

CES/AC.49/1997/1411
28 August 1997

ENGLISH
Original: FRENCH

**STATISTICAL COMMISSION and
ECONOMIC COMMISSION FOR EUROPE**

INTERNATIONAL LABOUR ORGANIZATION

CONFERENCE OF EUROPEAN STATISTICIANS

Joint ECE/ILO Meeting on consumer price indices
(Geneva, 24-27 November 1997)

Items 3, 6 and 7 of the provisional agenda

**EXTENSION OF DISTRIBUTION TO INCLUDE TWO NEW INDICES,
AND IMPROVEMENT OF THE CPI METHODOLOGY**

Transmitted by the French National Institute for Statistics and Economic Studies (INSEE)

I. Two particular improvements have been made in the French consumer price index (CPI) since 1995:

I. The publication since June 1996 of two new indices, viz. a seasonally adjusted overall index and an index of underlying inflation (exclusive of public-utility charges and products with volatile prices, and adjusted for fiscal measures and seasonal factors);

II. Improvement of the methodology for the index by incorporation of the advances in harmonization of European price indices regarding price carry-over and the calculation formulae.

2. These two points are discussed below.

3. In addition, application of the European Union Harmonized Index of Consumer Prices (HICP) began in March 1997.

4. The extension of coverage to, for example, insurance, domestic services, legal services, second-hand vehicles and administrative formalities, that is already a feature of the HICP will be put into effect in the case of the national index in 1999, following rebasing.

I. **EXTENSION OF DISTRIBUTION TO INCLUDE TWO NEW INDICES**

I.1 The seasonally adjusted overall index

5. Since the base was built in 1990, the price index has exhibited strong seasonality: it generally rises most strongly between February and April and more slowly in June and July, accelerates again in September and slows down between October and December. There are two main reasons for this: the seasonal variation in the prices of vegetables and fruit, and the periods of discount sales, principally in the clothing sector. While it is not entirely regular from one year to another, the seasonality of fruit and vegetable prices is well known: prices are high in winter and low in summer. The clothing sales cause very marked falls in prices in January and in June and July. Conversely, the end of the sales season leads automatically to a rise in the index in February and March and in August and September.

6. The purpose of the seasonally adjusted consumer price index is to provide economists with a series with which, because of the correction for purely seasonal factors, they can better analyse background inflation. Being subject to correction, this new index is in no way intended for use in indexation. The deseasonalization is carried out directly on the aggregated series, not on their constituents. A number of versions have been developed in order to test the soundness of the results.

7. As a statistical technique, seasonal adjustment is based on analysis of the regularity of time series. The longer the series, the more precise the procedure. The current CPI series covers seven full years (in actual fact, given the changes made in 1992 in the methods of data collection and processing, five years with marked seasonality); that is a minimum for deseasonalization. For that reason, advantage will be taken of every update to improve it. Because of this reassessment procedure, the past values of the seasonally adjusted index will undergo frequent change. That will remain the case until the series is sufficiently long to need only annual reassessment.

8. The monthly seasonally adjusted change is published with the final index.

I.2 The index exclusive of public-utility charges and products with volatile prices, and adjusted for fiscal measures

9. The index exclusive of public-utility charges and products with volatile prices, and adjusted for fiscal measures is a subset of the consumer price index to which corrections are made in an effort to isolate what, in the movement of the price index, comes from the 'pure' inflationary process in the French economy.

10. Its current coverage was fixed by INSEE after consultation with the bodies with a direct interest in the short-term monitoring of inflation.

11. Its purpose is to track the underlying movement of prices exclusive of the effects of public policy measures and of products whose prices are subject to considerable exogenous variation for reasons of climate and/or reasons external to the French economy, such as strains on world commodity markets or problems with the dollar exchange rate..

12. The concept of underlying inflation is used and being developed in countries besides France, including Canada, the United States of America and Australia. It is among the indicators used by central banks in setting monetary policy.

