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The Harmonised Index of Consumer Prices and the Index of Purchasing Power of the ECU / euro: How to use them in contracts

This briefing note refers to contracts with an indexation clause referring to either a consumer price index or to the "index of purchasing power of the ECU/euro". The purpose of the note is to illustrate how these indices may be used in indexed contracts. It does not refer to contracts indexed to other inflation measures, such as producer, export, or labour prices.

It should be noted that the following rules are not legally binding, but only recommendations on how these indices can be used. Which index to use depends on the specific provisions contained in a contract.

What are CPIs, HICPs, and IPPEs?

A consumer prices index (CPI) is a measure of consumer price inflation. Most EU countries produce a national CPI, based on national definitions, and the Harmonised Index of Consumer Prices (HICP), which is based on a set of harmonised rules.

The HICP was launched in order to provide a comparable measure of consumer price inflation in the EU. It provides the only official measure of consumer price inflation in the euro-zone for the purposes of monetary policy. The European Central Bank (ECB) inflation target is based on the HICP of the euro-zone. The HICP has replaced to this extent any other measure of consumer price inflation that may have been used at national level before entering Stage III of European and Monetary Union (EMU).

Inflation for euro-zone countries is defined and measured by reference to the euro. In the context of monetary policy assured by the ECB national indices have no impact.

HICP data are available since January 1995 (base year 1996 = 100). Eurostat calculates and publishes HICP aggregates for the euro-zone (Monetary Union Index of Consumer Prices or MUICP), the EU-15 (European Index of Consumer Prices or EICP), and the EEA (European Economic Area Index of Consumer Prices or EEAICP) as weighted averages of HICP from the countries concerned.

The index of purchasing power of the ECU/euro (IPPE) was formerly known as the consumer price index in ECU (the name was changed in January 1998 to avoid confusion with genuine CPI data). The aim of the IPPE is to adjust the HICP for movements in exchange rates. The index is of particular value in contracts that are meant to compensate for both changes in consumer prices as well as exchange rates. A non-harmonised IPPE (calculated using national

non-harmonised CPI) was discontinued in December 1998, although the data may still be obtained from Eurostat on request (base year 1985 or 1996 = 100).

As with the HICP, harmonised IPPE data are available since January 1995 (base year 1996 = 100). IPPE aggregates for the euro-zone and EU-15 are weighted on the same basis as the HICP aggregates. Up until December 1998 aggregates were calculated both for countries participating in the ERM (European Monetary System Exchange Rate Mechanism or EMS ERM) and countries whose currencies were part of the ECU basket.

With the introduction of the euro 1 January 1999 the method of calculation was changed because of the elimination of exchange rate movements in the euro-zone. The changes in the IPPE since December 1998 thus equal the changes in the HICP for the 11 euro-zone members.

Further information on the HICP may be obtained from Eurostat Unit B-3. Data and explanatory notes are available in the New Cronos database (theme 2 / price / hicp) and in the monthly publication "Statistics in focus, Harmonised Indices of Consumer Prices". The monthly HICP News Release may be found at the Eurostat web site just like the 'euro-indicators' page, which also contains the latest HICP inflation rates.

Further information on the IPPE may be obtained from Eurostat Unit B-4. Data and explanatory notes are available in New Cronos (theme 2 / mny / purchpo). A monthly Eurostat publication 'Money, finance, and the euro: statistics' contains the latest IPPE data. Earlier data (to December 1998) could be found in the monthly publication 'ECU-EMS Information and Central Bank Interest Rates' (now discontinued).

How to use these indices

Contracts starting in January 1999 or later may use the HICP (Harmonised Index of Consumer Prices) or the harmonised IPPE.

However, it is strongly recommended to use the HICP and not the IPPE where a contract is to be indexed by the euro-zone aggregate or one of the 11 euro-zone countries. Although there may be some difference due to rounding (the index used should be rounded to one decimal place unless the contract states otherwise) the movements in the HICP and IPPE are in fact identical from January 1999 onwards as far as the euro-zone is concerned because the exchange rates are fixed.

