

## **METHODOLOGY FOR COMPILATION OF CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS ( BASE : 2001=100 )**

### **INTRODUCTION**

The history of compilation & maintenance of Consumer Price Index Numbers for industrial Workers owes origin to the deteriorating economic condition of the workers on account of abnormal rise in prices following the First World War. As a result of sharp rise in prices and the cost of living, some Provincial Governments started conducting Family Budget Enquiries and compilation of Consumer Price Index Numbers for Industrial Workers in the country. But none of them was entirely satisfactory. In pursuance of the recommendations made by the *Rau Court of Enquiry*, the job of compilation & maintenance of Consumer Price Index Numbers for Industrial Workers was taken over by the Central Govt. in 1941. However, the compilation of index numbers on uniform and scientific lines was started only after the conduct of the Family Living Surveys by the Labour Bureau during 1958-59 at 50 important industrial centres, spread over length and breadth of the country, under the guidance of the Technical Advisory Committee on Cost of Living Index Numbers and compilation of Consumer Price Index Numbers for Industrial Workers on base 1960=100. Since then the compilation and maintenance of Consumer Price Index Numbers are being done by the Labour Bureau on a continuous basis. The series (1982=100) had replaced the old (1960=100) series in December, 1988 with the release of October, 1988 index. The new series on base 2001=100 has been released on 9<sup>th</sup> March, 2006 with January, 2006 index which has replaced the earlier (1982=100) series.

Labour Bureau, is the competent authority under the Minimum Wages Act, 1948 to ascertain, from time to time, the Consumer Price Index Numbers applicable to employees employed in the Scheduled employments in respect of all the undertakings in the Central Sphere and the Union Territories (Notification No. LWI-24(3) dated 24th October, 1949). With a view to improving the quality and uniformity of the labour statistics collected by various States and Central authorities, the Bureau maintains liaison with the concerned agencies.

### **SCOPE AND COVERAGE**

Under the 1960 series of Consumer Price index Numbers for Industrial Workers, the coverage of Industrial Workers was limited to 3 sectors i.e. Factories, Mines and Plantations. The coverage of the Industrial Workers for 1982 and 2001 series for the conduct of Family Income & Expenditure Surveys was extended to seven sectors by including four more sectors viz. i) Railways, ii) Public Motor Transport Undertakings, iii) Electricity Generating and Distributing Establishments, and iv) Ports and Docks. A Working Class Family is defined as one where one of the members worked as a manual worker in any of the 7 sectors listed above and which derived half or more of its income through manual work.

Under the 2001=100 series, the Labour Bureau has been compiling Consumer Price Index Numbers for Industrial Workers for 78 selected centres and an all-India index on the basis of 78 constituent centres as against 70 centres in the 1982 series. These 78 centres were selected on the basis of their industrial importance in the country and distributed among different States in proportion to the industrial employment in the State subject to a maximum allotment of 5 centres in a state in a sector.

### **WEIGHTING DIAGRAM:**

The Centre-wise Weighting Diagrams for the Index have been derived on the basis of results of Working Class Family Income and Expenditure Surveys conducted during 1999-2000 in all the 78 selected centres. The survey was conducted over a period of 12 months in each selected centre during 1999-2000, when an equal number of a moving sample of families was canvassed every month. The data collected through this survey was thoroughly scrutinised and inconsistencies, if any, were got rectified before getting it tabulated for the purpose of derivation of Weighting Diagrams.

As it was not feasible to monitor the price behaviour of all the items on which index population reported consumption expenditure (nor it is necessary) a number of representative items were retained in the index basket, which were manageable over time. For this purpose the first step was to form group of items which meet similar or related demands of the consumers.

The total expenditure on consumption items was divided into 6 main groups viz.,

- I-A - Food ;
- I-B - Pan, Supari, Tobacco & Intoxicants;
- II - Fuel & Light ;
- III - Housing ;
- IV - Clothing, Bedding & Footwear ; and
- V - Miscellaneous.

In the first and the last group a few well-defined sub-groups have also been formed.

Weights, which are meant to indicate relative importance attached to different items of goods and services consumed by the index population, are determined on the basis of expenditure made by the targeted industrial workers on these goods and services. However, the expenditures on non-consumption items are excluded from the weighting diagram.

The items directly retained in the basket were those which had a) atleast one percent expenditure in the Group/Sub-Group; (b) significant number of families reporting expenditure; and c) could be priced satisfactorily over the life of the series. The remaining items were imputed to related items or to a group of items depending upon their similarity of want satisfying quality, manufacturing process or price behaviour etc. The percentage expenditure on each item in the sub-group/group represents its weight. Similarly, the percentage expenditure on sub-group/group in the Group/Total consumption expenditure represent their weight.

## **RETAIL PRICES**

The retail prices used in the index calculation are those actually charged from the consumers for cash transaction and are inclusive of all taxes which are payable by him. However, rebates and discounts, given to consumers in general are taken into account. Thus, the retail price may be defined as money cost to the consumer of a specified unit of sale which is inclusive of all taxes but excludes all rebates, discounts etc. The retail prices of price sensitive items such as cereals, pulses, vegetables & fruits, oils & fats etc., are collected on a weekly basis. Similarly, the prices of some other items, like cinema, furniture, utensils, clothing, house-hold appliances etc., which are known to vary less frequently are collected on monthly basis. However, the price data relating to house rent, school/college fees and books etc., are collected on six-monthly/yearly basis as these items do not show much change in their price behaviour.

