31 July 2018

Consumer prices: provisional data

July 2018

In July 2018, according to preliminary estimates, the Italian consumer price index for the whole nation (NIC) increased by 0.3% on monthly basis and by 1.5% compared with July 2017 (+1.3% in June 2018).

The acceleration of the growth on annual basis of All items index was mainly due to prices of Regulated energy products (from -1.2% to +5.3%). The slowdown of prices of Services related to transport (from +2.9% of the previous month to +1.7%) mitigated this acceleration.

Inflation excluding energy and unprocessed food (core inflation) was +0.7% and inflation excluding energy was +0.9% (both in deceleration respectively from +0.8% and +1.0%).

The increase on monthly basis of All items index was mainly due to the rises of prices of Regulated energy products (+5.9%) and, to a lesser extent, of Services related to recreation, including repair and personal care (+0.9%) only partially offset by the decrease of prices of Unprocessed food (-1.8%).

The annual rate of change of prices of Goods was +2.1% (up from +1.5% in June) and that one of prices of Services was +0.9% (from +1.0% in the previous month). Therefore the inflationary gap between Services and Goods was still negative and equal to -1.2 percentage points (-0.5 in June).

Prices of Grocery and unprocessed food decreased by 0.5% on monthly basis and increased by 2.3% on annual basis (up from +2.2% in the previous month).

In July 2018, according to preliminary estimates, the Italian harmonised index of consumer prices (HICP) decreased by 1.4% compared with the previous month and increased by 1.9% with respect to July 2017 (from +1.4% in June). The decrease on monthly basis was mainly due to the beginning of the summer sales of Clothing and footwear (-19.1% compared with June 2018), which are not taken into account in the national index NIC.

The wider acceleration of HICP compared to that of NIC, was due to Clothing and footwear prices which grew by 3.5% on annual basis (from + 0.1% in June). The main reason of this dynamics was the postponed start of the summer sales (July 7 in 2018 in almost all regions, July 1 in 2017), so that the decrease on monthly basis of prices of Clothing and footwear this year was less wide (-19.1%) than in July of last year (-21.7%), determining the acceleration that affected the general index.

ITALIAN CONSUMER PRICE INDICES. July 2018 (base 2015=100)

	INDICES July 2018	Jul-18 / Jun-18	Jul-18 / Jul-17
Italian consumer price index for the whole nation (NIC)	102.7	0.3	1.5
Italian harmonized index of consumer prices (HICP)	102.0	-1.4	1.9

TABLE 1. ITALIAN CONSUMER PRICE INDEX FOR THE WHOLE NATION (NIC), BY ECOICOP DIVISION. July 2018, weights, indices and percentage changes (base 2015=100)

EXPENDITURE DIVISIONS	Weights	Indices	Jul-18 / Jun-18	Jul-18 / Jul-17	Jun-18 / Jun-17	Jul-17 / Jun-17
Food and non-alcoholic beverages	165,103	103.2	-0.7	2.5	2.4	-0.8
Alcoholic beverages, tobacco	30,965	105.9	0.3	3.8	3.5	0.0
Clothing and footwear	72,048	100.9	-0.1	0.1	0.2	0.0
Housing, water, electricity, gas and other fuels	107,989	102.5	2.3	2.5	0.0	-0.2
Furnishings, household equipment and routine household maintenance	71,390	100.5	0.0	0.2	0.2	0.0
Health	84,906	100.6	0.0	-0.1	0.0	0.1
Transport	146,713	106.3	0.1	3.9	4.2	0.4
Communication	25,318	94.3	0.2	-1.9	-3.0	-0.9
Recreation and culture	77,042	102.1	1.0	0.3	0.8	1.5
Education	9,793	83.9	0.0	-16.1	-16.1	0.0
Restaurants and hotels	117,391	105.1	0.5	1.2	1.0	0.3
Miscellaneous goods and services	91,342	103.7	0.3	2.6	2.3	0.0
ALL ITEMS	**1,000,000**	**102.7**	**0.3**	**1.5**	**1.3**	**0.1**