Contracts starting before January 1999 may refer to the HICP, the national (non-harmonised) CPI or to the IPPE (or its old equivalent) whether they refer to an individual country index or to one of the various aggregates (normally euro-zone or EU-15). The following recommendations apply:

- National (non-harmonised) CPI: Eurostat will discontinue to publish aggregate data for EU-15. The contracting parties should consider changing to the harmonised index (HICP) available from Eurostat;

- HICP (Harmonised Index of Consumer Prices): Default option if the contract is expressed in euro or a euro-zone currency. Recommended for non-euro-zone currencies if changes in exchange rates are excluded;

- IPPE non-harmonised ends in December 1998. From there on the harmonised IPPE should be used instead, adjusted by the appropriate conversion coefficient (see Annex 1 below);

- IPPE harmonised: Default option for non-euro-zone currencies if the indexing should compensate for changes in exchange rates.

NOTE CONCERNING NATIONAL EURO-ZONE INDICES: Where the contract refers to the index of a country belonging to the euro-zone, the contracting parties may consider using the euro-zone aggregate index instead. This is because the euro-zone should be treated as a single monetary entity.

NOTE CONCERNING SPECIFIC SUB-INDICES: For some contracts it may be relevant to refer to price movements of specific expenditure groups. The HICP provides a comprehensive set of sub-indices that may be considered in those cases.

NOTE CONCERNING AGGREGATE INDICES: From January 1999, the only aggregate indices available are for the euro-zone and EU-15 (there is also an EEA aggregate for HICP). The aggregates for ERM and ECU ceased to exist at the same time as these entities disappeared as a result of the Monetary Union. They were in fact rarely used for contracts. It is suggested that users of these aggregates switch to using either the euro-zone or EU-15 aggregate, whichever is considered the more appropriate.

Annex 1: Linking of index series

Linking of harmonised IPPE to non-harmonised IPPE
The non-harmonised IPPE ends in December 1998. Therefore, for contracts based on the non-harmonised IPPE, it is necessary to convert the harmonised IPPE from January 1999 so that it forms a continuous series with the non-harmonised IPPE. There are two different base years for the non-harmonised index: 1985 and 1996. Depending on the base year and country or zone, the following <u>conversion factors</u> should be used:

Country or zone		1985=100	1996=100
eu15	European Union (15)	1.390595	1.007678
eurozone	euro-zone (EUR-11)	na *	na *
be	Belgium	1.464393	1.002006
dk	Denmark	1.504892	1.01272
de	Germany	1.489447	1.00804
gr	Greece	1.581574	1.00096
es	Spain	1.463294	1.000992
fr	France	1.386521	0.999009
ie	Ireland	1.221905	1.000952
it	Italy	1.293561	1.000947
lu	Luxembourg	1.451904	1.001002
nl	Netherlands	1.448515	1.006931
at	Austria	1.547643	0.998997
pt	Portugal	1.657614	1.00388
fi	Finland	1.156219	1.000995
se	Sweden	1.240561	0.971953
uk	United Kingdom	1.206126	1.032285

* not applicable (the non-harmonised index was not calculated for the euro-zone aggregate)

Annex 1 (continued):

The linking method is as follows:

<u>Example:</u>
The non-harmonised IPPE (base year 1985) for Belgium for December 1998 is 146.0. The harmonised IPPE for Belgium for December 1998 is 99.7, and for January 1999 100.1.

To obtain the index number for January 1999, consistent with the non-harmonised index, multiply the harmonised index number by the coefficient for Belgium (1985=100) in the table:

      100.1 x 1.464393 = 146.6

<u>Note:</u>
1) The index should always be rounded to one decimal place, unless stated otherwise in the contract. However, the conversion factor should not be rounded.

2) The conversion factor may be calculated by dividing the non-harmonised index for December 1998, by the harmonised index of the same date, ie. 146.0 / 99.7 = 1.464393.

