Italy

A: Identification

Title of the CPI: Consumer Price Index for the whole nation (NIC)

Organisation responsible: ISTAT. At territorial level, ISTAT coordinates and supervises data collection carried out by Municipal Statistics Offices (MOSs).

Periodicity: Monthly

Price reference period: December 2011 = 100

Index reference period: 2010 = 100

Weights reference period: 2011

Main uses of CPI: Main inflation indicator used for monetary policy, deflates household expenditures in national accounts, macroeconomic modelling and other analytic uses.

B: CPI Coverage

Geographical Coverage

Weights: Nation-wide

Price collection: Urban areas

Population coverage: Resident households of nationals, resident households of foreigners in the country and temporary visitors.

Consumption expenditure includes:

- Food consumed away from home;
- Housing maintenance, minor repairs;
- Purchase of gifts of goods and services given to others outside the household;
- Luxury goods;
- Financial services (including fees for financial advice, brokerage fees);
- Non-life insurance premiums (e.g. vehicle, housing, other property, medical), gross of claims;
- Licences and fees (e.g. driver's licence, hunting licence, vehicle registration);
- Gambling expenditure, gross of winnings

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;
- Second hand goods purchased;
- Interest payments (excluding mortgage interest payments);
- Life insurance premiums;
- 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 for the whole nation (NIC) is based on the entire present population's consumption and is used to measure the change of prices of goods and services for household consumption.

Definition of consumption expenditures: Household final consumption (gross prices)

Classification: COICOP

Weights include value of consumption from own production: No

Sources of weights: Household expenditure surveys, national accounts, Bank of Italy; market research centres such as ISMEA and A.C. Nielsen-Italia for food and grocery, Sita-Ricerca for clothing and footwear; professional associations like ANIA for insurance services, FIEG for newspapers and magazines, ANIE for household appliances, FEDERLEGNo for furniture, Unione Petrolifera for fuels, AIFA for pharmaceutical products, etc.

Frequency of weight updates: Annual

Price updating of weight reference period to the index reference period: At the first stage, the weight computation foresees the estimation at national level of expenditure corresponding to single consumption segment which define consumer price index observation field. For this goal, household final monetary consumption expenditure (for 56 functions), referred to the year $t − 2$ and provided by national accounts, are used. The 56 expenditure functions are disaggregated and linked to lower levels of COICOP classification, using, in a selective manner, additional information derived from household budget survey (referred to year $t − 2$), other ISTAT surveys and external sources. In the source hierarchy, national accounts data have a basic part, while the information derived from other sources have an auxiliary function that is to permit the sharing of aggregate data among each strata of

consumption universe. In the next stage, the expenditure data of each consumption segment are shared among basket products ("representative items"), included according to representativeness criteria. The expenditure data of each "representative items" (referred to year $t - 2$) are price up-dated to December $t - 1$ (the computation index base), using the price change data, registered by corresponding elementary consumer price indices. The price up-dated expenditure values are used to estimate weighting coefficients of basket goods and services, as the ratio between expenditure for acquisition of each "representative item" and the total amount of household final monetary consumption expenditures.

Weights for different population groups or regions: Weights for regions and provincial capitals are compiled.

D: Sample design

Sampling methods:

Localities: Law No 26 November 1975, n. 621 (Changes to Royal Decree – Law No 222, 20 February 1927, converted in the Law No 2421, 18 December 1927) which establishes the municipalities where consumer price survey has to be carried out (province chief town or municipalities with more than 30,000 inhabitants and with a suitable statistics office).

Outlets: 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

Criteria used for determining the optimal sample sizes and the coverage of localities, outlets, items and variety samples: The outlet selection is carried out directly by MOSs, according to rules established by ISTAT. It takes into account : i) the relative weight of products in the basket; ii) variability of prices; iii) availability of products included in the basket; iv) territory and demographic size of the municipality; v) type and distribution of outlets on municipal territory; vi) turnover shares of large, small scale and traditional distribution; and vii) popularity with consumers.

For dwelling selection, a rental survey is carried out directly by MOSs taking into account the dwelling size, location, and ownership type (private or public).

The item selection, in the first stage, is carried out by ISTAT using several sources: National accounts and household budget survey data; several outside sources and information from MOSs. In the second stage, the product-offers selection is made by price collectors in the field, in accordance with the 'the most sold' principle. Price collection covers both tightly and loosely specified products. Loose specifications are used if the prices within a product group are considered sufficiently homogenous.

Criteria used for selecting an item variety in the outlet in case of loose specifications provided by the central office: The selection is made by price collectors in the field, in accordance with the 'the most sold' principle.