TABLE 2. ITALIAN CONSUMER PRICE INDEX FOR THE WHOLE NATION (NIC), BY TYPES OF PRODUCT. July 2018, weights, indices and percentage changes (base 2015=100)

SPECIAL AGGREGATES	Weights	Indices	Jul-18 / Jun-18	Jul-18 / Jul-17	Jun-18 / Jun-17	Jul-17 / Jun-17
Food including alcohol:	175,233	103.3	-0.6	2.6	2.5	-0.7
Processed food including alcohol	105,414	102.6	0.4	2.0	1.7	0.1
Unprocessed food	69,819	104.3	-1.8	3.6	3.4	-1.9
Energy:	88,748	104.8	2.4	7.8	4.2	-1.0
Regulated energy products	43,394	102.6	5.9	5.3	-1.2	-0.7
Non-regulated energy products	45,354	107.3	-0.6	10.4	9.4	-1.4
Tobacco	20,835	106.4	0.0	3.4	3.4	0.0
Non energy industrial goods:	255,011	100.2	0.0	-0.2	-0.2	0.0
Durable goods	88,207	99.6	-0.2	-0.6	-0.4	0.0
Non-durable goods	64,568	100.1	0.1	-0.2	-0.3	0.0
Semi-durable goods	102,236	100.6	-0.1	0.0	0.2	0.1
Goods	**539,827**	**102.1**	**0.2**	**2.1**	**1.5**	**-0.4**
Services related to housing	74,769	101.8	0.0	0.4	0.4	0.0
Services related to communication	19,222	97.7	0.6	0.4	-1.8	-1.6
Services related to recreation, including repair and personal care	178,091	104.6	0.9	1.2	1.1	0.8
Services related to transport	77,036	107.6	0.5	1.7	2.9	1.6
Services - miscellaneous	111,055	101.5	0.1	0.4	0.4	0.1
Services	**460,173**	**103.5**	**0.4**	**0.9**	**1.0**	**0.5**
ALL ITEMS	**1,000,000**	**102.7**	**0.3**	**1.5**	**1.3**	**0.1**
All items excluding energy and unprocessed food (Core inflation)	841,433	102.4	0.2	0.7	0.8	0.3
All items excluding energy, food, alcohol and tobacco	715,184	102.3	0.3	0.5	0.5	0.3
All items excluding energy	911,252	102.5	0.1	0.9	1.0	0.2
Grocery and unprocessed food	197,832	102.8	-0.5	2.3	2.2	-0.6

TABLE 3. ITALIAN HARMONIZED CONSUMER PRICE INDEX (HICP), BY ECOICOP DIVISION. July 2018, weights, indices and percentage changes (base 2015=100)

EXPENDITURE DIVISIONS	Weights	Indices	Jul-18 / Jun-18	Jul-18 / Jul-17	Jun-18 / Jun-17	Jul-17 / Jun-17
Food and non-alcoholic beverages	175,418	103.2	-0.7	2.4	2.3	-0.8
Alcoholic beverages, tobacco	32,861	105.8	0.3	3.8	3.5	0.0
Clothing and footwear	83,493	89.1	-19.1	3.5	0.1	-21.7
Housing, water, electricity, gas and other fuels	114,604	102.5	2.2	2.5	0.0	-0.3
Furnishings, household equipment and routine household maintenance	75,998	100.2	-0.5	0.3	0.2	-0.6
Health	42,429	102.3	-0.1	0.4	0.5	0.0
Transport	155,569	106.3	0.1	3.9	4.2	0.4
Communication	26,871	94.4	0.3	-1.8	-3.1	-1.0
Recreation and culture	60,523	102.7	1.2	0.4	0.9	1.7
Education	10,397	83.8	0.0	-16.1	-16.2	-0.1
Restaurants and hotels	124,574	105.2	0.6	1.2	0.9	0.3
Miscellaneous goods and services	97,263	103.3	-0.5	2.6	2.3	-0.8
ALL ITEMS	**1,000,000**	**102.0**	**-1.4**	**1.9**	**1.4**	**-1.9**

