

The [harmonised indices of consumer prices \(HICPs\)](#) are calculated according to harmonised definitions and therefore provide the best statistical basis for international comparisons of consumer price inflation from the European Union perspective.

The HICP for the euro area is the key indicator of price stability recognised by the European Central Bank and the European System of Central Banks.

This background article outlines the aims, basic concepts and computation issues as well as important methodological aspects of the HICP.

The main HICPs

The HICP data on which most attention is focused are:

- the HICPs for the euro area — an aggregate index covering the countries of the [euro area](#) ;
- the HICPs for the European Union — an aggregate index for the [euro area](#) plus the other [European Union](#) countries;
- the national HICPs — for each of the Member States of the European Union.

The HICP data for the European Economic Area ([EEA](#)) , EEA individual countries and Switzerland are also published as well as interim HICPs for some [Candidate Countries](#) . Additionally, the United States produces a proxy HICP data.

The national HICP data are calculated by the national statistical institutes, while the country-special aggregates and the European aggregates are produced by [Eurostat](#) .

The official European aggregates reflect the evolution of the euro area, the EU and the EEA. When a new Member State joins the EU (or the euro area respectively), its HICPs are chained with the aggregate index at the time of the accession.

In addition to these official European aggregates, Eurostat computes also analytical aggregates with a stable country composition over time, the aggregates 'EU-28', 'EA-19' and 'EA-18'.

Eurostat also publishes other analytical indices that complement the HICPs in determining the extent to which inflation is due to movements in free market prices: [HICP at constant tax rates](#) (HICP-CT) and HICP administered prices [HICP administered prices](#) (HICP-AP).

Aims and uses of the HICPs

The HICP was set up to provide a high-quality measure of consumer price inflation, comparable across countries. It is used:

- by the [European System of Central Banks](#) in order to measure the achievement of the price stability objective under Article 127(1) of the [Treaty on the Functioning of the European Union](#), which is of particular relevance for the definition and implementation of the monetary policy. The European Central Bank defined 'price stability' as a year-on-year increase in the HICP for the euro area of below 2%. In the pursuit of price stability, the European Central Bank aims at maintaining inflation rates below, but close to, 2% over the medium term;
- to assess price convergence with a view to a country's joining the monetary union;
- in the context of the Commission's [macroeconomic imbalance procedure](#) as established by [Regulation \(EU\) No 1176/2011](#) ¹ and for public policy in the EU.

In addition to these specific EU purposes, it may be used, like other consumer price indices, for economic analysis as well as for indexing commercial contracts, wages, social protection benefits or financial instruments.

A harmonised methodology for the HICP

The first HICP Framework Regulation was adopted in 1995 ([Regulation \(EC\) No 2494/1995](#)) providing the legal basis for the establishment of a harmonised methodology for compiling consumer price indices in the Member States and the European Economic Area. The Regulation required production and publication of the HICP data and use of a common reference period. Furthermore, it provided common coverage of consumer goods and services and a common classification. A series of specific ([legal acts](#)) was adopted to implement the HICP Framework Regulation.

In 2016, a new [Framework Regulation \(EU\) 2016/792](#) was adopted replacing the original Framework Regulation No 2494/95. The new Framework Regulation addresses issues such as compilation and comparability of the harmonised indices; requirements on data (including flash estimates for the euro area) and their frequency; sets up deadlines for data transmission to Eurostat; exchange standards and revisions. It also gives the European Commission the delegated power to adopt new implementing acts in order to ensure uniform conditions in producing comparable harmonised indices.

In addition to the [regulations](#) that the Member States and the EEA have to implement, Eurostat works with the countries to steadily improve the quality of the indices on a voluntary basis. This work consists of seeking agreement on [recommendations and guidelines](#) on the treatment of different product groups and on the use of new data sources and methods.

The HICPs that have already been published by Eurostat are revisable. The published HICPs series may be revised to correct mistakes, due to new or improved information, due to changes in the system of harmonised rules or if published as provisional.

Basic concepts — scope and coverage of the HICP

The HICP is designed to be a measure of pure price change for goods and services (generally called 'products') in order to respond to the needs of the HICP's main users. The HICP is computed as ' [Laspeyres-type price index](#) ', based on the prices of services available for purchase in the economic territory of each EU Member State for the purpose of directly satisfying consumer needs (final consumption).

