Resolution concerning consumer price indices, adopted by the
Fourteenth International Conference of Labour Statisticians
(October-November 1987)

The Fourteenth International Conference of Labour Statisticians,

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Recalling the existing international standards concerning cost-of-living index numbers contained in the resolutions adopted by the Second and Sixth Conferences in 1925 and 1947 respectively, and those concerning special problems in the computation of consumer price index numbers contained in the resolution adopted by the Tenth International Conference of Labour Statisticians in 1962,

Recognising the need to revise and broaden the existing standards in order to enhance their usefulness in the provision of technical guidelines to all countries and particularly those with less developed statistics,

Recognising the usefulness of such standards in enhancing the international comparability of the statistics,

Recognising that consumer price indices are essential to assessments of social conditions and of economic performance and potential, and

Recognising, therefore, that such indices need to be credible to observers and users, both national and international,

Agrees that the principles and methods used in constructing a consumer price index should be selected, with consideration of the chosen objectives, from among the guidelines and standards which are generally accepted as constituting good statistical practice, and

Adopts, this fifth day of November 1987, the following resolution which replaces those adopted in 1925, 1947 and 1962.

Terminology

1. For the purposes of this resolution, the following terms are defined:

(a) "Outlet" indicates a shop, market, service establishment, or other place, where goods and/or services are sold or provided to consumers for non-business use.

(b) "Consumption" indicates all goods and services (or "items") that are acquired, used or paid for, but not for business purposes and not for the accumulation of wealth.

(c) "Region" indicates any geographically defined area and/or type of area within a country.

(d) "Scope of the index" indicates the population groups, regions, items and outlets for which the index is established.

(e) "Reference population" indicates the population that falls within the scope of the index.

(f) "Elementary aggregate" indicates the most detailed level for which expenditure or quantity weights are held constant for a certain period of time.

(g) Consumption expenditure can be measured in terms of "acquisition", "use or "payment":

(i) "acquisition" indicates that the total value of all goods and services delivered during a given period, irrespective of whether they were wholly paid for or not during the period, should be taken into account;

(ii) "use" indicates that the total value of all goods and services actually consumed during a given period should be taken into account; and

(iii) "payment" indicates that the total payments made for goods and services during a given period, without regard to whether they were delivered or not, should be taken into account.

The nature of a consumer price index

2. The purpose of a consumer price index is to measure changes over time in the general level of prices of goods and services that a reference population acquire, use or pay for consumption. A consumer price index is estimated as a series of summary measures of the period-to-period proportional changes in the prices of a fixed set of consumer goods and services of constant quantity and characteristics, acquired, used or paid for by the reference population. Each summary measure is constructed as a weighted average of a large number of elementary aggregate indices. Each of the elementary aggregate indices is estimated using a sample of prices for a defined set of goods and services obtained in, or by residents of, a specific region from a given set of outlets or other sources of consumption goods and services.

The uses of a consumer price index

3. The uses of a consumer price index and their relative importance vary from country to country. They include:

(a) general economic and social analysis and policy determination;

(b) negotiation or indexation, or both, by government (notably of taxes, social security benefits, civil service remuneration and pensions, licence fees, fines and public debt interest or principal) and in private contracts (e.g. wages, salaries, insurance premia and service charges) and in judicial decisions (e.g. alimony payments);

(c) establishing "real" changes, or the relationship between money and the goods or services for which it can be exchanged (e.g. for the deflation of current value aggregates in the national accounts and of retail sales); and

(d) price movement comparisons done for business purposes, including inflation accounting.

Sub-indices rather than the all-items index may be suitable for some of the above uses.

Scope of the index

4. The reference population should normally be defined very widely, specifying those income groups and household or family types that are excluded.

5. The regional scope should normally be defined as widely as possible, noting any exclusions. It should also be specified whether any regional limitation or breakdown of consumption expenditure and of price collection relates to sales in a region, or to purchases by residents of a region.

6. Separate indices may be computed for different population groups or for different regions.

7. The extent to which expenditure abroad is included should be clearly indicated.

8. Ideally, the consumer price index should relate to all goods and services (including imports) acquired, used or paid for by the reference population for non-business purposes, without any omission to tobacco or other things which may be regarded as non-essential or undesirable. The range of goods and services included may, but need not, coincide with consumption expenditure as defined in a national accounts framework. Income taxes, savings, life insurance and pension fund contributions, and financial investments (as distinct from financial services) should not be included in the consumer price index.

9. If second-hand purchases are represented in the index, then the weights for second-hand goods should be calculated net of the corresponding sales including trade-ins.