13. Whatever the country, the measurement of underlying inflation is always based on the consumer price index and always entails eliminating volatility, seasonal movements and governmental action. When the identifiable impacts attributable to energy, exceptional or seasonal variations in food products and tax changes and other discretionary governmental measures have been eliminated, there remains a trend that reflects the fundamental movement of production costs and of supply and demand. This is of help in longer-term economic planning.

14. The method used (exclusion and adjustment for fiscal measures) is the most widespread and France excludes much the same products as other countries. There are other methods that are based on different economic, statistical or mathematical hypotheses. But, because of the complexity and smoothing effect of the procedure, the method and the choice of products to be excluded are somewhat arbitrary.

Coverage

15. The new index comprises three subsets:

- (1) Food: Food **excluding** meat, dairy products, wine, fresh produce, exotic products (e.g. coffee,

chocolate). This subset represents 6.5% of the overall index and 32% of food;

(2) Manufactures: All manufactured products **except** proprietary medicinal products and flowers and plants. This group covers 29.0% of the overall index and 89% of manufactures;

(3) Services and others: All private-sector services (other than catering in school/university cafeterias), air and sea transport, rents and water. This group represents 26.0% of the overall index and 97% of the set comprising private-sector services, rents and water, and air and sea transport.

16. The following are excluded in their entirety: health services, tobacco, public-utility charges (other than air and sea transport), energy and the items mentioned above. On the other hand, water (which is heavily taxed) and rents are included, because of their weight in consumption and their relatively regular movement, which is considered as an underlying trend.

17. **All in all, the new index represents only 62% of the coverage of the overall index. The major exclusions concern: much (68%) of food, and all of tobacco, energy (including petroleum products), health, urban and rail transport and telecommunications.** A detailed table of what is and what is not included appears below.

Adjustment for fiscal measures

18. The aggregate constituted as indicated above is adjusted to cancel out the impacts on the index of fiscal or governmental measures that *directly* affect consumer prices. No account is taken of indirect effects. For example, the raising of oil taxes could lead to a general price rise. That kind of indirect impact is disregarded.

19. Adjustments have been made for the principal fiscal or governmental measures since January 1990.

20. Adjustment entails a number of technical choices:

The weighting corresponds to the full presumed impact of a measure on the exact date on which it was actually applied;

When field observation is quarterly, the impact is spread uniformly over three months (in 1996, 8% of the observed series in the price index were quarterly);

Even though the price of water is largely made up of taxes, it is not adjusted;

Product weightings are based not on pre-tax, but on tax-inclusive prices. The index is therefore not a "tax-free" index, but an index adjusted for tax changes.

21. **Example of weighting:** The increase in the standard rate of VAT on 1 August 1995 led to the application of a weighting of 1.186/1.206 to cancel out, in the movements of the indices for the items or varieties affected by the rise, the proportion presumed to be due to the tax change. The weightings were applied as from 1 August, even though the price growth actually occurred over a period of several months. There is no practical alternative to proceeding in this way.

22. The August 1995 decline in the index exclusive of public-utility charges and products with volatile prices and adjusted for fiscal measures was therefore probably overestimated. Part of the decline should have been held over until later months.

I.3 Use of the indices

23. The results are provided in two forms: seasonally-adjusted monthly movement, and annual movement.

24. They are published along with the final index for the month in question, or in other words, around the 25th of the month following the observation.

25. The indices are intended solely to assist in short-term economic analysis. **They are in no sense replacements for the overall index, which remains the benchmark, particularly for indexation.** For one thing, they represent only part of consumption - and a part chosen solely for reasons of interpretation of short-term inflation at that. For another, they are subject to revision.

26. Revising series may be justified for the reasons given with respect to the seasonally adjusted overall index and also because of the provisional nature of the initial estimates in the case of events with significant repercussions: the raising of the standard rate of VAT in August 1995 necessitated the application of weightings for 60% of the products in the index on the basis of a case-by-case study.

