

Republic of Croatia

A: Identification

Title of the CPI: Consumer Price Index

Organisation responsible: Croatian Bureau of Statistics (CBS)

Periodicity: Monthly

Price reference period: 2005

Index reference period: 2005

Weights reference period: 2010

Main uses of CPI: Indexation of wages, pensions and/or social security payment, indexation of rents, contracts and/or other payments, main inflation indicator used for monetary policy, deflate household expenditures in national accounts, computation of purchasing power of households, macroeconomic modelling and other analytic uses.

B: CPI Coverage

Geographical Coverage

Weights: Nation-wide

Price collection: Urban areas

Population coverage: Resident households of nationals.

Population groups excluded: Institutional households (0.05%).

Consumption expenditure includes:

- Food consumed away from home;
- Housing maintenance, minor repairs;
- Financial services (including fees for financial advice, brokerage fees);
- Non-life insurance premiums (e.g. vehicle, housing, other property, medical), gross of claims;
- Second hand goods purchased (second hand cars only);
- Licences and fees (e.g. driver's licence, hunting licence, vehicle registration)

Consumption expenditure excludes:

- Foods produced for own final consumption;
- Other goods produced for own final consumption;
- Services produced for own final consumption;

- Income in-kind receipts of goods;
- Income in-kind receipts of services;
- In-kind goods received as gifts;
- In-kind services received as gifts;
- Purchase of owner-occupied housing;
- Mortgage repayments;
- Mortgage interest;
- Major repairs, conversions and extensions to owner occupied housing;
- Purchase of gifts of goods and services given to others outside the household;
- Luxury goods;
- Interest payments (excluding mortgage interest payments);
- Life insurance premiums;
- Gambling expenditure, gross of winnings;
- Investment-related expenditures (e.g. purchase of shares/stocks);
- Occupational expenditures;
- Other business-related expenditures;
- Social transfers in-kind of goods and services from government and No-profit institutions serving households;
- Expenditures abroad

C: Concepts, definitions, classifications and weights

Definition of the CPI and its objectives: The consumer price index (CPI) measures changes in the price of goods and services acquired, used or paid over time by a reference population (private households) for consumption purposes. The CPI can be used as a measure of inflation, it can serve to guarantee the value of recurrent payments in escalator clauses for contractual relationships (for example, the CPI can serve for indexing wages and salaries in collective agreements, for indexing pensions etc.), it enables a comparison of inflation in the country with inflation in other countries as well as a comparison of price movements within a particular country between different economy sectors. It can also serve as a basis for deflating national accounts data and other statistical series and can be used for analytical purposes.

Definition of consumption expenditures: Consumption is defined in terms of payment.

Classification: COICOP (Classification of individual consumption by purpose) at 4-digit level (as from 1998)

Weights include value of consumption from own production: No

Sources of weights: Household expenditure surveys and data from state institutions.

Frequency of weight updates: Every 3-5 years

Price updating of weight reference period to the index reference period: Since January 2012, the compilation of the CPIs has been based on the weights derived from three-year average household expenditures from 2008 to the 2010 Household Budget Survey, recalculated into prices in December 2011. Every subsequent year they are partly updated according to changes in prices in a previous year.

Weights for different population groups or regions: Weights are compiled for urban areas included in price collection.

D: Sample design

Sampling methods:

Localities: Sampling with probability proportional to size (PPS)

Outlets: Judgmental sampling

Products: Cut-off sampling (the elements with the highest sales or value of other auxiliary variable are included into the sample)

Frequency of sample updates:

Localities: Annual

Outlets: Annual

Products: Annual

If sample updates are irregular indicate when last updates were introduced: Outlet sample is updated annually (in December), and major revision takes place every five years, simultaneously with the construction of a new weighting structure. From 2012 sample will be updated annually.

Criteria used for determining the optimal sample sizes and the coverage of localities, outlets, items and variety samples: The main criteria used for determining the optimal sample size for localities is the largest consumption as well as the number of population.