The HICP is a cost of goods and services index, i.e. it measures the changing cost of a fixed basket of goods and services over time. The HICP is a 'pure price index', meaning that only changes in prices should be reflected in the HICP measure between the current and the reference period.

The HICP is primarily used as a macroeconomic indicator for monetary policy, and it is not designed to be a cost of

living index. A cost of living index would involve the comparisons of different baskets providing the same utility to households.

The national HICPs are comparable across EU countries. The comparability means that any differences across Member States at all levels of detail shall only reflect differences in price changes or expenditure patterns.

Household final monetary consumption expenditure

As far as possible, the concepts, definitions and conventions adopted in the HICP are consistent with those used in the European System of Accounts ([ESA 2010](#)). [Household final consumption expenditure](#) is one of these concepts. A subset of household final consumption expenditure is household final monetary consumption expenditure ([HFMCE](#)). HFMCE refers to the part of household final consumption expenditure that occurs in monetary transactions only.

HFMCE concerns that part of final consumption expenditure:

- by households, irrespective of their nationality or residence status;
- in monetary transactions;
- on the economic territory of the EU Member State;
- on products (goods and services) that are used for the direct satisfaction of individual needs or wants as defined by ESA 2010;
- in one or both of the time periods being compared.

Coverage of products

The product coverage of the HICP falls within the scope of [household final monetary consumption expenditure](#) . Non-consumption expenditure, such as financial transactions, transfers or purchase of financial assets, is excluded.

The products are classified in line with the European Classification of Individual Consumption According to Purpose ([ECOICOP](#)), as set out in Annex I of the [Framework Regulation \(EU\) 2016/792](#) . This classification divides the basket of products into divisions (2-digit), groups (3-digit), classes (4-digit), and sub-classes (5-digit).

Some expenditure categories are excluded either in principle (e.g. imputed rentals for housing which are non-monetary transactions), or due to operational issues related to price collection or because no harmonised method of treatment exists yet. Consequently, the following ECOICOP categories are not covered by the HICP:

- Narcotics,
- Imputed rentals for housing,
- Games of chance,
- Prostitution,
- Life insurance,
- Public insurance connected with health,
- Financial intermediation services indirectly measured.

The initial coverage of goods and services in the HICP, although fairly comprehensive, reflected for the most part what was common to the national consumer price indices. Since then, coverage was extended to virtually all possible consumer expenditure under HFMCE. In particular, health, education and social protection services are now covered, as well as insurance and financial services.

Geographic and population coverage

The new HICP Framework Regulation requires the index to be based on the prices of goods and services available for purchase on the economic territory of the EU Member State for the purposes of directly satisfying consumer needs. As regards the economic territory and the consumers concerned, a harmonised definition of the geographic and population coverage of the HICP is necessary both to achieve comparability and to avoid gaps or double counting when aggregating national HICPs.

As regards the geographic coverage, the HICP includes expenditure by foreign visitors and expenditure by individuals living in institutions, but excludes expenditure by residents whilst in a foreign country, i.e. the so-called 'domestic concept' is used. The choice of compiling the HICP according to the domestic concept responds to the role of the HICP in measuring price stability in the euro area. Price changes in the euro area are measured by aggregating price changes within the individual EU Member States. Expenditure and price changes measured within the economic territory should include those affecting foreign visitors and exclude those affecting residents whilst in a foreign country.

As regards the population coverage, household means a part of the households sector as defined in ESA 2010 paragraph 2.119 (a) and (b):

(a) individuals or groups of individuals whose principal function is consumption;

(b) persons living permanently in institutions (members of religious orders living in monasteries, long-term patients in hospitals, prisoners serving long sentences, old persons living permanently in retirement homes).

All above mentioned individual households are to be covered, irrespective of the area in which they live (i.e. both resident and non-resident households), their nationality or their position in income distribution. Business expenditure, including expenditure incurred by households for business purposes, falls outside the scope of the HICP.

Computation issues

The HICPs are calculated on the basis of the price changes and weights of products included in the [household final monetary consumption expenditure](#).

Weights for the HICP sub-indices

The weights of the HICP sub-indices are derived from the aggregate expenditure by households on any set of goods and services covered by the HICP, expressed as a proportion of the total expenditure on all goods and services within the coverage of the HICP. Member States are required to update product weights for the HICP each year.