10. In some cases, such as insurance, health care, second-hand goods, etc., it may not be possible to use the same methodology as in the general index. Groups of goods or services which fall within the scope of the index but which cannot be dealt with according to the general methodology, either because this methodology cannot be applied correctly for these items or because the necessary information is insufficient or lacking, may be included in or excluded from the calculations:

(a) in the case of their inclusion, special methods will need to be used;

(b) in the case of their exclusion:

- the group may be explicitly represented by another group to which the weights of the excluded items are allocated;

- the group may be purely and simply excluded from the index (price collection and weights) which assumes that its price movement is represented by the movement of the overall index.

In all the above cases, users should be informed as to the method followed.

11. The goods and services or household expenditures should follow a classification which is dependent upon the objectives of the index, previous practices, the methods of data collection, as well as upon the nature and quality of data available for the computation of weights. Nevertheless, it is desirable that this classification permit aggregation according to the eight major groups of the United Nations System of National Accounts (SNA): "Food, beverages and tobacco", "Clothing and footwear", "Gross rent, fuel and power", "Furniture, furnishings, and household equipment and operation", "Medical care and health expenses", "Transport and communication", "Recreation, entertainment, education and cultural services" and "Miscellaneous goods and services". If need be, a ninth group might be created, covering items which are not included in the household final consumption expenditure of the SNA.

Acquisition, use or payment

12. Having decided the scope of the index in terms of the reference population and the goods and services to be included, it should be explicitly considered whether the objectives of the index are best satisfied by adopting the concepts of acquisition, use or payment. These issues should be examined, taking into account the theoretical index concept, acceptability to users, availability of data, and resource requirements. These issues particularly arise in dealing with own-account consumption, owner-occupied housing, consumer credit, durable goods, remuneration in kind and goods and services which are provided without charge or are subsidised by government.

13. The concepts of acquisition or payment may be chosen if the index is defined in terms of money flows. Adherence to the conventions of national accounting may be desired if the deflation of consumer expenditure as defined in the national accounts is one of the major uses to which the index is put. When the design of the index is founded upon the consistent application of consumer demand theory, the concept of use may be appropriate. This concept implies estimating the rental value of owner-occupied housing if the data permit such estimates to be made reliably. Alternatively, it would imply the explicit inclusion of all owner-occupied housing costs.

Defining elementary aggregates

14. In defining elementary aggregates (in terms of kinds of goods or services, types of outlets and regions), the following principles should be observed:

(a) related goods or services which are thought to display similar price movements should be grouped together in an elementary aggregate;

(b) goods or services whose prices might reasonably be expected to move markedly differently should not be grouped together in the same elementary aggregate;

(c) elementary aggregates should be distinguished whenever weights (including regional or outlet weights) are available or can be estimated;

(d) such regional or outlet weights should be used in calculating the index even when separate regional or outlet-type sub-indices are not required;

(e) elementary aggregates should be described so that any good or service can be unambiguously assigned to be appropriate elementary aggregate.

15. In the calculation of elementary aggregate indices, consideration should be given to the possible use of geometric means.

Weighting

16. Weights are the relative expenditure or consumption shares of the elementary aggregates estimated from available data.

17. In deriving the weights of the elementary aggregates, a household expenditure survey is usually the main source of data. As far as resources permit, such surveys should be representative of household size, income level, regional location, socio-economic group and any other factors which may have a bearing on household expenditure patterns. The period of the survey should be a normal one (or temporary abnormalities should be adjusted in determining the weighting pattern) and should preferably

cover a whole year if seasonal variations in expenditure patterns are important. When inflation during the period has been rapid and/or has differed significantly between expenditure groups, either expenditure for the different sub-periods should be valued at the prices of a common time sub-period or the expenditure proportions of the different sub-periods should be averaged over the period, in the absence of any superior method.

18. Surveys of sales in retail outlets and household surveys on point-of-purchase can provide valuable information concerning the breakdown of consumption by outlet-type and by region. In the absence of such surveys, it is sometimes preferable for statisticians to use their personal knowledge of the markets and their nature rather than to apply equal weights to the different outlets or types of outlets and/or to different regions.

19. In countries which have reliable information concerning components of the household final consumption expenditure of the national accounts, such information can sometimes be used to derive an initial aggregate weighting pattern. In centrally planned economies in particular, retail sales data may be a major source of weights. More detailed data from household expenditure surveys can be used to break down the aggregates or to adjust the figures to relate more closely to the reference population.

20. In countries where data from household expenditure surveys are not available and where the data on the components of the household final consumption expenditure of the national accounts are inadequate, data from various surveys such as of production, export and import and retail trade, and from administrative sources may have to be used to obtain an estimated consumption pattern.