For outlets and items the criteria used in determining the optimal sample size is the largest sales.

Criteria used for selecting an item variety in the outlet in case of loose specifications provided by the central office: For products whose prices are collected locally, the CBS supplies loose specifications to price collectors and collectors are initially free to select particular products for pricing in a particular outlet. The selection of a particular product offer is done according to the criteria of which product is the most sold in the outlet. In order to make sure that the same products are then re-priced each month, as well as to monitor which products are selected for pricing, the price collectors should also record a pre-defined set of additional product characteristics.

E: Data Collection

Approximate number of localities, outlets and price observations: Localities: 9, Outlets: 5,500, Price observations: 34,900

Frequency with which prices are collected: Prices are collected monthly, except for motor car fuels, for which prices are collected weekly.

Reference period for data collection: For the purposes of the consumer price index, prices are recorded on the following days of the month: for agricultural products sold in market places, on the third Friday in a month; for food products, from 18th to 23rd in a month; for industrial non-food products, from 13th to 20th in a month; for services, from 16th to 18th in a month; fuels for motor cars, weekly.

Methods of Price Collection

- Personal data collection for all prices which are collected locally – food and non-alcoholic beverages, alcoholic beverages and tobacco, clothing and footwear, furnishings, household equipment and routine maintenance of the house, passenger transport by bus, passenger transport in the city, goods and services for recreation and culture, catering services, other goods and services for personal consumption.
- Mailed questionnaires for some prices which are collected centrally - state monopolies and nationally homogeneous prices.
- Telephone interviews for some centrally collected prices – for health services, legal services, veterinary services, insurance services, fees for private schools, verification of signatures by a notary public etc.)
- Internet for some centrally collected prices – for telecommunications services, electricity, water and sewerage, postal services, banking services; price lists for cars and scooters, fuels (petrol, diesel, gas), fares paid in passenger transport by sea, tolls for motorways, prices of holiday packages or tours (national parks).
- Official tariffs for some centrally collected prices – for electricity, fuels (petrol, diesel, gas), pharmaceutical products, water and sewerage, refuse collection, cigarettes, health services; tolls for motorways, TV fee, administrative fees for passport, universities fees, costs of road worthiness tests.

Treatment of:

Discounts and sales prices: They are used in the calculation of the index.

Black market prices: Not collected.

Second hand purchases: Included for second-hand motor cars only.

Missing or faulty prices: When products are temporarily missing, extrapolation is implemented by using the change of the other prices for the same item.

Period for allowing imputed missing prices: Maximum two months. If prices are unavailable for more than two subsequent months, a replacement product must be selected.

Disappearance of a given type or quality from the market: When the product is permanently missing (non-seasonal items), a replacement product must be selected and price

collectors select similar and comparable items, with (where possible) the same quality in the same or similar outlet. The replacement product's price must be imputed in the price reference period (December of the previous year).

Quality differences: The choice of an appropriate method depends on the availability of appropriate data as well as on the structure of products within an elementary aggregate: a) Characteristics of the product selected as a replacement are directly comparable to those of the replaced product, so the price collector simply substitutes the price of the replacement for the price of the replaced product (direct comparison approach). b) The extent of differences in characteristics between the replacement and the old product is so great that it is not possible to estimate the quality difference (a wholly new product). The price of the new product is then imputed in the price reference period. This is done by extrapolation (it is implicitly assumed that the price movements of the new product during the period in which its price was not recorded correspond to the price movements of other products in the same elementary aggregate).

Appearance of new items: Newly significant goods and services are introduced annually (in December). When the available data show that a new product, which is responsible for a significant share in the expenditure structure of the reference population, has appeared on the market, the following procedures are applied: i) the appearance of a new product within an existing elementary aggregate. It is necessary to determine whether a completely new product has entered the market or the new product is a replacement for an existing one. If the latter is the case, the new product is included in the calculation of the elementary aggregate index, using appropriate methods for the estimation of quality differences. In the former case, the price of the new product in the price reference period is imputed. ii) The appearance of a new product with no pre-assigned weight. Since the availability of evidence for the rising significance of expenditure on a new product in the total expenditure of the reference population will coincide with the availability of new weighting information, a weight is assigned to the new product at the time of re-weighting.