27. The contribution of the new index to the understanding of short-term inflation can be seen from the graph below.

28. As was to be expected, the curve for the index exclusive of public-utility charges and products with volatile prices and adjusted for fiscal measures is smoother than that for the overall index. That is explainable mainly by the elimination in the first case of the strong swings due to fresh produce, the prices of which are extremely volatile. It is, indeed, fresh produce that was responsible for the two peaks during 1991 and the trough of late 1992 in the curve for the overall index.

II. IMPROVEMENT OF THE METHODOLOGY FOR THE INDEX

II.1 THE CONTEXT OF THE HICP

One of the five criteria of convergence

29. The Treaty on European Union provides for the third phase of economic and monetary union to begin no later than 1 January 1999. To qualify, States must have achieved a high degree of price stability and an "average rate of inflation observed over one year ... that does not exceed by more than 1.5% that of the three best-performing member States in terms of price stability". The Treaty's Protocol on convergence criteria states that "inflation shall be measured by means of the consumer price index on a comparable basis, taking into account differences in national definitions".

30. The Harmonized Indices of Consumer Prices (HICP) meet those conditions; the European Commission and the European Monetary Institute will use them to evaluate inflation-rate convergence pursuant to the Treaty on European Union.

The HICP for international comparisons

31. The HICP are not intended to replace national consumer price indices (CPIs). Like France, many States will probably keep their CPIs for domestic purposes; the current coverage of the French CPI is wider than that of the HICP, even if some headings in the HICP have not yet been incorporated in the CPI.

The new indices are intended to facilitate international comparisons

32. The national index remains the benchmark for indexation and wage bargaining. The emphasis is on the comparability of the various indices and on their relative movements. The process of harmonization has led to a general improvement in quality that has benefited both the HICP and national indices.

33. The French national index will be rebased as from 1999 so that coverage can be broadened in line with that of the HICP.

The first phase of harmonization: the interim indices

34. National statistical agencies have been working together with Eurostat for more than three years to produce comparable CPIs. The most significant result of that work is the Council of the European Union's Regulation (EC) No. 2494/95 of 23 October 1995. It lays down a general framework to be supplemented by detailed implementing measures. It imposes on member States a strict timetable based on that of the Treaty establishing the European Community.

35. The Regulation called for the calculation, in a first phase, of interim indices based largely on existing national CPIs. The latter were supposed to be adjusted to reduce the differences between countries, particularly those concerning the lists of goods and services observed. As a result, the interim indices included, for all States, tobacco and alcohol, but not health or educational goods or services, or insurance (For most member States they were therefore slimmed-down versions of the national CPI). These interim indices were published from February 1996 to January 1997 and have now been replaced by the HICP.

The second phase of harmonization: the HICP

36. The second phase has comprised the publication, as from 7 March 1997, of an entirely new set of indices called HICP. Both the list of goods and services covered and the methodology used have been harmonized.

II.2 PROGRESS MADE THANKS TO THE HICP

37. The Commission's first two relevant Regulations concern the technical issues discussed below. All those issues have a significant influence on the real values of inflation rates. Apart from the list of products covered, the measures have in question, in the case of France, been applied both to the HICP and to the benchmark national index.

Geographical coverage

38. The French HICP covers the whole of metropolitan France and also the overseas *départements*. Household consumption in the overseas *départements* is 1.2% of the total.

Inclusion of new products

39. CPIs are often accused of being slow to include new products. This problem is less frequent in France, which updates its basket every year. If some member States add significant new products and others do not, considerable differences can arise in relative inflation rates. Any new product sales of which account for at least one thousandth of the total consumption expenditure covered by a member State's HICP should be included in that index.