E: Data Collection

Approximate number of localities, outlets and price observations: Localities: 84, Outlets: 42,000, Price observations: 591,000

Frequency with which prices are collected: Prices are bimonthly collected for fresh fish, fresh fruits, fresh vegetables, gas in cylinders, heating oil, fuel for personal transport, passenger transport by railway, passenger transport by air, passenger transport by sea and inland waterway, magazines and periodicals; for the others goods and services, the price collection is monthly.

Reference period for data collection: For fresh fish, fresh fruits, fresh vegetables, gas in cylinders, heating oil, fuel for personal transport, prices are collected the 1st and the 10th working day of the month (to calculate the average price). For each product whose prices are collected monthly, the collection is evenly shared in the full period which starts from the 1st and the 21st day of the reference month. For some services, such as water supply, gas for domestic use and urban transports or contributions for NHS related to medical and paramedical services, prices are collected on the 15th of the reference month; and for the local daily newspaper, prices are collected on the 9th and the 15th working day (to calculate the week average price).

Methods of Price Collection

- Personal data collection for the products whose prices are collected locally by MOSs and monthly sent to ISTAT (food, clothing and footwear, actual rental for housing, furnishing and household equipment; medical services; education; insurance, etc.). Local price collection operations are carried out entirely using ultra mobile PCs or tablet PCs.

- Scanner data in some large cities, principally for food and grocery.

- Internet for the majority of products observed directly by ISTAT (tobacco; pharmaceutical products; vehicles; some transport services; postal services; telephone equipment and services; audio-visual, photographic and information processing equipment; newspapers, books; package holidays and some accommodation services, etc.)

- Official tariffs for water supply, refuse collection, sewerage collection, electricity and gas.

Treatment of:

Discounts and sales prices: They are not taken.

Black market prices: Not collected.

Second hand purchases: Not included.

Missing or faulty prices: Carrying forward the previous price is used for missing observation (but not for seasonal products/items). For fuel, personal transport and heating oil, missing prices are imputed using changes of week average prices provided by Ministry of Economic Development. For "in season" seasonal products of fresh fruits and fresh vegetables, missing prices are imputed using observed price changes of only "in season" seasonal products. For "not in season" products of fresh fruits and fresh vegetables, missing prices are imputed using observed price changes of "not in season" products. For "in season" seasonal products of clothing and footwear, missing prices are imputed using observed price changes of only "in season" seasonal products. For "not in season" products of clothing and footwear, missing prices are imputed by carrying forward previous prices. For most of the centrally collected prices, usually, in case of missing observations, the procedure used for estimation consists of applying the month to month rate change of observed prices in their particular stratum.

Period for allowing imputed missing prices: ISTAT carries forward the previous price normally for only 2 months. Replacement prices are used within the third month. Responsible of item replacement is the price collector who, inside the same outlet, selects the new item in accordance with the 'the most sold' principle. If a missing price is caused by closing outlet, the new outlet (with similar characteristics of the previous one) is replaced and the selection is made by MOSs.

Quality differences: A case-by-case approach is adopted. Quality adjustment methods adopted are: i) direct comparison (in some cases for clothing and footwear; fresh food; products for which best seller approach is adopted – electronic games, DVD movies; most of the products whose price are centrally collect – direct comparison inside their particular stratum); ii) bridge overlap and combination of bridge overlap and class mean imputation (for clothing and footwear); iii) overlap (for the other products whose prices are collected locally). Explicit quality adjustments are made where possible.

Appearance of new items: Newly significant goods and services are usually identified using information provided by the MOS and a variety of ISTAT sources and ad-hoc sources. In principle, the introduction of new items is carried out on the occasion of the annual re-basement of the index.

Treatment of seasonal items and seasonality

Items that have a seasonal character and their treatment: Fresh fruits, fresh vegetables, clothing and footwear. Seasonal items are treated according to minimum standards established by the Commission Regulation No 330/2009: as required, for non-available prices in out-of-season months, counter-seasonal estimation is adopted; only if information for these estimation methods is not available, all-seasonal estimation is used.

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

Types of dwellings covered by the rent data: Types of dwellings covered: i) dwellings representative of different kinds shared between centre and suburbs; ii) new and existing dwellings; iii) all cadastral categories; iv) dwelling representative of different kinds of ownership (private and public). Method: survey carried out by MOSs. Frequency for data collection of rents is monthly.

F: Computation

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

Formula to aggregate elementary indices to higher level indices: For the aggregation of elementary indices into higher level indices Laspeyre's formula is used.