The retail prices of the selected items are collected on the fixed date/day by part-time Price Collectors, who are generally the employees of the State Governments working either with the Directorate of Economics and Statistics or Labour Department, and sent to the Headquarter for further processing. While collecting prices, various elements such as fixity of markets, shops, specifications, unit of purchase, day and time of price quotations etc. are maintained for the purpose of comparability. These price data, after cleaning it for conceptual/factual errors at various levels, are utilised for the compilation of index numbers.

## **HOUSING INDEX**

For compiling housing index, the rent paid for rented, self-owned and rent free houses are taken into account. The rental data for self-owned houses are collected from the comparable rented dwellings of the locality or within the vicinity of the locality. However, for rent free houses, rent index is taken as 100. Thus, for compiling the housing group index, three separate indices are compiled for rent free, rented and self-owned houses and these indices are combined by using their respective weights, which are proportion of families residing in these three categories of houses, to work out the weighted housing index for the centre. Housing index is compiled by following '*Chain Base method*', once

in every six months viz., January and July and kept constant for the subsequent five months. Rental data, for utilising in the compilation of housing index, are collected by the field officials of the Labour Bureau, twice a year, from a sample of dwellings through a half yearly Repeat House Rent Survey.

### COMPILATION OF INDEX

The index is compiled by using Laspeyres' modified Index formula, as given below :-

$$I_n = \frac{\sum P_n Q_o}{\sum P_o Q_o} \times 100$$

$$I_n = \frac{\sum \left( \frac{P_n}{P_o} \times 100 \right) P_o Q_o}{\sum P_o Q_o}$$

Where:

**I<sub>n</sub>** = Index Number for current period.

**P<sub>n</sub>** = Price for current period

**P<sub>o</sub>** = Price for base period

**Q<sub>o</sub>** = Quantity for base period

The index of each selected centre is compiled in several stages i.e. Sub-group, Group and General level every month.

In the first stage price quotations of an item in all outlets of all the markets in a month are averaged for a centre. On the basis of this average price, a price relative (over base period price), or item index as known in some of the countries, is worked out. However, in case of certain items

which are supplied through subsidised outlets (fair price shops) first the weighted average price of open market and fair price outlets in each selected market of a centre is worked out (weight being availability ratio in the respective outlets in that month). In the next stage a simple average of these market prices is worked out to arrive at the centre price. On the basis of this average centre price, a price relative is worked out. The sub-group or group index is worked out as a weighted average of an item/sub-group index respectively. The general index of a centre is worked out as a weighted average of group indices.

An all-India index which is weighted average of 78 centre indices is also worked out every month. The weight assigned to each centre is the proportion of the total consumption expenditure of estimated number of families allocated to a centre in the State to sum total of all such expenditure over all centres in the country.

Centre indices and all-India index are compiled and released regularly on last working day of the month after a gap of one month. These index numbers are disseminated to various users through Press Release, Monthly Index Letters, Indian Labour Journal and Labour Bureau's Web Site [www.labourbureau.gov.in](http://www.labourbureau.gov.in).

Table No. 1 contains serial data on All-India Average Consumer Price Index Numbers for Industrial Workers on base 1982=100 calendar year averages for the period 1990 to 2005 and on base 2001=100 for the period 2006 to 2007 (General & Group-wise), Table No. 2 contains (General & Group-wise) All-India Consumer Price Index Numbers for Industrial Workers on base 1982=100 and 2001=100 (Financial year Averages) for the period 1995-96 to 2007-08, Table No. 3 contains Centre-wise and All-India Consumer Price Index Numbers (General) for Industrial Workers on base 1982=100 and 2001=100 for the period 1997 to 2007 (Calendar Year Averages) including centre-wise weights in All-India, Table No. 4 contains Monthly All-India Consumer Price Index Numbers for Industrial Workers on base 1982=100 for the period January 1997 to December 2005 and on base 2001=100 for the period January 2006 to December 2007 (General & Food Index), Table No. 5 contains All-India Average Consumer Price Index Numbers by Groups/Sub-Groups on base 1982=100 for Calendar Years 1998 to 2005 and on base 2001=100 for the period 2006 to 2007, and Financial Years 1998-1999 to 2007-08, Table No. 6 contains Centre-wise and All-India Monthly Consumer Price Index Numbers for Industrial Workers on base 2001=100 for the year 2007, Table No. 7 contains All-India Monthly Consumer Price Index Numbers for Industrial Workers on base 2001=100 by Groups/Sub-groups for the year 2007, Table Nos 8.01 to 8.78 contain Centre-wise Monthly and Annual Average Consumer Price Index Numbers for Industrial Workers on base 2001=100 by Groups/Sub-Groups for the year 2007, Table Nos. 9.01 to 9.02 contain All-India Group-wise and Centre-wise Linking Factors between current series of Consumer Price Index Numbers for Industrial Workers on base 2001=100 and on base 1982=100, Table No. 10 contains All-India Item-wise weights for previous series of Consumer Price Index Numbers for Industrial Workers on base 1982=100 and those for the present series on base 2001=100.