TABLE 4. ITALIAN HARMONIZED CONSUMER PRICE INDEX (HICP), BY SPECIAL AGGREGATES. July 2018, weights, indices and percentage changes (base 2015=100)

SPECIAL AGGREGATES	Weights	Indices	Jul-18 / Jun-18	Jul-18 / Jul-17	Jun-18 / Jun-17	Jul-17 / Jun-17
Food, alcohol and tobacco:	208,279	103.6	-0.6	2.6	2.6	-0.6
Processed food including alcohol	116,022	103.2	0.2	2.2	2.1	0.1
Unprocessed food	92,257	104.2	-1.5	3.2	3.2	-1.5
Energy	94,199	104.9	2.4	7.9	4.2	-1.1
Non-energy industrial goods	264,658	97.3	-6.5	1.4	0.3	-7.5
Services	432,864	103.5	0.5	0.8	0.9	0.6
ALL ITEMS	**1,000,000**	**102.0**	**-1.4**	**1.9**	**1.4**	**-1.9**
All items excluding energy and unprocessed food (*Core inflation*)	813,544	101.5	-1.7	1.2	0.8	-2.1
All items excluding energy, food, alcohol and tobacco	697,522	101.2	-2.1	1.0	0.7	-2.4
All items excluding energy	905,801	101.7	-1.8	1.3	1.1	-2.0

For more details please refer to the Italian version

Date of previous release: 17 July 2018
Date of next release: 13 August 2018

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Consumer Price Indices

Methodological note

Introduction and regulatory framework

The consumer price indices measure the variations over time of the prices of a collection of products (basket) that represents all the goods and services intended for the final household consumption, obtainable on the market through monetary transactions (free transactions, own-consumptions, rents, etc. are excluded).

The system of consumer price indices consists of two different indicators[1]:

- **the Consumer Price Index for the whole nation (NIC)** is used as a measure of headline inflation;
- **the Harmonized index** of Consumer Prices (HICP), calculated according to the EU regulations in force, is used for the comparison of inflation between Member States and as a key indicator for the monetary policy of the European Central Bank. In compliance with the European legislation, and consistently with the standards provided by the regulations, the HICP index is also processed in the "constant taxation" version (HICP-CT).

The HICP index is calculated and issued on the reference base of 2015=100 (Regulation (EU) 2016/792 of the European Parliament and of the Council). The same reference year is also used for the NIC index.

The survey of consumer prices indices is governed by different laws and regulations that define the actors involved (Italian National Institute of Statistcs - Istat and Municipalities) and their relative functions:

- the Regio Decreto Legge n. 222/1927, that gives Istat the task, of promoting the formation of price indices in all municipalities with more than 100,000 inhabitants and in others municipalities chosen among the provincial capitals or those with more than 50,000 inhabitants that have adequate statistics offices;
- **D.lgs n. 322/1989**, that governs the survey, processing, analysis and dissemination activities, and archiving statistical data performed by public authorities and bodies of statistical information, for the purpose of creating the single direction, organizational consistency and the streamlining of flows at a central and local level;
- the Regulation (EU) 2016/792, concerning the harmonized index of Consumer Prices and the House Price index (HPI).

Survey coverage and organization

Data contributing to the calculation of monthly consumer price indices are collected using different sources: the *local survey*, carried out by municipal statistics offices, under Istat supervision and coordination; the *central survey* carried out directly by Istat or through different data providers; the *scanner data*; the *administrative sources*.

In 2018, the weight of the products exclusively collected by the local survey is equal to 60.7% (data referred to NIC index) despite of those products which are collected by central survey, whose weight is 23.9%. In addition, for grocery products excluding fresh food (which account for 11.5% of the basket in terms of weight), prices are collected through both scanner data - with regard to the distribution channel of hypermarkets and supermarkets (for 55.4%) - and local survey - with regard to other types of points of sale (for the remaining 44.6%).

Finally, an administrative source is used: the database of fuel prices of Ministry of Economic Development whose weight is equal to 3.9%.

