

CONSUMER PRICE INDEX

NATIONAL STATISTICS, PORT MORESBY

EXPLANATORY NOTES

1. The Consumer Price Index (CPI) measures quarterly change in the prices of a "basket" of goods and services which account for a high proportion of expenditures by urban wage earners' household in Papua New Guinea (PNG). This basket covers a wide range of goods and services arranged in the following seven groups: food; drink, tobacco and betel nut; clothing and footwear; rent, council charges, fuel and power; household equipment and operations; transport and communication and miscellaneous. Each group is then divided into sub-groups (See paragraph 8 below).
2. CPI also measures change in prices of goods and services that represents the spending pattern of urban wage earners. More specifically, the expenditure that represents at least 50% of money income, in the form of wages and/or salaries. By definition, Urban Households are those headed by Papua New Guinean and covers urban areas with an estimated citizen population of 2,000 or more in the reference base year (1977).
3. Retail Price Index (RPI) is the first series of the index used as measures of the changes in prices of goods and services in PNG. The weightings of the RPI basket were based on the estimates from the household expenditure survey conducted in 1961-62. The RPI has been in use from September quarter 1961 to June quarter 1973, and covered only expatriate households in the urban areas.
4. The second series of the index, is the CPI that covers the public servants households in PNG. Its weightings were based on an Urban Expenditure Survey conducted by the Department of Labour in 1970 and 1971. This series has been in use from March quarter 1971 to December quarter 1978. More detailed information about the second series can be obtained in the CPI issue of December quarter 1978.
5. This issue is the third cost of living indexes published by the National Statistical Office (NSO). The weightings were based on the survey of PNG wage earners households in the urban areas conducted in 1975/76. The NSO has been using this index since December Quarter 1975 to date.
6. These indexes are fixed-weighted index, computed as weighted arithmetic means of relative prices multiplied by 100. The relative price for an item is the ratio of its price in a given period to its average price in the base year.
7. Base period refers to a given year in which weights and the items in the selected basket of goods and services in the CPI were adjusted. That is the price level for the selected items in a given period are compared to those in the base period. For instance, the price of the basket increased by 20% since the base year would show the index value of 120; similarly, a decline by 20% represents the index level of 80.
8. From the information collected in the Household Expenditure Survey (HES), lists of items (also known as the 'regimen') were drawn. The regimen is used in compilation of the index. The prices of the regimen are collected from a total of 240 specifications, which represented 124 items. These items were further divided into groups and sub-groups as shown below:
 - (a) **Food:** cereals; meat and fish; fruits and vegetables; miscellaneous food such as dairy products, sugar, tea, pies, etc.
 - (b) **Drinks, tobacco and betel nut:** soft drinks (treated waters and cordials); alcoholic drinks, cigarettes and tobacco, betel nut.

- (c) **Clothing and footwear:** men and boys' clothing; women and girls' clothing; other clothing such as nappies, accessories, etc; footwear.
 - (d) **Rent, council charges, fuel and power:** dwelling rentals; council charges for water, sewerage and garbage disposal; electricity and kerosene.
 - (e) **Household equipment and operation:** durable goods (e.g. sewing machine, kerosene stove); semi-durable goods (e.g. sheets, tableware), non-durable (e.g. matches, laundry soap, insecticides).
 - (f) **Transport and communication:** motor vehicle purchase; motor vehicle operation (petrol, oil, repairs, parts, accessories, licenses and insurance); airline, taxi, bus and Public Motor Vehicle (PMV) fares; telephone and postal charges.
 - (g) **Miscellaneous:** medical and health care; entertainment and cultural goods and services (e.g. sound equipment, newspapers and magazines, cinema admission, education fees); other goods (e.g. items for personnel care, writing and drawing materials).
9. In calculating the index, the relative price of each item or group of items is multiplied by a factor (or weight) that reflects the importance of the item or group in relation to the household covered in the CPI. The factor including the groups, sub-groups and specific items are contained in **Technical Note No. 3**, published by the NSO. This Technical Note also provides information on the system of weighting used to derive differences in expenditure pattern between the different urban areas.
10. **Technical Note No. 4** provides description of methods used in the price collection and the compilation of the index. Copies of this Technical Note No. 4 and also 3 can be obtained from the National Statistical Office by contacting the Statistical Information Officer on telephone: 3011205 or 3011229.
11. Table 2, 4, and 6 shows percentage change in the index for all groups by both quarter and year. This enables the users to make direct comparison between various quarters and from year to year. The movement in the index from one period to another is usually expressed as percentage change rather than as differences in index value (or index point), because the level of the index relative to the base period affects the index point.