Index formulae

The harmonised indices shall be annually chain-linked [Laspeyres-type indices](#). 'Laspeyres-type price index' means the price index that measures the average change in prices between a price reference period and a comparison period, using expenditure shares (or weights) from a period prior to the price reference period. Expenditure shares are adjusted to reflect the prices of the price reference period.

A 'Laspeyres-type index' is defined as:

$$P^{0,t} = \sum \frac{p^t}{p^0} \cdot w^{0,b}$$

The price of a product is denoted by p , the price reference period is denoted by 0, and the comparison period is denoted by t . Weights (w) are expenditure shares of a period (b) prior to the price reference period, and are adjusted to reflect the prices of the price reference period 0. Furthermore, the following other definitions also apply:

- The 'price reference period' (0) is the period with which the 'comparison period' price is compared; for monthly indices, the price reference period is December of the previous year;

- The comparison period (t) means the period for which the index is calculated; and
- The 'weight reference period' (b) means the previous calendar year.

The choice of the index formula to be used for the HICP is made at two levels:

- the level of the macro-formula: a chained index with annual links;
- the level of the micro-formula: within each level there is the issue of reference period, both for prices and for weights.

Macro index formula

The HICP is a Laspeyres-type index. Although the HICPs produced by the EU Member States differ in detail, they can all be broadly described as Laspeyres-type indices. They are price indices in which the month-to-month movements in prices are measured as an average of price indices using expenditure weights, which are an appropriate reflection of the consumption pattern of the consumer population in the weight reference period.

Since 2016, the index reference period is 2015=100. In order to obtain a common price reference period, the weights for each year are 'price updated' to December of the previous year.

Elementary aggregate indices

The HICP methodology defines an elementary aggregate by reference to the expenditure or consumption covered by the most detailed level of stratification of the HICP (below the ECOICOP 5-digit). In practice, reliable expenditure information is typically not available for weighting purposes within an elementary aggregate. As a consequence, an elementary aggregate index is a price index for an elementary aggregate comprising only price data.

Elementary aggregate indices for the HICPs are computed as the ratio of the [geometric average](#) of prices or the ratio of the [arithmetic average](#) of prices. The arithmetic mean of price relatives may only be applied in exceptional cases and where it can be shown to be comparable.

The level of elementary aggregation interacts with other features of the HICP compilation design, such as sampling procedures and the availability of weighting information. Depending on the sources of the weights used, elementary aggregation may start at different levels in different countries: in the product, geographic and outlet hierarchies.

Computation of European aggregates

The HICP aggregates for the EA, the EU and the EEA are calculated by Eurostat using the HICPs and other inputs provided by the Member States.

The European HICP aggregates are calculated as the weighted average of the national HICPs, using the weights of the countries and sub-indices concerned. The weight of a country is based on the share of the HFMCE in the total.

For all countries, price changes since December of the previous year are derived from the HICPs. Then the weighted average of these national price changes is computed, using the weights of both the country and the sub-indices concerned. The annual price change of the aggregate is then chain-linked to December of the previous year in order to provide a series with a common reference period. The euro area aggregate is compiled as a weighted average of the countries comprising the euro area.

The country weights are derived from national accounts data for the HFMCE, expressed in euro. The index is computed as an annual chain index allowing for country weights to change each year and, consequently, for adding new Member States as they join or leave the euro area or the European Union.

For the EU and EEA aggregates, the euro area is treated as a single entity to which data for the other countries is then added.

Price collection and treatment of prices

Sampling of prices

To keep the HICP relevant and up to date, new products must be included in the compilation when they achieve a significant relative importance. HICP must be based on appropriate sampling procedures, taking into account national diversity in products and prices.

The product samples must be kept up to date. In particular, missing prices should not be assumed to be equal to the last observed prices. In order to measure pure price changes, the prices included in the HICP need to be adjusted for changes in the quality of products.

To achieve a reliable and comparable representation of the HICP target universe, each country should select a target sample, which is a set of products-offers within consumption segments for which the Member State plans to observe prices in order to achieve a reliable and comparable representation of the HICP target universe. Prices should be observed for the selected products over time. Where products cease to be available on the market they should be replaced by comparable items from the same consumption segment.

There are three important sampling dimensions:

- the elementary product groups, defined as a set of products sampled in order to represent one or more consumption segments in the HICP;
- the outlet dimension;
- the regional dimension.