In 2018 the geographical basis of the survey is made up of 79 municipalities which contribute to the indices calculation of all the product aggregates included in the basket - and of other 17 municipalities[2]

[1] A third indicator, the "household of workers and employees consumer price index" (FOI), which refers to the consumption of the whole households headed by an employed worker, is also calculated (as a satellite index of NIC) and released by Istat on monthly basis;

[2] Asti, Chieti, Fermo, Foggia, Frosinone, Isernia, L'Aquila, Matera, Monza, Prato, Ragusa, Salerno, Savona, Termoli, Vasto, Verbania and Vibo Valentia.

participating in the survey for a subset of products which includes local tariffs (water supply, solid waste, sewerage collection, gas for domestic use, urban transport, taxi, car transfer ownership, canteens in schools, public day nursery, etc.) and some local services (sport events, cinemas, theatre shows, secondary school education, canteens in universities, etc.). In particular, since December 2017 Campobasso, the regional chief town of Molise, has extended the survey to the whole basket, allowing returning to coverage all Italian regions.

In the 96 municipalities (79 for the full basket and 17 for a subset of products) taking part in the 2018 survey, prices are collected in more than 42,400 statistical units (including outlets, enterprises and institutions) while rents are collected for about 8,000 dwellings. 461,000 quotes are sent on a monthly basis to Istat by Municipal Offices of Statistics (UCS in Italian) each month (493,000 in 2017).

As a result of the annual update of the survey, 18.2% of the current price quotes collected by UCS are new (4.8% in 2017): of these, 0.3% are price quotes of new products, while the remaining 17.9% refer to the product already in 2017 basket. The highest percentage of new quotes is due to the introduction of scanner data which has led to relevant changes in the organization of price data collection in the field, focusing the attention on the retail trade channels different from hypermarkets and supermarkets.

In particular, concerning grocery products (excluding fresh food), from January 2018 the price collection carried out by the UCS is limited to traditional shops (stores that sell consumer products on an area of less than 100 m²), discounts, department stores and "minimarkets" (facilities with a retail area of 100 and 400 m²). As for fresh and/or variable weight products (fruit, vegetables, fish products, bread and fresh pastry products, meat, cheese, cold cuts) the price collection in supermarkets and hypermarkets, as well as in the other typologies of outlets, will still be on charge of the UCS.

In 2018 prices/quotes collected each month directly by Istat are more than 153,000, of which 152,700 via web, also using web scraping techniques, or collecting data from different providers and about 400 quotes directly provided by insurance companies which refer to protection against most risks connected to property, such as fire, theft and other damages and are used for the Housing insurance services price index compilation.

Regarding scanner data[3], a cut off sample of barcodes (GTINs) has been selected within each outlet/aggregate of products (covering 40% of turnover but selecting no more than the first 30 GTINs in terms of turnover). The products selected in December are kept fixed during the following year. About 1,370,000 price quotes are collected each week to estimate inflation. For each GTIN, prices are calculated taking into account turnover and quantities (weekly price=weekly turnover/weekly quantities).

Concerning fuels, the use of the MiSE database (firstly introduced in 2017) has improved the territorial coverage of the index which at present includes all 107 Italian provinces (approximately 63,000 price quotes are used every month for the inflation estimate).

Calculation of indices

Weighting structure

Not all goods and services included in the basket have the same importance in households' budget. Consequently, for the compilation of the consumer price index, weights are used that reflect the expenditure shares of different products on final consumption expenditure.

Specifically, for HICP the weighting coefficients are determined on the basis of the household final consumption expenditure as derived from National Accounts (for 2018 data refers to year 2016). Additional information, used to define weights at the lower levels of the classification of consumption expenditures, derives from the Household Budget Survey, from other Istat surveys and from external sources[4], such as Ac Nielsen and GfK Italia S.r.l.

To properly calculate the weighting coefficients, the expenditure shares are price-updated to the computation base period of indices (December 2017) using the price changes measured between the

[3] The use of scanner data for the estimation of inflation concerns 79 indices of aggregate of products belonging to 5 ECOICOP Divisions (01, 02, 05, 09, 12).