Adjustments for quality changes

40. As is the case with most CPIs, the purpose of HICPs is to measure "pure" variations in the prices of

products purchased, i.e. after elimination of changes in the quality of the goods or services observed. The prices included in HICPs need to be adjusted accordingly. Differences between member States' methods of adjusting for quality can distort the results, and HICPs will, therefore, obey rules that prohibit certain extreme practices such as "automatic chaining".¹ In view of the difficulty of evaluating the quality effect on the one hand and the price effect on the other, member States are engaged in in-depth joint studies to improve processing in this respect.

Updating of samples

41. All CPIs are based on continuous observation of a sample of prices of specific goods and services. HICPs are supposed to be based on samples that will yield trustworthy and comparable results, due allowance being made for the diversity of products and prices from one country to another. Moreover, products or outlets that disappear are supposed to be replaced by new ones so that the sample remains representative. HICPs are supposed to be based on samples that are fully up to date; that entails, *inter alia*, banning the practice of simply considering "missing" prices to be equal to the last prices actually observed. In France, prices that have already been carried over once are reassessed in the second month of non-observation from the movement in the prices of similar products that have been observed. This has been done since January 1997 and applies both to the HICP and to the national index.

Basic formula

42. The formulae for calculating varietal price indices vary between countries. Differing formulae can lead to widely differing results. HICPs are calculated using one or other of the two formulae set out in the Regulation (ratio of the arithmetic means of prices, or geometric mean of prices), or by an equivalent alternative formula that will not lead to an index differing systematically by more than 0.1 percentage points on average year on year from an index calculated by one of the formulae in the Regulation.

43. In France, the formulae for calculating micro-indices used to rely for one third of the weighting (homogeneous varieties) on ratios of price totals, for the second third (heterogeneous varieties) on arithmetic means of price ratios, and for the final third (composite prices, public-utility charges and fresh produce) on special formulae, often Laspeyres micro-indices.

44. The geometric mean began to be used this year for half the heterogeneous varieties; its use will be extended to cover all such varieties by 1999 at the latest.

45. The total impact of introduction of the geometric mean on heterogeneous varieties has been estimated at 0.10% of the annual movement of the index.

List of products covered

46. The interim indices calculated in 1996 were based on a restricted list of products. For the first HICPs, coverage was broadened to include, for example, vehicle and housing insurance, package tours, financial services and certain goods and services in the fields of health (medicines not reimbursable under the social security scheme) and education. Domestic services, legal services, purchases of second-hand vehicles² and administrative services were also added. With the exception of insurance, domestic services, legal services, purchases of second-hand vehicles and administrative formalities, the other services already formed part of the national index. Insurance has been included in the HICP since January 1997. The additions to coverage made in the case of the HICP will be applied to the CPI when that index is rebated in 1999.