An elementary product group can be stratified, for instance by regions, cities or outlet types. The entity at the lowest level of stratification is referred to as an 'elementary aggregate'.

Random sampling cannot be easily done when it comes to collecting prices and in practice most EU Member States follow purposive sampling procedures for their HICPs. Sufficiently large sample sizes are necessary to ensure that comparability is achieved. HICPs which have enough elementary aggregates to represent the target universe and enough prices within each elementary aggregate to take account of the variation of price movements in the population are regarded as reliable and comparable.

Where no price observation is possible because the product offer is not available, estimated prices can be used for a maximum of two consecutive months. From the third month onwards, the product offer needs to be replaced in the sample, and appropriate quality adjustment needs to be applied.

Missing or rejected price observations

Where prices are not observed, they must be estimated by an appropriate procedure. If the target sample requires monthly observation, but observation fails due to non-availability of an item or for any other reason, estimated prices may be used for the first or second month but replacement prices shall be used from the third month. If, exceptionally, the target sample requires observations less frequently than monthly, estimated prices shall be used for those months where observed prices are not required. Estimated prices may also be used on the first occasion on which price observation fails. Where observation fails for a second consecutive occasion, replacement prices shall be used.

In general, the prices reported by the price collectors should be accepted. Rejection or adjustment of reported prices, for example the correction of an unusually high or low price change, should be carried out only by reference to specific information on the individual price observation, such as a repeat observation. If, following a validation procedure, the reported price must be rejected, the rejected price should be treated according to the rules for missing observations.

Quality adjustment

In the context of the HICP, quality change is said to occur whenever the change in specification has resulted in a significant difference in utility (or functionality) to the consumer between a new variety or model of a good or service and the good or service previously selected for pricing. A comprehensive revision of the HICP sample does not constitute a quality change.

Quality adjustment is defined as the procedure of making an allowance for a quality change by increasing or reducing the observed current or reference prices by a factor or an amount equivalent to the value of that quality change. Quality adjustments should be based on explicit estimates of the value of the quality change. Where no

estimates are available, price changes should be estimated as the whole difference between the price of the substitute and that of the item it has replaced.

Countries are required to examine their quality adjustment procedures and to avoid the so-called automatic linking method, which is equivalent to the assumption that the difference in price between two successive models is wholly attributable to a difference in quality. They should monitor the incidence of quality changes and the adjustments made in order to demonstrate their compliance with HICP standards.

Prices for new products

The HICP shall be kept relevant and up to date in terms of market developments. Neither the formulae used to calculate the index nor the frequency with which the basket of goods and services is renewed can fully address the risk of bias if the introduction of new products is used as an opportunity to increase or decrease prices.

In practice, there is usually no sharp dividing line between new models and varieties of previously existing products and genuinely new innovative products which fulfil consumer needs that could not be fulfilled before. In the HICP, new varieties of goods or services are mostly introduced as a replacement and the prices are then subject to quality adjustment, while new innovative products are introduced by addition.

Newly-significant goods and services

Newly-significant products should be incorporated in the HICP as soon as they achieve one part per thousand of the expenditure covered by the HICP in the EU Member State.

Additions are incorporated into the index either:

- as a new product (e.g. smartphone) that was not represented in the index and that would not normally be considered as a replacement because it was radically different from the existing products;
- or as a product that was previously available, but was not explicitly represented in the index because of too low consumption.

When new products are added to the HICP, the price of the new product is collected in addition to the products already observed; the weights for the relevant category of the [ECOICOP](#) are adjusted.

Time of entering prices into the HICP

The prices used in the HICP should be the prices paid by households to purchase individual goods and services in monetary transactions. The purchaser's price is the price for the products that the purchaser actually pays for products. This includes any taxes less subsidies on the products, after the deduction of discounts from standard prices or charges and excludes interest or services charges under credit arrangements and any extra charges incurred as a result of failing to pay within the period specified at the time of purchase.

Price collections for goods must take place across at least one working week at, or near, the middle of the calendar month to which the index pertains. For products that are known to show sharp irregular price changes within the same month, prices are collected over a period of more than one working week. This holds in particular for energy products and for fresh food, such as fruit and vegetables.

While prices for goods are entered into the HICP for the month in which they are observed, prices for services are entered into the HICP for the month in which the consumption of the service can commence. For example, although plane ticket prices are collected usually several months in advance, their price will be entered in the month when the flight takes place.