Formula of aggregating regional/population group indices into national index: Starting from elementary index of representative item h at provincial capital level, the regional index of the representative item h, in the month m of year a, is calculated as follows:

$$_R I_h^{m,a} = \sum_{i \in R} \left(\frac{_i \pi}{\sum_{i \in R} {_i \pi}} \right) \cdot {_i I_h^{m,a}}$$

where $\dfrac{_i \pi}{\sum_{i \in R} {_i \pi}}$ is equal to the share of resident population in the provincial capital i of region R on the total resident population of the region; then the regional indices of the representative item h are aggregated to compile the national index, in the following way:

$$I_h^{m,a} = \sum_{R=1}^{20} \left(\frac{_R \pi_h}{\sum_{R=1}^{20} {_R \pi_h}} \right) \cdot {_R I_h^{m,a}}$$

Where $\dfrac{_R \pi_h}{\sum_{R=1}^{20} {_R \pi_h}}$ is equal to the share of household consumption expenditure for the representative item h in the region R on the national household consumption expenditure for the same representative item.

The national overall index is calculated as weighting average of national representative item indices:

$$I^{m,a} = \sum_{h=1}^{H} \left(\frac{\pi_h}{\sum_{h=1}^{H} \pi_h} \right) \cdot I_h^{m,a}$$

where $\dfrac{\pi_h}{\sum_{h=1}^{H} \pi_h}$ corresponds to the share of household consumption for the representative item h on the overall household consumption expenditure.

Monthly and annual average prices: Monthly average prices are calculated using the same aggregation and weighting procedures used for the national indices. For the average price calculation, only collected data are used (imputed prices are excluded).

Seasonally adjusted indices: No

Software used for calculating the CPI: PL\SQL procedures on DB Oracle

G: Editing and validation procedures

Control procedures used to ensure the quality of data collected: Price collection is completely computerised i.e. conducted entirely using ultra-mobile PCs (UMPCs) or tablet PCs with UMTS cards, which are distributed to all data collectors of MOS involved in the survey. Data collectors load data directly, every day just after collection, into the centralized database. They perform checks and editing of micro data directly in the database, with no confusing data redundancy. A continuous, on-line, real-time system for monitoring price collection activities and the quality of the data collected has been implemented. Monitoring activity is carried out using different indicators regarding outlet selection, price collection schedule and quality of collected data (temporary non-collection rate by different reasons – outlet closing, missing items etc.; replacement item rate, temporary price reduction rate taken into account for the HICP index). At first stage, data quality is monitored by MOSs. At a second stage, ISTAT carries out a complete check on the entire data-set collected both by MOSs and at central level. For some group of good and services, such as energy, outside sources are used to monitor data.

Control procedures used to ensure the quality of data processed: Also in this case, the monitoring and validation activity is carried out both at territorial level by MOSs and by ISTAT. As required by law, in every municipality, index data, before to being published, are examined and validated by Municipal Commissions constituted by experts of economical bodies (Trade Unions, Trade Associations etc.). ISTAT carries out data validation, analyzing different indicators and using outside sources for some group of goods and services.

H: Documentation and dissemination

Timeliness of dissemination of the CPI data: Provisional CPI data are usually published on the last working day of the reference month. The final data are published monthly according to the pre-announced release calendar (http://www.istat.it/en/files/2011/03/calendario2012-en.pdf), in general between 13 and 15 days after the end of the reference month.

Level of detailed CPI published

Paper publication: All items CPI, Division-level (12 Divisions)

Online: All items CPI, Division-level (12 Divisions), Group-level app. 40 groups, Class-level (100 classes)

Restricted Access: Basic items

Separate indices published for specific population groups: Consumer Price Index for Blue- and White-collar Worker households (FOI)

Type of products for which average prices are calculated and disseminated: Monthly average prices at provincial capital level are calculated for food products, household maintenance products, products for personal care, some services (medical, catering, for personal care, in respect of personal transport equipment, transport). These data are produced by ISTAT and disseminated in "Prices and Tariffs Observatory" of the Ministry of Economic Development. National average prices are calculated for a list of products defined by Eurostat. They are provided to Eurostat which disseminates them.

Documentation

Publications and websites where indices can be found: Press release "Consumer Prices" by ISTAT is available at http:///www.dati.istat.it

Publications and websites where methodological information can be found: CPI: general aspect and survey methodology, December 2011 (only in Italian), is available on ISTAT web site http://www.istat.it/it/files/2011/07/come_si_rilevano_i_prezzi_al_consumo_2011_b2.pdf Information note 2012 Consumer Price Indices – Basket and weight structure updating, February 2012, is available on ISTAT web site
http://www.istat.it/en/files/2011/08/Basket2012.pdf

I: Other Information

Reported by the country in 2012.