INDEX POINTS AND PERCENTAGE CHANGE

12. Movement in index for one period to another can be expressed as a percentage change or changes in index points. The difference between the two approaches to describe movements in indexes is shown by the following example:

All groups CPI: Weighted average of all urban area index numbers:

March Quarter 1996	344.4
Less December quarter 1995	333.2
Change in index points	11.2

The index number of 344.4 for March Quarter 1996 indicates an increase of 44.4 % since the reference base year 1975/76.

13. The percentage change in an index between any two periods is calculated by subtracting the index value for the earlier period from the later period, and dividing the result by the value for the earlier period, then multiplied by 100.

$$\text{Percentage change from December quarter 1995 to March quarter 1996} = \frac{11.2}{333.2} \times 100 = 3.361 \text{ (3.4)\%}$$

15. The percentage changes in the index shown in this bulletin are calculated from unrounded values expressed in three decimal places.

16. The contribution of any group, sub-group or item to the change in an overall index is calculated by multiplying the change in the index for the group, sub-group or item by its percentage weight in the overall index and dividing the result by 100.

Symbols used

17. The following symbols have been used throughout this bulletin.

-	:	nil or less than half of the last digit shown
na	:	not available

Note: Differences between published totals and actual sums of components are due to rounding technique used.

Range of information available

18. Users are advised that a range of price indexes and the weighted urban average index for all expenditure groups are available. There are separate indexes for each of the six urban centres and the expenditure groups are also available. A detailed indexes and average price information can be made available on request. Besides the CPI index, users are also reminded that other price indexes published by the NSO includes export and import price Indexes and those derived from the national accounts statistics.

Underlying Inflation

19. The CPI measure prices changes across a range of goods and services that represent the spending pattern of PNG's urban population. Inflation measured by the CPI is called "headline" inflation. The CPI can be highly volatile partly due to climate effects (droughts and floods), seasonal patterns, or government policy decisions such as tax reform. High volatility hampers interpretation of current inflation and forecasting future inflation. In response to this problem, the quarter 2002 issue of the CPI introduced an additional measure of price change called "underlying rate of inflation".
20. The underlying rate filters out passing movements in inflation while retaining persistent movements. This is more useful than the headline for developing and monitoring monetary policy. A variety of underlying rate measures can be constructed though there is no ideal measure that perfectly satisfies both the needs for forward looking policy making and backward looking measurement of price changes. NSO has developed a single measure of price change. NSO has developed a single measure of underlying inflation based on the average of three "exclusion-based" measures.
- I. CPI excluding seasonal: Excludes the CPI item Betelnut and the subgroup Fruit and Vegetables
 - II. CPI excluding seasonal and excise: Excludes the seasonal items in (i) plus the subgroups effected by changes in excise duties – Alcoholic drinks and Cigarettes and tobacco.
 - III. CPI excluding seasonal, excise and price control: Excludes the seasonal and excise effected items and subgroups noted in (ii), plus the selected price-regulatory category Rents, council charges, fuel and power, and the Fares, Communication and Medical health care sub-groups.
21. The underlying rate of inflation presented here is the average of these three exclusions-based measures. The published estimates of underlying inflation should be regarded as "experimental" and may be revised. NSO will continue to investigate alternative methods for calculating underlying inflation and incorporate improvements to the published series where appropriate.