The treatment of price reductions

In the case of price reductions, in order to take into account the reduced price rather than the original price, HICP methodology requires price reductions to be:

- attributable to the purchase of an individual good or service;
- available to all potential consumers with no special conditions attached;
- known to the buyer at the time when he or she entered into the agreement to buy the product concerned;

- claimable at the time of purchase or within such a time period from the actual purchase that they might be expected to have a significant influence on the quantities buyers are willing to buy.

Tariff prices

Many tariff prices faced by consumers relate to products which are or have been regulated by government, or are or have been provided in a monopoly or a monopoly-like situation.

HICP sub-indices involving tariff prices are often obtained centrally or directly from suppliers such as major retail chains, or computed by the Member States based on data on tariff prices and their underlying consumption patterns.

The requirement for the HICP is not only to ensure that EU Member States measure the same price change in a comparable and reliable way, but also to give Member States the legal powers necessary to ensure that they have access to the data they need.

Insurance

The HICP covers all insurance connected with a dwelling which is typically paid by the tenant, as well as private health insurance, civil liability and travel insurance. Considered a private saving, life insurance is excluded from the HICP.

Weights and prices for insurance are measured net of claims, but a price index for gross premiums may be used as a proxy or estimate for changes in the 'prices' of net premiums.

Health, education and social protection services

The purchaser prices of goods and services in the health, education and social protection sectors used in the HICP should be the amounts paid by consumers net of reimbursements.

Reimbursements are defined as payments to households by government units, social security administrations or non-profit institutions serving households, which are made as a direct consequence of purchases of individually specified goods and services initially paid for by households. Payments of claims to households by insurance companies do not constitute reimbursements.

A specific legal standard clarifies the treatment of health care reforms in the HICP. Changes in consumer prices should not be measured simply as a result of changes in the eligibility and access rules for social health insurance. Instead, changes of the prices within one and the same scheme should be accounted for by means of adjusting the weights and chaining the price indices.

Financial services

EU Member States traditionally followed different practices in measuring the prices of financial services in their national CPIs and applied different methods for defining the weights. A harmonised methodology for the treatment of such charges was thus considered necessary.

The harmonised methodology stipulates that for service charges defined as a proportion of the transaction value, the purchaser prices should be defined as the proportion itself, multiplied by the value of a representative unit transaction in the base or reference period. The HICP should include charges expressed as a flat fee or flat rate but exclude interest payments and interest-like charges. Changes in purchaser prices which reflect changes in the rules determining them, as well as changes in the purchaser prices resulting from changes in the values of the representative unit transactions, should be shown as price changes in the HICP. The change in the values of the representative unit transactions may be estimated using the change in a price index which represents appropriately the unit transactions concerned.

Seasonal products

Seasonal products are products that are available for purchase, or purchased in small or negligible volumes, for certain periods in a typical annual cyclical pattern; and in other periods these products are generally unavailable or scarcely available. Climate, social traditions and institutional arrangements are the main causes of seasonal unavailability. Products which exhibit a seasonal pattern of sales but are nevertheless available throughout the year,

are not included in the above definition of seasonal products. Seasonality is one of the main causes of [missing price observations](#) and must be thus properly treated in the HICP.

It should also be noted that the HICPs published by Eurostat are not subject to any form of seasonal adjustment, which aims to smooth out index numbers, taking account of periods in the year when prices may tend to be higher or lower than average.

Explore further

Other articles

- [Inflation in the euro area](#) (updated bi-monthly)
- [Consumer prices – inflation](#) (updated annually)
- [HICP at constant-tax rates](#) (updated annually)

See also:

- [Household consumption by purpose](#) (updated annually)

Articles regarding Housing:

- [Housing price statistics - House price index](#)

Database

- [index of consumer prices \(HICP\)](#)

Dedicated section

- [HICP dedicated section](#)
- [HICP Information on data](#) (includes information on release and timeliness of the HICPs, data availability or special aggregates)
- [HICP Quality](#)
- Compliance Monitoring

Publications

- [HICP Publications](#)

Namely:

- Methodological publications:
 - [HICP Methodological Manual 2024](#)
 - Guidelines
- Practical guides

Methodology

- [HICP Methodology](#)

Namely:

- Metadata and national practices
- Recommendations
- HICP at constant tax rates (HICP-CT)
- HICP - administered prices (HICP-AP)
- Euro area

Legislation

- [Legislation](#)