[4] It should be noted that, due to the unavailability of sufficiently robust estimates of provincial consumption, in the first stage of indices aggregation the consumer price indices, chief towns of provinces contribute to the calculation of regional indices taking into account the relative importance of the province in the region in terms of population. For the calculation of this set of weights, which are based on provincial population data, in 2018, data coming from demographic balance - resident population of 2016, December, 31, have been used.

year 2016 and December 2017. Table 1 shows the 2018 weighting structures by expenditure division of NIC and HICP.

TABLE 1. WEIGHTS USED TO CALCULATE CONSUMER PRICE INDICES BY EXPENDITURE DIVISION.
Year 2018, percentage values

EXPENDITURE DIVISIONS	NIC	HICP
Food products and non-alcoholic beverages	16.5103	17.5418
Alcoholic beverages and tobaccos	3.0965	3.2861
Clothing and footwear	7.2048	8.3493
Housing, water, electricity and fuels	10.7989	11.4604
Furniture, home items and services	7.139	7.5998
Health services and costs	8.4906	4.2429
Transportation	14.6713	15.5569
Communications	2.5318	2.6871
Entertainment, shows and culture	7.7042	6.0523
Education	0.9793	1.0397
Hospitality and restaurant services	11.7391	12.4574
Other goods and services	9.1342	9.7263
General index	**100.0000**	**100.0000**

Aggregation of national and territorial indices

The consumer price indices are calculated through subsequent aggregations of the indices of product aggregates compiled at provincial level.

In detail, the *national All-items index* is compiled as follows:

- the provincial indices of product aggregates are aggregated to build the corresponding regional indices. The weighting coefficients used are mainly based on the weight of each provincial capital in terms of resident population;
- the regional indices of product aggregate are aggregated to build the corresponding national indices. The weighting coefficients used are based on the weight of each region in terms of household consumption;
- the All-items index is obtained as the weighted average of the national indices of product aggregates. The weighting coefficients used are based on expenditure shares of each product aggregate.

The *All-items index at provincial, regional and macro-regional level:*

- the All-items indices *by regions and macro-regions* are obtained as the weighted average of the regional indices of product aggregates. The weighting coefficients used are based on the weight of each component in terms of household consumption, defined at regional and macro-regional level.
- The All-items indices *by provinces* are compiled as the weighted average of provincial indices of product aggregates. The weighting coefficients used are based on the weight of each aggregate of product in terms of household consumption, defined at a regional level.

Classification of consumer prices indices

Classification of consumption so far used for HICP and NIC is the international classification ECOICOP (European Classification of Individual Consumption by Purpose), whose hierarchical structure has 4 levels of disaggregation: Divisions, Groups, Classes and Subclasses of product.

The classification ECOICOP was adopted in 2016, in compliance with the new European framework regulation on harmonized indices of consumer prices and the house price index, (2016/792),

For the calculation of Italian consumer price indices, subclasses of product are further broken down in Consumption segments and Product aggregates.

Consumption segments are the most disaggregated level for which NIC indices referring to the entire national territory are disseminated. Concerning HICP indices, the level of detail of the dissemination is that of the classes of product (the dissemination of HICP subclass indices is expected to start in 2018). At local level (geographical area, region, province), NIC indices are published up to the product groups.

HICP indices by special aggregates (**HICP-SA**) are released too. HICP-SA indices are calculated using the same classification scheme and method adopted by Eurostat (therefore different from the method used for the calculation of NIC indices by types of product), in order to guarantee comparability among the Italian HICPs and the HICP of the other EU countries and the HICPs for the EU and the euro area produced by Eurostat[5].

Survey and calculation of prices indices of seasonal products

From January 2011, the prices of *Fruit*, *Vegetables*, *Clothing* and *Footwear* are collected and processed in accordance with Regulation (EC) no 330/2009 of 22 April 2009, which sets out minimum standards for dealing with seasonal products in the HICP[6]. The same method is also used for the NIC[7].

