Harmonized Indices of Consumer Prices (HICPs)

A Short Guide for Users

March 2004
A great deal of additional information on the European Union is available on the Internet. It can be accessed through the Europa server (http://europa.eu.int).

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HARMONIZED INDICES OF CONSUMER PRICES (HICPs)

A SHORT GUIDE FOR USERS

This guide provides a brief description of the Harmonised Indices of Consumer Prices (HICPs). Its target audience is non-specialist users of the HICPs, including analysts and commentators, who wish to gain a general overview of these price indices.

This guide also provides references and links to more detailed information on the HICPs and a list of contact points for further information. A list of all the legally binding Regulations on the HICP is annexed to this guide.

1. Introduction to the HICPs

Consumer Price Indices (CPIs) are economic indicators constructed to measure the changes over time in the prices of consumer goods and services acquired, used or paid for by households.

CPIs are used for a wide variety of purposes, including: as a guide for monetary policy; for the indexation of commercial contracts, wages, social protection benefits or financial instruments; as a tool for deflating the national accounts or calculating changes in national consumption or living standards.

The HICPs are a set of EU Consumer Price Indices calculated according to a harmonised approach and a single set of definitions. The key HICPs are:

- The Monetary Union Index of Consumer Prices (MUICP) – aggregate indices covering the countries within the euro-zone.
- The European Index of Consumer Prices (EICP) – for the euro-zone plus the other EU countries.
- The national HICPs – for each of the EU Member States.

Beyond these, there is also the European Economic Area Index of Consumer Prices (EEAICP), HICPs for the EEA countries and interim HICPs for the Acceding and Candidate Countries (1).

The MUICP and EICP are calculated by Eurostat using statistics provided by the Member States on price changes and the consumption patterns of consumers within their economic

(1)  
**Euro-zone countries:** Belgium, Germany, Greece, Spain, France, Ireland, Italy, Luxembourg, Netherlands, Austria, Portugal, Finland.
**EU countries:** The euro-zone plus Denmark, Sweden, United Kingdom.
**European Economic Area countries:** The EU countries plus Iceland, Norway.
**Acceding countries:** Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia, Slovak Republic.
**Candidate countries:** Acceding countries plus Bulgaria, Romania and Turkey. (At March 2004).
territories. As explained further below, the aggregation across countries uses country weights for ‘household final monetary consumption expenditure’.

The HICPs are in principle open to revision, in particular when new or improved information becomes available.

*Flash estimates*

Eurostat also publishes each month a ‘flash estimate’ for the MUICP. This flash estimate is based on the results from the first countries to publish their national estimates and on energy price data. It gives an early indication of what the MUICP is likely to show when the full data set is available.

2. Conceptual basis and coverage of the HICPs

The HICPs aim to cover the full range of final consumption expenditure for all types of households in order to give a timely and relevant picture of inflation.

Conceptually the HICPs are ‘Laspeyres-type price indices’ rather than ‘cost of living indices’, this reflecting their key role in measuring price stability. Thus the HICPs can be viewed as measuring, broadly, the prices of a fixed expenditure pattern – rather than as being founded on economic concepts of consumer utility. The conceptual differences between the two types of price indices do not generally lead to substantial differences of practice, but for more detailed information on this subject some references are given at the end of this guide.

The coverage of the HICPs is defined in terms of ‘household final monetary consumption expenditure’, by reference to the national accounts concepts of the European System of Accounts (ESA 1995).

Some practical consequences of the use of ‘household final monetary consumption expenditure’ are:

- The geographical and population coverage is of all purchases by households within the territory of a country, those by both resident and non-resident households (the so-called ‘domestic concept’).

- The HICPs cover the prices paid for goods and services in monetary transactions. So for example some special fees and taxes paid to government for licenses will be excluded (when there is no equivalent good or service received in return).

- The prices measured are those actually faced by consumers, so for example they include sales taxes on products, such as Value Added Tax, and they reflect end-of-season sales prices.

