



Labour Bureau **Government of India**

New Series of Consumer Price Index Numbers for Industrial Workers

on base 2001=100

1. OBJECTIVE

Labour Bureau, since its inception, has, inter-alia, been entrusted with the responsibility of compilation and maintenance of the Consumer Price Index Numbers for Industrial Workers (CPI-IW). The CPI-IW purports to measure the temporal change in the retail prices of fixed basket of goods and services being consumed by the target group i.e. an average working class family and thus, is an important indicator of the retail price situation in the country. The CPI-IW is mainly used for the determination of dearness allowance being paid to millions of Central/State Government employees as also to the workers in the industrial sectors besides fixation and revision of minimum wages in scheduled employments. The main objective of the CPI-IW (new series) was to update the base year of the previous series of Consumer Price Index Numbers for industrial workers (Base 1982=100) to 2001=100.

2. MAIN CONSTITUENTS

Three most important constituents of the CPI-IW are the centre specific weighting diagrams, the retail price data and the house rent data.

A. Updation of Weighting diagrams

(I) Conduct of Income & Expenditure Survey:

The field staff of the National Sample Survey Organisation (NSSO) through a detailed questionnaire collected the income and expenditure data in order to reflect the change in the consumption pattern of the working class population at all the 78 selected centres across the country during 1999-2000 under the overall guidance and supervision of the Labour Bureau. Detailed instructions were issued by the Labour Bureau for canvassing of schedules by the field staff in order to ensure uniformity in collection of data having emphasis on its accuracy. Besides, extensive training was imparted to the Officers/Officials of the NSSO at different places by the Labour Bureau before the launch of the actual work.

(II) Scrutiny of Schedules:

Two levels of scrutiny ensured the reliability and authenticity of data collected from the field. At the first level, the NSSO made elaborate arrangements for field scrutiny of canvassed schedules on the basis of field scrutiny manual circulated by the Labour Bureau. Thereafter, these schedules were again scrutinised in detail by the Labour Bureau to ensure consistency in the collected data. Discrepancies revealed during the course of the scrutiny were reconciled by referring the scrutiny points to the respective RO/SRO of the NSSO and also by making actual visits to the field.

(III) Tabulation of data:

The responsibility for computerised processing and tabulation of data under the new series was entrusted to the Regional Computer Centre (RCC), now known as DOEACC, Chandigarh, which had undertaken this assignment earlier also under the previous series. The tabulation was done on the basis of the estimation procedure and tabulation plan duly approved by the Technical Advisory Committee on Statistics of Prices and Cost of Living (TAC on SPCL). In this regard detailed instructions were supplied to the RCC. The entire exercise which, inter-alia, included data entry, data cleaning, generation of tables at sub-sample/sector/centre levels and their validation, were completed with the active support of the Labour Bureau.

(IV) Derivation of Weighting Diagrams:

The weighting diagrams for the purpose of compilation of index numbers had been derived on the basis of average monthly family expenditure. The average budget derived from a family budget enquiry consisted of all items of expenditure reported by the families surveyed. These items of expenditure can be broadly divided as;

- (a) Consumption Expenditure;
- (b) Non-Consumption Expenditure; and
- (c) Capital Outlays.

Only consumption expenditure has been considered for the purpose of a weighting diagram for construction of consumer price index series as is the usual practice followed everywhere. Non-Consumption expenditure and expenditure on Capital outlays like income tax and other direct taxes, charities and gifts, interest on debts, repayment of debts, litigation expenses, life insurance premium etc. have not been included in the index basket.

The consumption groups commonly adopted for working class consumer price index numbers are as follows:

IA - Food

IB - Pan, Supari, Tobacco & Intoxicants

II - Fuel and Light

III - Housing

IV - Clothing, Bedding and Footwear

V - Miscellaneous.

The Food Group and the Miscellaneous Group have been further divided into sub-groups as follows:

Food Group:

- (a) Cereals & Cereal Products
- (b) Pulses and Pulse Products
- (c) Oils and Fats
- (d) Meat, Fish and Eggs
- (e) Milk and Milk Products
- (f) Condiments & Spices
- (g) Vegetables & Fruits
- (h) Other Food.

Miscellaneous Group:

- (a) Medical Care
- (b) Education, Recreation & Amusement

- (c) Transport & Communication
- (d) Personal Care & Effects
- (e) Others

B. Updation of retail price data

(I) Organisation of Price Collection Work:

Before the launch of the main survey, pilot surveys on scientific lines were conducted at all the 78 centres to demarcate the centre-boundaries with a reference to market selection; selection of markets & shops; testing and finalisation of price collection schedule alongwith fixation of specifications of the items to be priced; setting up of price collection machinery in consultation with State Govt. by appointing Price Collectors/Supervisors and fixation of price collection day. With the setting up of price collection machinery, retail prices from 289 selected markets started flowing into the Labour Bureau. Initially, a very exhaustive price collection schedule was introduced in the field, which was pruned in the beginning of the year 2000 on the basis of actual expenditure reported in the first four sub-rounds of the main survey except for seasonal items. These schedules were again revised on the basis of actual weighting diagrams and would continue throughout the lifetime of the series.