In particular, the European Regulation defines as *seasonal product* that one consumers may not purchase in certain periods of the year (at least one month), or they may purchase in modest or insignificant volumes. It also establishes that in a given month seasonal products are considered *in season* or *out of season*.

On the basis of this standard, Istat defines a monthly calendar for the whole year, which establishes, in a given month, when each specific product belonging to the above mentioned product groups or classes must be considered *in season* or *out of season*. The adoption of a seasonality calendar entails that the local consumer price survey is carried out only in months when the product in question is defined as *in season*, while prices of *out of season* products will be estimated on the basis of a method that is consistent with standards contained in the aforementioned European Regulation.

Flash estimates of HICP: accuracy and computation methodology

Flash estimate of Italian HICP (and NIC) are usually published on the last working day of the reference month according to the Eurostat release calendar of HICP flash estimate for euro area. Final data are generally published around 13 days later.

The aim of the inflation flash estimates is to provide a timely information on inflation, predicting as accurately as possible the final HICP (and NIC) annual rate of change released about two weeks later. The analysis of their revisions represents an important tool to evaluate the correct balancing between the two quality dimensions, timeliness and accuracy.

In line with the Eurostat Statistics Explained on Inflation – methodology of the euro area flash estimate, this section analyses the accuracy of the Italian HICP flash estimates and describes the methodology used in their computation.

Accuracy of flash estimates

Table 2 compares the final HICP annual rates of change and the flash estimates for the same reference month. Over the last thirteen months, the maximum difference between the final HICP – all items annual rates of change and the flash estimate – all items was -0.2 both in February and March 2018. Over the same period, with reference to the main special aggregates, the maximum differences between final HICP

[5] HICP-SA indices have been released starting from data referred to February 2013.
The description of product classes which are included in the special aggregates is available on Eurostat web site at the following link: http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL&StrNom=COICOP_5&StrLanguageCode=EN&IntPcKey=&StrLayoutCode=HIERARCHIC.
The HICP-SA calculation method is described in the HICP Compendium which is downloadable at the following link: http://ec.europa.eu/eurostat/documents/3859598/5926625/KS-RA-13-017-EN.PDF/59eb2c1c-da1f-472c-b191-3d0c76521f9b?version=1.0.
Back series starting from January 2001 are published on I.Stat, the warehouse of Istat statistics, inside the theme "Prices".
[6] It has been adopted starting from data referred to January 2011.
[7] It is used for FOI indices, too.

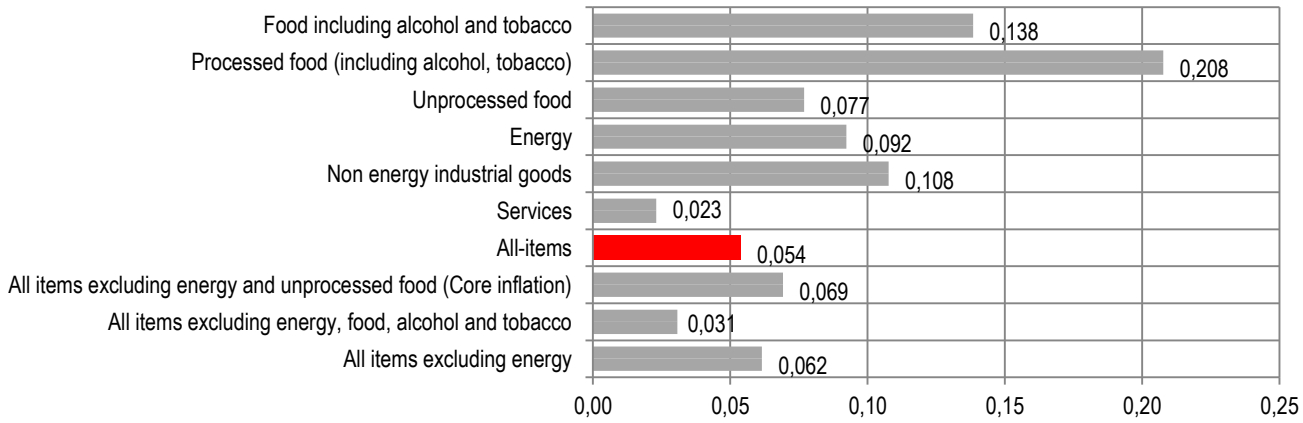
annual rates of change and the flash estimates concerned Food, including alcohol and tobacco (-0.7 in March 2018), Processed food (including alcohol, tobacco) (-1.1 in March 2018), Unprocessed food (-0.3 in March 2018), Energy (+0.7 in January 2018) and Non energy industrial goods (-0.7 in February 2018). The highest frequency of revisions (8 months out of 13) is observed for Non energy industrial goods (mainly due to the seasonal sales dynamics of Clothing and footwear) and Food, including alcohol and tobacco (due to the use in the flash estimate of scanner data referred to the prices of grocery products from the modern retail trade distribution of one/two weeks compared to the three weeks included in the final index); for both the partial information available has a higher impact on the flash estimate and therefore it turns out to be less accurate.