- The HICPs exclude interest and credit charges, regarding them as financing costs rather than consumption expenditure.
Differences between the HICPs and national CPIs

The differences between HICPs and individual national (CPIs) can sometimes be significant in practice. The differences have in general been diminishing, although national CPIs use their own national methodologies. In many countries national CPIs were set up to serve different purposes, for example as ‘cost of living indices’ or ‘compensation indices’, and some of the underlying concepts and methods of national CPIs are inappropriate for the HICPs as a ‘pure’ inflation measure (of the impact of inflation on purchasing power).

Some examples of differences between the HICPs and national CPIs are:

- The treatment of subsidised healthcare and education. The HICP includes the net price paid by consumers (after reimbursements), while some national CPIs exclude these purchases or record the gross price.

- The treatment of owner-occupied housing. In the HICPs, the imputed prices for the services provided by owner-occupied housing are currently excluded. However, an index based on housing acquisition costs is being piloted for possible inclusion in future. It will be compiled separately from the HICPs on an experimental basis before any decision is made to incorporate it within the HICPs. National CPIs use a variety of methods – for example some use an approach involving imputed rents, some include mortgage interest in their CPI, while others entirely exclude the shelter costs of owner-occupiers.

- The aggregation formulae used at the most detailed level of stratification in the index calculations to produce the so-called elementary aggregates. The HICPs use ratios of arithmetic mean prices or of geometric means, while some national CPIs use other formulae.

- The geographical and population coverage. The HICPs cover all expenditures within the territory, whether by residents or visitors, while some national CPIs aim to cover expenditures by domestic residents both within and outside the country.

3. Accessing HICP data and metadata

The HICPs are published each month to a strict, rapid, pre-announced schedule – in general between 17 and 19 days after the end of the month in question. The HICP flash estimates are generally released on the last working day of the month in question.

Data

The HICP data which is released each month covers the price indices themselves, annual average price indices and rates of change, and monthly and annual rates of change. None of these are seasonally adjusted.

As well as the all-items HICPs, a range of around 100 indices for different goods and services are made available. The main headings are as follows:

- Food
- Alcohol and tobacco
- Clothing
- Housing
In addition a series of special aggregates are released, including:

The HICP excluding energy,
The HICP excluding energy, food, alcohol and tobacco,
The HICP excluding unprocessed food
The HICP excluding energy and seasonal goods
The HICP excluding tobacco

The weights for the component goods and services and the individual countries are also made available.

All of the HICPs, complete list of component indices and special aggregates, are accessible via the Eurostat website (theme: economy and finance) and the ‘Euro-indicators’ website (statistical subject: consumer prices).

The ‘Euro-indicators’ site gives quick access to the latest headline figures and most important sub-indices. The Eurostat website also gives access to the monthly news releases and ‘Statistics in Focus – Economy and Finance – Theme 2’ (providing more detail).

**Metadata**

The Eurostat website also gives access to the ‘Compendium of HICP reference documents’, which contains the detailed reports on the HICP made in 1998 and 2000 by the Commission to the Council, the HICP Regulations and guidelines and some technical notes.

4. **Basic points on the calculation of HICPs**

The results from the harmonisation process, in terms of the progress made on a range of technical issues, are outlined later in this guide. By way of introduction, this section gives some brief information on how selected calculation issues are treated in the HICPs.

**Collection of price data**

Price collection in the Member States is typically carried out by a combination of visits to local retailers and service providers and central collection (via mail, telephone, email and the internet). More recently, the first use of retailers’ ‘scanner data’ (the data recorded electronically when consumers pay for their purchases at check-outs) has been made for the HICP by one Member State.

**Quality adjustment**

The need for quality adjustment arises because the nature of the goods and services on the market changes over time. For example, it is not possible to simply compare the price of a particular car with a ‘similar’ one sold five years ago. In the mean time the quality of that
car will have changed – the comparison of prices must take account of the quality change. The price statistician must therefore make a quality adjustment – that is, he or she must estimate what part of the total price change between the two cars was really due to a change in the quality of the car and what part is a genuine price change.

