed or paid for. This is the approach used in the New Zealand CPI.

All Groups Index

The index series showing price movements for the weighted combination of all goods and services priced for the CPI.

Base Period

The period in which the expenditure required to purchase the index commodity selection of goods and services is equated to the index base number (1000). The expression base (sometimes referred to as the reference base) for the current CPI is the June 1999 quarter.

Basket

Commonly used term for the set of goods and services, specified precisely in terms of commodity and quantity, whose prices are surveyed for the purpose of compiling the CPI.

Commodity

A good or service.

Consumption Approach

The concept whereby the weight of an item in the CPI is based on the estimated value of goods and services consumed, whether or not there is any monetary outlay. An example where there is no monetary outlay is homegrown vegetables.

Cost-of-living Index

An index designed to measure the change in the cost of preserving a particular standard of living. Such an index would take account of changes in fashions, technology, consumer tastes and expectations, as well as price changes. The term is frequently, but incorrectly used to describe the CPI.

Group

The first level of breakdown of the CPI. At present the CPI comprises nine groups.

Household Economic Survey (HES)

A Statistics New Zealand sample survey (formerly known as the Household Expenditure and Income Survey) conducted to measure the expenditure patterns of private resident New Zealand households. The data is used in the derivation of CPI expenditure weights.

Index Population

The statistical population to which the index relates. The New Zealand CPI population is all New Zealand-resident consumers.

Index Number Series

A series of numbers measuring movement over time from a base period value. The base value is normally represented by an index number of 1000. Standard practice when quoting an index number is to ensure that the base period is also quoted.

Indexation

The periodic adjustment of a money value (eg wages, construction costs, rents) according to changes in a selected price index.

Laspeyres Price Index

An index formula which measures the changing cost over time of purchasing the same selection of goods and services purchased in some prior period. The New Zealand Consumers Price Index is a Laspeyres price index.

Linking (of Index Series)

The technique used to join a new index series (eg one having a changed composition and weighting pattern) to an old index series to form one continuous series. The technique ensures that the resulting linked index reflects only price level variations, and that the introduction of the new items and weights does not in itself affect the level of the index.

Outlays Approach

The concept whereby the weight of an item in the CPI is based on the expenditure on goods and services paid for in the base period, regardless of when the goods and services were acquired or consumed.

Percentage Change

The change in an index series from one period to another expressed as a percentage of its value in the first of the two periods.

Population Weight

A measure of the relative importance of a specific urban area's population within the total New Zealand population as derived from Census of Population statistics. Price data used in the CPI comprises the population-weighted relative of arithmetic average prices from the 15 price surveyed urban areas.

Pure Price Change

The change in the price of a good or a service after removing any variation in price attributable to a change in quality or quantity.

Quality Adjustment

The elimination of the effect that changes in the quantity or composition of an item have on the price of the item, in order to isolate the pure price change.

Real Dollar Terms

An amount expressed in "real dollar terms" has been adjusted for the changing purchasing power of money. For example, the actual money value of the gross domestic product may increase over a period of time, but the extent to which this increase is "real" depends upon the change in the value of money over the same period. "Real" values are often expressed using a particular year as the "base year", ie the year to which the values in other years are related in order to discount movements in prices.

Rebase

To change the expression base period of an index series - usually done when an index review takes place.

Regimen

The selection of goods and services whose prices are surveyed for the purpose of compiling a price index. This specifies the goods and services price surveyed and their relative expenditure weights.

Sample

Members of a specified subgroup of a population selected for survey. The statistical aim, of course, is to ensure that the sample is closely representative of the population.

Section

A breakdown of the subgroup, comprising a number of related goods and services.

Seasonal Adjustment

A numerical adjustment to time series data to allow for the fact that the values of data at a particular time of the year are normally subject to influences peculiar to that period of time. Removal of these influences, if accurately done, then permits the underlying trends in the data to be discerned. Fresh fruit and vegetable prices are seasonally adjusted before being used in the calculation of the CPI.

Specification

Detailed description of the characteristics of a good or service to be priced.

Subgroup

A breakdown of the group, comprising a number of related sections.

Time Series

The values taken by some statistical variable over consecutive periods of time.

Weight

The measure of the relative importance of an item in the index regimen. Weights may be expressed either in quantity or expenditure terms.

Weighting Base

The period for which expenditures on goods and services by consumers were surveyed to form the regimen of the index. The weighting base of the current CPI is the average household expenditure pattern for the year ended 31 March 1998.

19. How to obtain further information

If you require more information on the operation and uses of the Consumers Price Index, please contact:

Inflation Measures Division
Statistics New Zealand
Aorangi House
85 Molesworth Street
P0 Box 2922
Wellington
Phone: 0-4-495 4600
Fax: 0-4-495 4603

Or check Statistics New Zealand's website at www.stats.govt.nz

Or contact the Information and Consultancy Services at the Statistics New Zealand office nearest you.

Auckland:

70 Symonds Street
Postal Address:
Private Bag 92003
Phone: 0-9-357 2100
Fax: 0-9-379 0859

Christchurch:

Winchester House
64 Kilmore Street
Postal Address:
Private Bag 4741
Phone: 0-3-374 8700
Fax: 0-3-374 8899

Wellington:

Aorangi House
85 Molesworth Street
Postal Address:
PO Box 2922
Wellington
Phone: 0-4-495 4600
Fax: 0-4-495 4603

Publications

Consumers Price Index numbers are published in the following *Hot Off The Press* information releases:

- *Food Price Index* (Cat. No.18.500) - Monthly
- *Consumers Price Index* (Cat. No.18.501) – Quarterly

Summary information on indexes is available in:

- *Key Statistics* (Cat. No. 01.201) - Monthly
- *Consumer Expenditure* (Cat No. 01.026) - Annual

The same information can be obtained from Statistics New Zealand's computerised information system, INFOS and the PC-based system PC / INFOS.

Detailed technical information about the CPI is available in:

The Consumers Price Index: Concepts, Sources and Methods.

Information on contract indexation is available in:

Contract Indexation: Statistics New Zealand's Guide for Business (Cat. No.18.504)