TABLE 2. FLASH ESTIMATES AND HICP ANNUAL RATES FOR THE ALL-ITEMS AND MAIN SPECIAL AGGREGATES
June 2017 - June 2018, percentage values (base 2015=100)

Special aggregates		Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
Food including alcohol and tobacco:	Flash	0.8	0.8	0.8	1.3	1.9	1.6	1.7	1.3	-0.5	1.5	2.0	2.3	3.0
	HICP	0.8	0.8	0.7	1.3	1.9	1.7	1.6	1.3	-0.6	0.8	1.8	2.2	2.6
Processed food (including alcohol, tobacco)	Flash	0.4	0.5	0.6	0.6	0.7	0.8	1.1	1.8	1.3	2.6	2.7	2.3	2.6
	HICP	0.4	0.5	0.6	0.6	0.7	0.9	1.1	1.7	1.1	1.5	2.3	2.0	2.1
Unprocessed food	Flash	1.2	1.3	0.9	2.1	3.3	2.8	2.4	0.6	-2.4	0.1	1.2	2.3	3.3
	HICP	1.3	1.3	0.9	2.1	3.3	2.8	2.3	0.8	-2.4	-0.2	1.1	2.2	3.2
Energy	Flash	4.6	3.5	4.5	3.4	3.7	4.4	4.2	3.8	3.6	3.0	0.9	2.0	4.2
	HICP	4.6	3.4	4.5	3.4	4.0	4.4	4.2	4.5	3.6	3.0	0.8	2.0	4.2
Non energy industrial goods	Flash	0.3	0.3	0.7	0.7	0.3	0.3	0.3	1.0	1.1	0.4	0.3	0.1	0.2
	HICP	0.3	0.3	0.7	0.8	0.2	0.4	0.4	0.9	0.4	0.4	0.3	0.2	0.3
Services	Flash	1.4	1.3	1.6	1.3	0.7	0.5	0.5	0.5	0.6	0.8	0.2	0.9	1.0
	HICP	1.4	1.3	1.6	1.3	0.6	0.5	0.5	0.5	0.6	0.8	0.2	0.8	0.9
All-items	Flash	**1.2**	**1.2**	**1.4**	**1.3**	**1.1**	**1.1**	**1.0**	**1.1**	**0.7**	**1.1**	**0.6**	**1.1**	**1.5**
	HICP	**1.2**	**1.2**	**1.4**	**1.3**	**1.1**	**1.1**	**1.0**	**1.2**	**0.5**	**0.9**	**0.6**	**1.0**	**1.4**
All items excluding energy and unprocessed food (Core inflation)	Flash	0.9	0.8	1.1	0.9	0.6	0.4	0.5	0.8	0.8	0.9	0.5	0.9	0.9
	HICP	1.0	0.8	1.1	1.0	0.5	0.5	0.5	0.8	0.6	0.8	0.5	0.8	0.8
All items excluding energy, food, alcohol and tobacco	Flash	1.0	0.9	1.2	1.1	0.5	0.4	0.4	0.7	0.7	0.7	0.2	0.7	0.7
	HICP	1.0	0.9	1.2	1.1	0.5	0.4	0.5	0.7	0.5	0.7	0.2	0.6	0.7
All items excluding energy	Flash	0.9	0.9	1.1	1.1	0.8	0.7	0.6	0.8	0.5	0.9	0.6	1.0	1.2
	HICP	1.0	0.9	1.1	1.1	0.8	0.7	0.7	0.8	0.3	0.7	0.6	0.9	1.1