Quality adjustment is widely accepted by price index experts to be one of the most, if not the most, important and intractable problems in consumer price index construction. For the HICPs there are minimum standards for quality adjustment – explicit quality adjustments must be made whenever possible and the whole of a price change should never be ascribed to quality differences without justification. In practice all of the Member States make adjustments for the changing quality of goods and services in their HICPs – using a range of direct and indirect methods. Nevertheless, as explained below under ‘Future steps on harmonisation’, some further specification of the methods of allowing for quality change will be necessary.

The basket of goods and services and weighting

In reality the distribution of purchases of goods and services, and the precise nature of some of the goods and services themselves, varies from country to country – there is no uniform basket applying to all countries. The HICPs reflect this reality by being based on the prices and expenditures which are representative in each country and not on an average ‘euro-basket’.

The weights used for computing HICPs within a country may relate to a period up to seven years prior to the current year. However, to minimise any incomparability this might cause, adjustments must be made each year for any especially large changes in expenditure patterns. It is required that the HICPs should cover all newly significant goods and services. Special rules cover situations where prices are newly introduced for goods or services that were previously free, and other rules concern the situation when markets are opened to new suppliers – which may in practice deliver price benefits for consumers.

Computation and aggregation

In order to produce comparable results, each country’s HICPs must be compiled using specified formulae (the ratio of either arithmetic or geometric means, but not the arithmetic mean of price relatives).

The MUICP is compiled as a weighted average of the countries comprising the euro-zone. The country weights are derived from national accounts data for ‘household final monetary consumption expenditure’. For the EU and EEA HICP aggregates, the euro-zone is treated as a single entity to which data for the other countries is then added (the weights again use national accounts data, converted into purchasing power standards).

In the EU as a whole, well over one million price observations are used to calculate the HICPs each month.

5. The HICPs – price stability and international comparisons

Consumer price indices have a variety of potential uses (for example, for indexing social benefits or contracts, and as inputs to other economic analyses), but the driver for this harmonisation project has been their use as the main measure for monitoring price stability in the euro-zone. The HICPs have been set up to provide the best measure for international comparisons of household inflation within the euro-zone and the EU.
In the early stages of the HICP project the most important use of the HICPs was in the assessment of the price stability and price convergence – required for entry into the Economic and Monetary Union. More recently, the focus of interest has shifted towards country-group aggregates – and in particular to the MUICP. This change of emphasis reflects the European Central Bank’s objective of price stability and the view that the HICPs are the most appropriate price measure for assessing price stability (the ECB has defined price stability as a year-on-year increase of below 2% in the MUICP, to be maintained over the medium-term). In 2003 the ECB re-affirmed its inflation target and added that ‘At the same time, the Governing Council agreed that in the pursuit of price stability it will aim to maintain inflation rates close to 2% over the medium term.’.

The focus of the HICP on measuring price stability and convergence, and on international comparisons, does not mean that a wider range of users should not or can not use them for other purposes. Depending on the precise purpose the user has in mind, the HICPs may be the best available price statistics. All users of the HICPs should note however that the HICPs are revisable – the indices may change after the first results are published.

6. The harmonisation process

Legal basis

The first milestone in the development of HICPs, in October 1995, was the adoption of a Council Regulation setting the legal basis for establishing a harmonised methodology for compiling comparable CPIs, as required by the convergence criteria in the Maastricht Treaty.

Process

The programme to develop a harmonised methodology has relied on the active participation of the EU national statistical offices’ prices experts, co-ordinated and led by Eurostat.

The HICP Working Group has been the platform for developing the project. The Working Group, attended by representatives of Eurostat, the Member States, European Economic Area and Candidate Countries, has also benefited from the participation of user representatives – from the European Central Bank, national central banks and the Commission’s Directorate-General for Economic and Financial Affairs. The European Advisory Committee on Statistical Information in the Economic and Social Spheres (CEIES) was also involved in the early years.