items included		items excluded
11 FOOD	6233 Hire of private vehicles	11 FOOD
111 Breads and cereals (all items)	63 TRANSPORT SERVICES	112 Meat (all items)
1132 Tinned fish, deep frozen	6303 Interurban passenger road transport	1131 Fish, fresh
1162 Vegetables deep frozen, dried, tinned	6304, Taxis, other transport services	1133 Crustaceans, molluscs, fresh
1163 Potatoes, prepared	6305 Air transport	114 Milks, cheeses and eggs (all items)
1172 Fruit deep frozen, tinned or dried	6306 Sea transport	115 Fats (all items)
1118 Sugar	71 LEISURE APPARATUS AND ACCESSORIES	1161 Vegetables, fresh
11A1 Jams, compotes and honey	711 Radio, television (all items)	1171 Fruit, fresh
11A4 Sugar confectionery	712 Photography, music, other durable goods (all items)	119 Coffee, tea, cocoa (all items)
11A5 Salts, spices, condiments, vinegar	7131 Records, tapes and cassettes, recorded	11A2 Chocolate, in bars
11A6 Prepared soups	7132 Records, tapes and cassettes, unrecorded	11A3 Confectionery, chocolate-based
11A7 Ice cream, ices and sorbets	7133 Photographic products	13 ALCOHOLIC BEVERAGES
11A8 Prepared baby foods	7134 Sports goods, arms and ammunition	1301 Wines, ordinary
11A9 Pre-cooked meals, fresh	7135 Camping articles	1302 Wines, fine
11AA Pre-cooked meals, deep frozen	7136 Games and toys	1303 Champagne and other sparkling wines
11AB Pre-cooked meals, tinned	7138 Seedlings and seeds	14 TOBACCO
11AC Deserts and products for baking	7139 Foods for animals	32 HEATING, LIGHTING (all items)
11AD Syrups and concentrates	714 Repair of recreational articles	51 PHARMACEUTICAL PRODUCTS
12 NON-ALCOHOLIC BEVERAGES (all items)	72 LEISURE, ENTERTAINMENT, CULTURE	5101 Proprietary medicinal products
13 ALCOHOLIC BEVERAGES	7201 Broadcasting licence and service fees, excl. licence fees	53 DOCTORS, MEDICAL AUXILIARIES (all items)
1304 Beers and ciders	7202 Cinemas	62 USE OF VEHICLES
1305 Sweet wines, natural, and aperitifs	7203 Theatres, concerts and music halls	6222 Petrol
1306 Aperitifs, aniseed-flavoured, alcohol-based	7204 Recreational events, museums	6231 Road-use tolls
1307 Whisky	7205 Sports services	63 TRANSPORT SERVICES
1308 Brandies	7206 Hire of recreational articles	6301 Rail transport

1309 Liqueurs	7207 Photographic services	6302 Urban and suburban passenger transport
21 CLOTHING (all items)	7208 Care for domestic pets	64 TELECOMMUNICATIONS
22 FOOTWEAR (all items)	73 BOOKS, NEWSPAPERS, PERIODICALS (all items)	71 LEISURE APPARATUS AND ACCESSORIES
23 REPAIRS TO CLOTHING AND FOOTWEAR	74 EDUCATION (all items)	7137 Flowers and plants
31 HOUSING WATER (all items)	81 PERSONAL CARE AND PRODUCTS (all items)	72 LEISURE, ENTERTAINMENT, CULTURE
41 FURNITURE, HOUSEKEEPING EQUIPMENT AND ARTICLES, HOME MAINTENANCE (all items)	82 OTHER PERSONAL ARTICLES (all items)	7201 Broadcasting licence fee
42 HOUSEKEEPING ARTICLES, TEXTILES, FURNISHINGS (all items)	83 RESTAURANTS, CAFES, HOTELS	83 RESTAURANTS, CAFES, HOTELS
43 LARGE DOMESTIC APPLIANCES (all items)	8311 Meal in a conventional restaurant	8313 Meal in a school/university canteen
44 GLASSWARE, CROCKERY, HOUSEHOLD UTENSILS (all items)	8312 Meal in a self-service or fast-food restaurant	85 FINANCIAL SERVICES (non-banking institutions)
45 NORMAL HOME MAINTENANCE (all items)	8314 Meal in employer's canteen (private or public sector)	
51 PHARMACEUTICAL PRODUCTS (all items)	8315 Coffee, hot beverages consumed in cafes	
5103 Parapharmaceuticals	8316 Wine consumed in cafes	
52 THERAPEUTIC APPARATUS (all items)	8317 Beer, cider consumed in cafes	
61 PURCHASE OF VEHICLES (all items)	8318 Spirits consumed in cafes	
62 USE OF VEHICLES	8319 Non-alcoholic beverages consumed in cafes	
621 Tyres, parts, accessories, vehicle repairs	832 Hotels and similar accommodation services	
6221 Lubricants	84 PACKAGE TOURS/HOLIDAYS	
6231 Road-use tolls and parking fees, excl. road-use tolls	85 FINANCIAL SERVICES (excl. non-banking institutions)	
6232 Driving schools	86 OTHER SERVICES TO HOUSEHOLDS (all items)	

II.3 The project to change the base

47. It is planned to introduce a new base for the consumer price index in 1999, 1998 being the link year with the previous base.