3) To revise a price in a contract, where the original price was based on the non-harmonised IPPE, the following formula may be used:

$$Pr = P_o \cdot \frac{I^{nh}(Dec98)}{I_o^{nh}} \cdot \frac{I_r^h}{I^h(Dec98)} = P_o \cdot \frac{I_r^h}{I_o^{nh}} \cdot \text{conversion factor}$$

where

Pr = revised price

Po = initial price

I_o^{nh} = non-harmonised index at the start of the contract

$I^{nh}(Dec98)$ = non-harmonised index for December 1998

$I^h(Dec98)$ = harmonised index for December 1998

I_o^h = harmonised index at the start of the contract

I_r^h = harmonised index at the time of the revision

Linking to the HICP

The above formula applies equally to the HICP as to the IPPE; in other words,

$$Pr = P_o \cdot \frac{I^{nh}(Dec98)}{I^{nh}_o} \cdot \frac{I^h_r}{I^h(Dec98)}$$

If needed, the conversion factors may be calculated as in Note 2 above.

It should be noted that this formula may be used to link any two index series. Any month can be used in the formula on the condition that the two series are available for that month and as long as the two contracting parties agree on the month to use.

Annex 2: Where to find the IPPE and the HICP in New Cronos

Go to theme 2 on the Internet site of Eurostat:

http://www.europa.eu.int/new_cronos/cgi-bin/h_refer.cgi/en/theme2

or within the European Commission (in Netscape):
- http://www.cc.cec/eurostat/eurostat.htm
- NEWCRONOS,
- Access to New Cronos 97 (new),
- theme 2 Economy and Finance (in EN),

For IPPE: go to

- mny Monetary and financial statistics,
- purchpo Evolution of purchasing power of ECU/euro,
- purchp_m monthly data,
- HTML form.

You then arrive at the table **'Extraction of a subset of the table (panel 1)'**. In the table, the following dimensions are available:

in **unit**, select:
icp85_ecu (1985=100) or *icp96 ecu* (1996=100),
Index of purchasing power of the ECU, non-harmonised for non-harmonised index until 31.12.98,
hicp96_eur Index of purchasing power of the euro, harmonised (1996 = 100)(ECU up to 31.12.98), for harmonised index.

- in **geo**, select:
eu15 European Union (15 countries), or
eurozone zone euro (EUR-11: BE, DE, ES, FR, IE, IT, LU, NL, AT, PT, FI), or
individual countries, *uk United Kingdom*, for example.

- in **time** (a=year, q=quarterly,…)', select a date or range of dates:
for example, *1998m06 to 1998m12*

- in 'select one of the following output formats', select:
HTML (table displayed by current browser)

- click on '*go to output options*'

You arrive at the second table: 'Extraction of a sub-set of a table (panel 2)' .
Proceed to extraction by clicking on *'Extract'.*

Note:

The above table in New Cronos also contains as a unit 'hicp96nr', which is the same series as hicp96 but with non-rounded figures instead of one decimal place. Unless otherwise stated, the index should be rounded to one decimal place. The non-rounded series serves to show that, for the euro-zone aggregate and 11 euro-zone countries, the changes from January 1999 onwards are identical to those for the HICP.

For HICP: go to

- price Prices and purchasing power parities,
- hicp Harmonised indices of consumer prices,
- hmind_ monthly data,
- HTML form.

The following dimensions are available:

in **itype** (type of information) select:
INX monthly index

in **hicp_idx** (all-items index) select:
00 HICP (all-items index),   or a sub-index such as
11. Hotels, cafes and restaurants   if that is relevant for the contract.

in **geo** (geopolitical entities) select:
eu15 European Union (15 countries), or
eurozone zone euro (EUR-11: BE, DE, ES, FR, IE, IT, LU, NL, AT, PT, FI), or
individual countries, *uk United Kingdom*, for example.

- in **time** (a=year, q=quarterly,…)', select a date or range of dates:
for example, *1998m06* to *1998m12*

- in 'select one of the following output formats', select:
HTML (table displayed by current browser)

- click on 'go to output options'

You arrive at the second table: 'Extraction of a sub-set of a table (panel 2)' .
Proceed to extraction by clicking on *'Extract'.*