The opinion of the Statistical Programme Committee, the highest level EU Committee for statistical work, is sought for all HICP legislation.

Minimum standards

The approach taken towards harmonisation was firstly to adopt the framework Council Regulation, setting out the broad principles and scope of the HICP. This has been built on over the years using a series of legally binding implementing regulations, each addressing one or more specific areas of methodology. The methods specified in these Regulations can usually be applied with some flexibility, since comparability is required only with a tolerance of 0.1 percentage points in either direction at the level of the overall indices. The aim has been comparability of results rather than the application of uniform methods in all circumstances.
During the harmonisation project, the Commission has provided the Member States with financial support to help them to resource the necessary work on their part. There has also been technical support given to Candidate Countries.

7. Further technical issues for harmonisation

Priorities for harmonisation

At the outset of the HICP programme, based on the views of the Member States’ CPI experts, the following list of potentially important technical issues was drawn up. The table shows, for each topic, what was then considered to be the likely a priori importance for international comparability. The list has been a guide for much of the harmonisation work undertaken since then.

<table>
<thead>
<tr>
<th>Issues concerning the comparability of HICPs</th>
<th>Long-term effects</th>
<th>Short-term effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality adjustment</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Formula for elementary aggregates</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Age of item weights</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Missing observations / substitutions</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Basic index construction</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Editing / data preparation</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Inclusion / exclusion of item groups</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Price rebasing of weights</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Number of elementary aggregates</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Representative items vs. random sampling</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Regional differences</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Types of outlets</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Sampling error</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Discounts (when they do not vary over time)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Key to the table: 3 = very likely, 2 = likely, 1 = possible, 0 = unlikely*

The highest priority was given to the issues thought most likely to be of longer-term importance, and a wide ranging work programme was developed. The main achievements so far can be seen from the progress reported below on HICP Regulations.

8. Regulations on the HICP

This section outlines, in chronological order, the main subjects covered by the various legal Regulations implemented on the HICP since 1995. As such it identifies the main technical issues that have been addressed and so gives an idea of the progress made. Full references for each of the Regulations can be found in the annex to this guide.

In 1995, a first Council Regulation set the legal basis for the establishment of a harmonised methodology for compiling CPIs in the Member States. It also gave some basic definitions.
to be applied, and set out the first standards on issues such as initial scope of the indices, the
timetable and frequency for their production and publication. It also set out arrangements
for funding the additional work in Member States that would be necessary.

In 1996, a Commission Regulation set out a series of standards:

- the initial coverage of the indices – essentially all goods and services available on the
domestic market, but with a staged introduction for certain items and the specific
exclusion of a very few.

- the treatment of newly significant goods and services – all product types with a weight
of at least one part per thousand should be covered.

- the formulae for the elementary aggregates – forbidding the use of arithmetic means of
price relatives except where this can be shown not to affect comparability.

- minimum standards for quality adjustment – explicit quality adjustments must be made
whenever possible and the whole of a price change should never be ascribed to quality
differences without justification.

- sampling – the sample must be sufficiently representative of the products taking account
of their price variability. The target sample must be maintained.

- missing price observations – carrying forward the most recent observation for more
than two months is not permitted.

- the classification to be used (the then provisional version of the international COICOP
classification) and the level of sub-indices to be calculated (a disaggregation of the
COICOP groups).

Regulations in 1996 and 1997 set down:

- arrangements for the transmission of HICP data to Eurostat.

- minimum standards for the quality of the weights of the HICPs – the weights should
relate to a period not more than seven years before the index year. Checks should also
be made each year to see whether any important changes have taken place and selective
adjustments introduced when necessary.

In 1998 three further Regulations:

- extended the coverage of products in the HICPs to include some goods and services that
had until then been excluded (e.g. COICOP 06.2.1 ‘Medical Services’) and to extend the
coverage of some other products that had only been partly included (e.g. COICOP 04.4
‘Other services related to the dwelling’).

