Index Number and Methods of Calculating

Definition of the Index Number:

The index number is defined as a statistical indicator that expresses the proportional change in value of specific phenomenon or group of phenomena compared to specific base .It measures the changes in time and place. The previous period is called the base period, whereas the measured period is called the comparison period

The index number has much utilization, it measures the change in production size of particular kind of goods or particular group of the same type, it measures the change in quantity of imported and exported goods, or it measures the change in the population size in any state … etc.

Among the widespread and famous index number is the consumer prices index numbers, which has great importance in any economy. It contributes to the calculation of inflation rate, which greatly influence the state's capability of import and export.

Prices basket:

Price basket used in constructing the index number contains about 3500 goods and services, divided into 8 major groups:

1. Food, Beverages & Tobacco
2. Garments and Footwear
3. Rent, Fuel and Energy
4. Furniture, Textiles and Home Appliances
5. Medical care and Medical services
6. Transport and Communication
7. Entertainment, Recreation and Culture
8. Miscellaneous Goods and Services

Starting January 2009, the prices basket was increased to about 3000 goods and services.

Prices Sources:

The price's sources from which data had collected have been identified and classified within special roster called data collecting sources, distributed on different trade malls according to the availability of each commodity from each source.

The relative importance:

The weighted weights of goods from the 2006-2007 household income and expenditure survey and the weights of the base year for the year 2001 were used.

The base year prices:

Base year prices were collected within the same period of conducting the household expenditure sample survey 2006-2007. It was collected on three periods and average prices were calculated as base prices of 2006.

Starting January 2009, the base year was moved to 2006, based on 2006/2007 household income and expenditure survey.

Collecting price data:

Price data were collected through personal interview by the trained data collectors. Data collection is carried out by registering prices from shelves of commercial stores (trade malls… etc). Or through personal interview with establishment managers (education centers, clinics, real estate bureaus, government establishments… etc). Each data collector has been provided with questionnaire for each group of prices and sources of each questionnaire.

Periods of collecting price data:

The period of collecting data vary in accordance with kind of goods, some data are collected monthly, e.g. vegetables and fruit, whereas others are collected periodically, e.g. food stuff and other goods.

Starting January 2009, all data are collected on monthly basis.

Auditing and revising prices data:

After price data are collected, it will be audited at the office and entered to the computer, average prices and consumer prices index number are calculated.

Laspere's formula was used to calculate the index number weighted by 2006 prices.
It is assumed within this index that individuals will consume, in the new period and in the shadow of change in prices, the same original group of goods, weighted by base year quantities, as shown in the following equation:

$$I_P = ((\Sigma_{ni} P_{ni} / P_{oi} * W_{oi}) / \Sigma_{ni} W_{oi}) \times 100$$