21. Before any of the survey results are used to provide weights for the index, it is necessary to examine them carefully, e.g. in the light of the sampling and non-sampling errors, in order to judge whether the survey has provided reliable and representative information. Adjustments should be made, if necessary, using other available statistics.

22. Analysis of the data to show the expenditure patterns for different regions and categories of the population is useful, both to assist in revealing those categories for which the computation of separate consumer price indices may be warranted and for establishing the elementary aggregates and their weights.

23. The weights should be examined periodically, and particularly if economic circumstances have changed significantly, to ascertain whether they still reflect current expenditure or consumption patterns. The weights should be revised or adjusted if the review shows that this is not the case. In any case, they should be revised at least once every ten years.

24. Whenever the composition and/or weighting pattern of the index is changed, the new index should be linked to the old index to provide a continuous series of index numbers.

Sampling for price collection

25. Sampling of goods and services and of outlets is necessary to decide what prices should be collected and where they should be collected for each elementary aggregate (except in cases of centrally determined and uniform prices). Sample collection methods and sizes should be adequate to provide the accuracy required for the objectives of the index.

26. Efforts should be made to ensure that samples of cities, urban areas or regions, of dwelling units, of sales outlets, and of items and varieties priced are as representative as possible.

Probability sampling, although involving difficult practical problems, will normally enhance the accuracy of the index and, moreover, will make possible an estimate of the sampling error.

27. Probability sampling gives every price within the scope of the index an opportunity for selection. Each price need not have an equal probability of selection. Indeed, efficient designs use probabilities that are proportional to variables that affect the precision of the estimates.

28. Implementation of probability sampling may be a gradual process. Where one begins will vary depending on the nature of the economic structure and the availability of data. Probability sampling might begin with geographic areas, or with detailed items within larger groups, or with outlets. Each stage of probability sampling makes some contribution to the quality of the indices.

29. If sufficient information or resources do not exist for constructing a probability sample which will give a good measure of price change, then the statistician should apply the best judgement and available data to select a representative sample of geographical areas, outlets, items and varieties. If, for example, resources are inadequate to establish a representative sample for the country as a whole, it might be appropriate to decide, in principle and a priori (that is, outside any random sampling), that certain regions, towns or urban areas where the collection of prices is less expensive represent larger groups of regions, towns or urban areas.

30. The samples of outlets and of goods and services and the specifications used for pricing should be reviewed periodically, and they should be updated if this is necessary to maintain their representativeness.

31. Particular attention should be paid to the way in which pricing is distributed in time. Price observations of the same item at the same outlet should, especially in the case of wide price variations, be made at regular intervals, of, for example, about one month or three months, depending upon the frequency of the index compilation. Account should be taken of the fact that, when the index collection period is organised on the basis of weeks, there may be time discrepancies since a month or quarter is not composed of an exact number of weeks.

32. In the case of perishable goods, attention should also be paid to the time of day which is selected for price collection.

33. Rents should be obtained from a specially designed survey relating to a sample of dwellings which is periodically updated to ensure continuing representativeness and, particularly, that newly constructed units are brought into the sample.

The price data

34. The quality of the price data is the crucial determinant of the reliability of the index. Hence, great care should be taken to ensure that the prices obtained are actual transaction prices and are collected systematically at regular intervals. Standard methods for collecting and processing price data should be developed. Where centrally regulated or centrally fixed prices are collected centrally, checks should be made to ascertain whether the goods and services in question are indeed sold and whether these prices are in fact observed. Where prices are not displayed, where quantity units are poorly defined or where actual purchase prices may deviate from list or fixed prices, check purchases by the price collectors are advisable and a budget should be provided for these purchases. Where prices are subject to significant fluctuations over the month or quarter, it is desirable to collect them more than once during the month or quarter.

35. Consistent procedures should be established for dealing with missing price observations whatever the cause, including: seasonally unavailable, unable to contact, non-response, rejected observation, temporarily out of stock. Price collectors should be well trained and well supervised, and should be provided with a good manual explaining all the procedures they have to follow. The price data sent in by the price collectors should be reviewed and edited for comparability, substitutions, unusual or simply large price changes and for price conversions of goods priced in multiple units or varying quantities, where the units or quantities do not form part of the specification. There should be procedures, such as repricing in the same outlets, for checking the reliability of the price data.

36. The specifications used for pricing, including the final selection of the particular variety and size by the price collector, where relevant, serve the purpose of securing comparability between successive periods and assisting selection and evaluation of substitutes. The specifications should be precise enough to identify all the characteristics that are necessary to ensure that identical goods and services are priced in successive periods in the same outlet. It should be noted that the relevant characteristics of the goods and services should include, for example, terms of payment, conditions of delivery, guarantees and type of outlet.