- specified the geographical and population coverage. The HICPs cover purchases by
households within the territory of a country, by both resident and non-resident
consumers. All sections of the population are covered in principle, including the
extremes of the income distribution and including the institutional population.
• set out the treatment of tariff prices (for example as can apply for electricity or telephone charges), giving rules for dealing with changes in tariff structures.

In 1999 Regulations covered:

• minimum standards for the treatment of insurance transactions. The price of gross insurance premiums is used as the price indicator, but weights use the so-called ‘insurance service charge’.

• a new classification framework to be used (the COICOP/HICP classification) – in line with the final version of COICOP defined by the United Nations.

• minimum standards for the recording of prices in the health, education and social protection fields. In particular the prices to be included in the HICPs are those paid by households net of any reimbursements from government, social security administrations or other non-profit institutions.

In 2000 Regulations concerned:

• rules on the timing of inclusion of purchaser prices for goods and services – prices for goods should be included in the HICP when they are observed, whereas prices for services should be entered for the month in which the consumption of the service can commence.

• standards on the treatment of price reductions – setting out when the HICPs should take account of price reductions and other inducements to purchasers.

In 2001 two further Regulations were published:

• minimum standards for the treatment of service charges proportional to transaction values – for example some of the charges that can be paid for financial and legal services.

• minimum standards for revisions procedures – for example when new or improved information is received or when there are changes to the rules governing the production of the HICPs. The HICPs are revisable – subject to some procedural rules.

Guidelines:
Beyond this extensive series of Regulations, a series of guidelines have also been agreed concerning revisions practices (now converted into a Regulation); the treatment of certain price reductions; price observations which are rejected for use in the indices and the treatment of data processing equipment.

9. Future steps on harmonisation

The considerable progress made on the harmonisation of CPIs does not mean that this work is now at an end. There are several major issues where further harmonisation will still be necessary.
The two major technical issues currently on the agenda are:

- **quality adjustment and sampling.** Eurostat and the Member States are actively following-up an Action Plan concerning this subject. The aim is to agree some more concrete best practices for a range of specific goods and services (in particular for cars, consumer durables, books and CDs, clothing, computers and telecommunications services). The Regulation which addressed this issue in 1996 was only a first step – it is not in itself a sufficient guarantee of full comparability.

- **owner-occupied housing.** The imputed prices for the consumption of the service provided by owner-occupied housing are currently excluded from the HICPs. Pilot calculations are being carried out using an approach based on the acquisition costs of housing which is new to the household sector (mainly this concerns newly-constructed dwellings). Indices will be compiled separately from the HICPs on an experimental basis before any decision is made to incorporate them within the HICPs.

Beyond these, there are some other technical issues which may be of less fundamental importance for the HICPs but which will nevertheless bear on comparability, such as the treatment of seasonal items and the level of elementary aggregation.

Some other essential tasks to be taken forward are:

- The development of more comprehensive systems to assess Member States’ compliance with the existing Regulations and other guidance. More comprehensive quality assurance of the HICP compilation process in the widest sense is needed.

- The support of the national statistical offices of Acceding and Candidate Countries, to ensure that their HICPs are also comparable where this is not already the case.

- The consolidation of the now very extensive legal framework for HICPs, and the production in due course of a methodological manual to assist both compilers and users.
Further information on HICPs


Statement by Mr. Wim Duisenberg, President of the ECB, defining the link between the European Central Bank’s monetary policy strategy and the HICPs. ECB Press conference, Frankfurt 13.10.1998.

ECB press release of 8 May 2003 concerning monetary policy strategy.

For a discussion of CPI and Cost of Living Index concepts:


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Other useful links
The Ottawa Group – international conferences on price indices

The UN Economic Commission for Europe – international discussions on price indices

The group working on the revision of the ILO manual on CPIs
ANNEX

Complete list of HICP Regulations (at March 2004)


All these legal acts can be found at official legal database of the European Union, the ‘Compendium of HICP reference documents’ also contains the texts of these Regulations.