(II) Study of the Run of Prices:

The retail prices are collected on a weekly/monthly basis by the Price Collectors through personal visits to the selected/reserved shops in the markets on the appointed price collection day every week/month. The work of the Price Collectors is also being supervised by the Price Supervisors. Both the Price Collectors as well as the Price Supervisors are employees of the respective State Governments who work on part-time basis in lieu of which some honorarium is paid to them by the Labour Bureau. There is a State Co-ordinator who is the overall incharge for the Price Collection work for the entire State. Besides, the officials of the different Regional Offices/Sub-Regional Office of the Labour Bureau undertake periodic price audit work at different centres on a regular basis. Prices for each commodity are collected from two selected shops of each of the selected markets. The prices collected from the field are subjected to detailed examination from the point of view of consistency on account of inter-shop, inter-market and inter-period variations. Discrepancies wherever found are referred to the field and prices are rectified accordingly before utilising the data for index compilation. The seasonal pattern as reflected in the price movement has been specially looked into. The weekly/monthly quotations are first averaged at market level for a month and by pooling the market averages the Centre level average price for an item for a month is arrived at.

C. Conduct of Repeat House Rent Surveys

The change in rent and related charges, which constitute a single item under housing group, is captured through Repeat House Rent Surveys, which are conducted in the form of six-monthly rounds. The survey is conducted on a sub-sample of dwellings covered during the main income & expenditure survey in 1999-2000. The index for the housing group is revised twice in a year i.e. in January and July of every year. The index is calculated once in every six months and is kept constant for the entire six months on account of the tendency of house rent to remain more or less stable over short periods. Under the house rent survey, three types of dwellings viz. Rented, Rent free and Self-owned (Owner occupied) are covered uniformly across all the centres. This practice was also followed in the previous series of the CPI-IW (1982=100).

3. FINALISATION OF BASE YEAR:

The well-known criteria used for the selection of base year are:

- The base year should preferably synchronise with the period of the income & expenditure survey and should not be very distant from the actual period of the survey.

- Reliable price data should be available for the chosen period.
- The base year should be a normal year i.e. a year in which there is no abnormalities in the price level and price variations.
- The base year of the constituent centres should be uniform so as to facilitate easy and quick compilation of the All-India Index.

Though the price data were being collected and dispatched to the Labour Bureau immediately after setting up of the Price Collection machinery from majority of the centres, yet, prices could be stabilised in strict sense from all the 78 centres only in the year 2001. Accordingly, calendar year 2001 has been taken as the base for all the centres under the new series. Apart from the reliability of price data, selection of calendar year 2001 as the base year also seemed to be justified keeping other factors into consideration. Going by the broad economic indicators the overall price behaviour across the country was more or less normal.

4. METHODOLOGY FOR COMPILATION OF INDICES:

Index Formula:

The most preferred index formula used for compilation is the Laspeyre's base weighted formula because of its inherent practical advantages. The formula in its aggregative form is expressed as below;

$$I_n = \frac{\sum P_n Q_0}{\sum P_0 Q_0} \times 100$$

The operational form of the formula is obtained by adjusting the numerator $\sum P_n Q_0$ as $\sum Q_0 P_0 \times (P_n / P_0)$ which is simply an alternative algebraic expression without changing its significance or value and is given as;

$$I_n = \frac{\sum Q_0 P_0 \times (P_n / P_0) \times 100}{\sum Q_0 P_0}$$

where $Q_0 P_0$ denotes the expenditure on an item in the base period and is termed as the weight and $(P_n / P_0) \times 100$ is called Price Relative, which is the ratio of the current period price to base period price of an item.

5. CONSTRUCTION OF INDICES

i) Centre Specific indices

Centre specific indices in respect of all the 78 centres are being compiled on month to month basis by utilizing the expenditure on an item in the base period and the ratio of current period price to base period price of an item.

ii) Index for Housing Group

As a natural corollary to the index, house rent data, is being collected for compilation of house rent indices through the Repeat House Rent Surveys on a six month round basis. So far, the fieldwork upto 8th rounds has been completed and the fieldwork for the 9th round is, currently, in progress.

iii) Construction of All India Index

The All India Index is the weighted average of the 78 centre level indices. The centre weights are being

determined as the ratio of product of average consumption expenditure per family as per the main survey and the number of Working Class Families represented by a centre in a State to sum of such products over all the centres. In order to pre-empt over weighting to big cities in respect of their contribution to All India Index, each centre is assumed to represent an equal share of the number of working class families within the State. In case the actual working class population (as per the main survey) for a particular centre exceeds the proportionate share accruing to the centre, the actual population of the centre is taken to determine its share and the remainder of the working class population in the State as a whole is equally distributed amongst remaining centres in the State.