Treatment of seasonal items and seasonality

Items that have a seasonal character and their treatment: For the treatment of seasonal products All-seasonal estimation (ASE) method is used. In the Croatian CPI seasonal products are fruits, vegetables, clothing and footwear and accommodation in camps. ASE method is a method where in the first month of the out-of-season period, the estimated price is equal to a typical price observed in the previous in-season period, and from the second month, the estimated price is equal to the estimated price for the preceding month, adjusted by the change in observed prices on average over all available products in the same COICOP class, group or on more detailed level (elementary aggregate).

Seasonal food items: Seasonal food items are included in the CPI using fixed weights approach: the weights are kept constant over the year, while prices of out-of season products are estimated or imputed.

Seasonal Clothing: Seasonal clothing items are included in the CPI using fixed weights approach: the weights are kept constant over the year, while prices of out-of season products are estimated or imputed.

Method to impute the price of seasonal items: Prices are imputed by using price development of in-season products.

Treatment of housing

Treatment of owner-occupied housing: Owner occupied housing is not included in the CPI.

F: Computation

Formula used for calculation of elementary indices: The ratio of geometric mean prices (Jevons index) (Direct form)

Formula to aggregate elementary indices to higher level indices: The modified Laspeyres formula given by

$$I = \frac{\sum \frac{P_n}{P_0} \times W_0}{\sum W_0}$$

where

P_n = price in the current period (month)

P_0 = price in the base period

W_0 = relative structure of the sales value in the base period

I = Index

Formula of aggregating regional/population group indices into national index:

$$I_t = \frac{\sum_{i=1}^i w_{t,i} \times I_t}{\sum_{i=1}^n w_i}$$

Aggregate elementary indices on the cities level are calculated as weighted arithmetic mean of corresponding elementary indices and cities weights.

G: Editing and validation procedures

Control procedures used to ensure the quality of data collected: Collected prices are first checked and verified by the CBS price experts prior and during the process of data entering into PC application, which also performs an automatic validation. Each price change must be explained with the special code system defined in the program. After that invalidated process, prices are additionally checked by CBS price experts who personally contact the price collectors in country statistical offices.

Control procedures used to ensure the quality of data processed: The Price Division specialists analyze first results and indices to ensure that movements are consistent with information about products and retail market movements.

H: Documentation and dissemination

Timeliness of dissemination of the CPI data: 2 weeks after the end of the reference month, with an exception for December and January data which are published no later than 3 weeks after the end of the reference month.

Level of detailed CPI published

Paper publication: Class-level (100 classes)

Online: Class-level (100 classes)

Restricted Access: Basic items, Average prices

Separate indices published for specific population groups: No

Type of products for which average prices are calculated and disseminated: Average prices are calculated for all products but used only for internal purposes and made available upon specific user's requests.

Documentation

Publications and websites where indices can be found: CBS web site: <http://www.dzs.hr> (the First Release: Consumer Price Indices, n.r. 13.1.1) Croatia's National Summary Data Page. The indices are also published in the following publications (available in "pdf" form on the official CBS web site): Monthly Statistical Report, Statistical Information, and Annual Statistical Report: Prices, Statistical Yearbook, Statistical Information

Publications and websites where methodological information can be found: Short explanation of the CPI methodology is given in every issue of the "First release: Consumer Price Indices". More thorough methodological descriptions and definitions can be found in every issue of the Monthly Statistical Report, annual Statistical Report: Prices as well as in the Statistical Yearbook. The methodological explanations are available in both Croatian and English in all mentioned publications at <http://www.dzs.hr>.

I: Other Information

Reported by the country in 2012.