48. By changing the base it will be possible to:

Extend coverage to include items representing some 1.7% of household consumption;

Adjust the present nomenclature for the CIP to COICOP as used for the HICP;

Re-optimize the sample so as to restore the balance of records between the main sectors of consumption following the extension of coverage and, at the same time, keep down survey costs;

Adopt a new fresh-produce base (with updating of the monthly weightings and revision of the list of varieties, operations that can only be undertaken if the base is changed);

Change the formulae for the heterogeneous varieties that have still be altered;

Complete mensualization and the inclusion of allowance for the discount sales seasons.

[TPU; Insert graph from p. 12 of original. Delete this instruction]

HICP INCLUSIONS AND EXCLUSIONS RELATIVE TO THE
BENCHMARK NATIONAL CONSUMER PRICE INDEX

[TPU: Insert braces in columns 2 and 3 - see p. 13 of original. Delete this instruction]

Total household consumption, excluding own consumption ¹ (Millions of francs) ²			
	1994 Weighting base 1996 ³	1995 Weighting base 1997 ³	Principal contents
In CPI Not in HICP	326,054 = 8.15% CPI	342,992 = 8.31% CPI	Medicines and health services ⁴
In CPI In HICP	90.24% 3,284,490 = 82.09% HICP	90.16% 3,376,333 = 81.55% HICP	Others
Not in CPI In HICP	83.91% 72,678 = 1.82%	83.60% 72,150 = 1.75%	Domestic services Legal services Insurance (vehicles and housing) Purchase of second-hand vehicles Administrative formalities
In CPI Not in HICP	317,593 = 7.94%	333,831 = 8.09%	Games of chance Hospital care Social welfare Educational services Health insurance
TOTAL	4,000,815 = 100%	4,125,306 = 100%	

¹ Own consumption concerns various commodities (farm produce and agro-alimentary products) and services (notional rents for owner-occupied dwellings)

² Consumption by overseas *départements*, which represents 1.5% of total consumption, is not included.

³ The weights for each year are calculated from the consumption in value terms of year n-2 multiplied by the movement of prices in December n-1 relative to the mean for year n-2.

⁴ Excluding pharmaceuticals not refunded by the national social security scheme which are included in the HICP .

49. **Note:** The interim index excluded health (pharmaceutical products and therapeutic apparatus, doctors and medical auxiliaries), education (canteens, school boarding houses, schoolbooks), package travel, tolls and financial services, which together accounted for 20.33% of total consumption in 1994.

50. For 1997, the consumer price index covers 90.16% of household consumption; because the bulk of health services are excluded, the HICP, despite the extension of coverage, covers only 83.60%.

51. The services included in the HICP but not in the benchmark national index are: insurance; domestic and legal services; purchase of second-hand vehicles, and administrative formalities. Together these represent 1.75% of total household consumption for 1996.

52. The main items not covered by either the CPI or the HICP are: hospital care (public and private establishments), social welfare (retirement homes, creches, child-minders, establishments for protected, handicapped or maladjusted children, etc.), certain educational services (enrolment fees, contribution towards tuition fees) and games of chance. Together these represent 8.09% of consumption in 1997. Games of chance will probably remain excluded from HICP.

53. Lastly, household refuse collection, which will form part of household consumption expenditure in the new national accounts base, is not at present covered in either CPI or HICP.

End notes

1. Automatic chaining: assumption that a price difference observed between two successive models is entirely attributable to quality change. If a country systematically assumes that price rises (or falls) from one model to another are due solely to quality changes and therefore never takes them into account in its CPI, the chaining will lead to inflation being underestimated or overestimated, as the case may be.

2. Vehicles bought from firms or rental agents; excludes vehicles bought from other households.