6. EXAMINATION AND APPROVAL OF TECHNICAL DETAILS

The Technical Advisory Committee on Statistics of Prices and Cost of Living (TAC on SPCL) got examined all the technical details pertaining to updation of the CPI-IW (1982=100) to a recent base by a Sub-group of the TAC. The Sub-group comprised of Director General & Chief Executive Officer, NSSO, M/o Statistics & Programme Implementation as the Chairman and Director General, Labour Bureau; Deputy Director General, Central Statistical Organisation; Adviser M/o Finance; Economic Adviser M/o Industry; Adviser, DESACS RBI, Mumbai & Prof. Abhijit Sen, JNU as Members. The recommendations of the Sub-Group were placed before the TAC on SPCL for its consideration and approval in the 43rd meeting held on 15.07.2004 wherein the TAC accorded its approval to the methodology for compilation of indices under the CPI-IW (new series).

7. CONSULTATION WITH USERS'

In line with the recommendations of various Committees regarding involvement of Users i.e. representatives of the Employers, the Employees (Trade Unions) and the State authorities at different stages of the exercise for updation of the base to ensure wider participation and enhanced acceptance, Labour Bureau had a series of consultations with these bodies at various Centre and State levels during the setting up of the Price Collection Machinery at the 78 selected centres under the CPI-IW (New Series). The active involvement of these agencies besides the Planning/Labour Departments of the State Governments go a long way in ensuring desired level of transparency in the compilation of these indices, which in turn provides credibility and wider acceptance. Since the CPI-IW is primarily used for determining the amount of dearness allowance to be paid to millions of industrial workers in Public/Private sectors and employees of Central/State Governments, it has therefore, been a continuous endeavour on the part of the Labour Bureau to involve users at various stages of updation processes of the index numbers.

8. MEETING WITH USERS' PRIOR TO THE RELEASE OF THE INDEX

A two day National Level Index Users' Meeting was organized on 19th-20th May, 2005 at Shimla in connection with the release of the new series of the CPI-IW. The representatives of Central/State Ministries/Departments, Employers' Associations and Central Trade Unions participated in the deliberations in the Tripartite Meeting. The meeting was convened to seek the tripartite concurrence for the release of the CPI-IW (New Series) on base 2001=100, which was to replace the existing series of the CPI-IW (1982=100). All the technical issues relating to compilation of the CPI-IW 2001=100 series as well as the process for regular consultation with the Users' especially the Central Trade Unions and Employers' Organizations were discussed. There was a broad consensus so far as the technical aspects of the exercise was concerned. Nonetheless it was decided to "address the issues pertaining to participation of the Central Trade Unions as well as the Employers' Organizations in the deliberations of the Technical Advisory Committee on Statistics on Prices & Cost of Living (TAC on SPCL) besides evolving a suitable mechanism for periodic involvement of the users' during the conduct of the entire exercise, prospectively, for future revision of base", in a meeting to be chaired by the Hon'ble Labour & Employment Minister with the representatives of Central Trade Unions.

As a follow-up of the National Level Index Users' Meeting, a meeting with the representatives of Central Trade Unions was held on 9th September 2005 in the Ministry under the Chairmanship of the Secretary, Labour & Employment. The issues discussed pertained to the participation of the Central Trade Unions and the Employers' Organizations in the TAC on SPCL. It was decided that a meeting of the reconstituted TAC on SPCL having the members from the Central Trade Unions and Employers' Organizations would be held prior to the release of the new series of CPI-IW on base 2001=100.

The 45th meeting of the TAC on SPCL was, therefore, held on 17th February, 2006, wherein 3 representatives each of the Central Trade Unions and the Employers' Organisations participated in its deliberations on the release of the new series of CPI-IW on base 2001=100. After discussions the TAC on SPCL decided that in view of improvements made in the new series as also the urgent need for updated base, the CPI –IW (New Series) should be released. Accordingly, with the approval of Govt. of India, the Labour Bureau released the new series of the CPI-IW on base 2001=100 with effect from January, 2006 index on 9th of March, 2006. The details of Centre-wise and All-India Index Numbers alongwith Linking Factors with previous series of CPI-IW on base 1982=100 may be seen in the Table Nos. A.1.1.1 and A1.1.2 of this issue of the Indian Labour Journal.

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