37. Substitutions will be necessary when priced items disappear permanently from the outlet(s) in which they are priced. An item which is no longer available in sufficient quantities or under normal sale conditions may also be considered to be unavailable. Clear and precise rules should be developed for identifying the substitute item. Precise procedures should be laid down for price adjustment with respect to the difference in characteristics when substitutions are necessary. Responsibility for such evaluation should be clearly established. Evaluations of the difference in characteristics and decisions on how to use substitute prices in the index should, to the extent possible, be based on solid, empirical evidence of the market valuation of the difference in characteristics between the original and the substitute items. A number of techniques and data sources may be used to approximate this market valuation. In the absence of a satisfactory estimate of the specific adjustment for the difference in characteristics, a choice must be made between an assumption of no change and an assumption that the price difference is simply and wholly a reflection of the difference in characteristics. Under the former assumption, the price for the substitute should be compared directly with that of the item for which it is substituted; this assumption can be made only when the items are fairly similar. Where the whole price difference is taken as a reflection of the difference in characteristics, the index should be constructed by linking the series for the substitute to that of the item for which it is substituted.

38. Substitutions made because of a decline in representativeness or disappearance of an item from an outlet might possibly require that another outlet be chosen. This might also be necessary when an outlet disappears. In these cases, rules should be established to ensure that the price collector makes a correct choice with respect to a new outlet, and that the adjustments are made, if need be, to take account of the change in outlet or the change in the nature of the outlet. The rules should be consistent with the objectives of the index and with the way in which the price collection sample has been determined.

39. Substitutions will also be necessary if all items in an elementary aggregate disappear from most or all outlets. In such cases, if a substitute item representing the elementary aggregate cannot be found and appropriate adjustments for the difference in characteristics made, it may be necessary to redistribute the weight assigned to the elementary aggregate among other elementary aggregates within the next highest level of aggregation possible.

40. The prices to be collected are the regular actual transaction prices, including indirect taxes, paid by the reference population. Prices charged for stale, shop-soiled, damaged, or otherwise imperfect goods sold at clearance prices should be excluded unless they are a permanent and

widespread feature of market conditions. However, sale prices, discounts, cut prices and special offers should be included when applicable to all customers and when the goods and services are offered in their normal availability.

41. Prices should be collected in all types of markets which are important. These may include open-markets and black-markets as well as state-controlled markets. Where more than one type of market is important, an appropriately weighted average should be used in the calculation of the index.

42. In periods of price control or rationing, where limited supplies are available at prices which are held low by subsidies to the sellers, by government procurement, by price control, etc., these prices as well as those charged on unrestricted markets should be collected. They should be combined in a way which uses the best information available with respect to the actual prices paid and the relative importance of the different types of sales.

43. Countries may wish to calculate, from the data collected for their consumer price index, average prices for selected reasonably homogeneous goods or services. However, their dissemination should be accompanied by an indication of the limitations of these calculations. Countries may also wish to establish efforts to collect separate data to support average price calculations, given considerable user interest in these data.

Dissemination

44. A consumer price index should be computed and publicly released as quickly as possible according to the resources available and to the user needs, preferably at least once every three months. Rules relating to the release of the data should be established, publicly known and strictly observed.

45. In general, retrospective corrections (e.g. as a result of an error in the data or in calculation) of the publicly released indices should only be done when absolutely necessary because of the difficulties such corrections cause for indexed contracts or payments. Instead, necessary corrections might be made to the index for the subsequent period. An explanation should be provided in order to avoid misinterpretation of the short-term price movement.

46. Sub-indices should also be released, at least for such major expenditure groups as food, clothing and footwear, housing, etc. Sub-indices for different regions or socio-economic groups or for special analytical purposes (e.g. travellers' expenses, imported items) might be publicly released if they were judged to be useful and the cost warranted it. Average prices or price ranges for important and reasonably homogeneous items may be released.

47. The exclusion of shelter from the all-items index makes the rates of price change more comparable across countries, although it does not eliminate all the difficulties encountered when making such comparisons. Countries should, therefore, provide for dissemination at the international level of an index which excludes shelter, in addition to the all-items index.

48. In order to ensure public confidence in the index, a full description of the methodology and data sources should be published. The document(s) should include, among other things, details of the weights, objectives of the index, and a discussion of the precision of the index. However, the precise identities of the outlets and goods and services for which prices are obtained and any other details which, if disclosed, would adversely affect the representativeness of the index should, in general, not be revealed.

49. The agency responsible for the index should consult with representatives of users on major issues. One way of organising such consultation is through the establishment of advisory committee(s) on which users and outside experts might be represented.