The Mean Absolute Deviation (MAD) provides another way to measure accuracy. It is calculated as the average of the absolute differences between the final HICP annual rates of change and the flash estimates over the last thirteen months. Figure 1 shows the MAD for the all-item index and the main special aggregates. Over the last thirteen months Processed food (including alcohol, tobacco) (0.208 percentage points), Food including alcohol and tobacco (0.138 percentage points) and Non energy industrial goods (0.108 percentage points) recorded the highest MADs.

FIGURE 1. MEAN ABSOLUTE DEVIATION BETWEEN FLASH ESTIMATES AND HICP ANNUAL RATES.
June 2017 - June 2018, percentage points



Impact on the Italian Harmonized Price Consumer Index (HICP) of the use of scanner data of grocery products

Starting from January 2018 Istat introduces scanner data of grocery products (excluding fresh food) in the production process of estimation of inflation.

In order to assess the impact of the use of the new data source on the annual rates of change of the HICP, a simulation is carried out monthly by calculating the consumer price indices of year 2017 using scanner data coming from hyper and supermarkets of the main retail trade chains.

The impact is calculated as the difference between the annual rates of change of the indices currently calculated and released and the results of the simulation.

The impact estimate will be updated on a monthly basis throughout 2018 with the release of HICP final data (Table 3)[8].

TABLE 3. ESTIMATE OF THE IMPACT OF THE INTRODUCTION OF THE SCANNERS DATE IN THE ESTIMATE ON THE ANNUAL RATES OF CHANGE OF HICP
January 2018 - June 2018, weights and estimate of impact (base 2015=100)

Level	Aggregates	Weights	Impact estimate [(a)]					
			Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
Division	Food and non-alcoholic beverages	175.418	0.0	-0.1	+0.3	+0.1	0.0	+0.1
Division	Alcoholic beverages, tobacco	32.861	+0.2	+0.3	+0.4	+0.1	+0.3	+0.3
Division	Furnishings, household equipment and routine household maintenance	75.998	-0.1	+0.1	0.0	0.0	0.0	0.0
Division	Recreation and culture	60.523	+0.1	0.0	0.0	+0.1	+0.1	0.0
Division	Miscellaneous goods and services	97.263	+0.1	0.0	+0.1	+0.1	-0.1	0.0
General	**All-items**	**1.000.000**	**+0.1**	**-0.1**	**0.0**	**+0.1**	**-0.1**	**+0.1**

(a) Difference between the annual rate of change of the published monthly index (new method) and the annual rate of change of the index calculated using the previous method.

[8] The figures concerning the impact of scanner data on the estimate of inflation for the HICP indices for groups, classes and sub-classes are available on the Istat website in the area dedicated to the press release of June 2018 in the Attachment section (Impact Estimate).

Dissemination: timing and database

Consumer prices indices dissemination by Istat occurs in two successive dates according to a different release method of the data: flash estimate and definitive estimate.

The dissemination of flash estimate of the NIC indices (general, by expenditure division, by product type and by purchase frequency) and the (general) HICP index occurs at the end of the reference month, while that one of the definitive data of the indices, NIC and HICP, occurs no later than the middle of the month following the reference month. The publication times are established by a calendar agreed upon with Eurostat, in the month of December of each year, for the next year, and according to the dissemination standards (SDDS – Special Data Dissemination Standard) defined by the International Monetary Fund.

The indices, for both flash and definitive estimates, are issued through the "Consumer prices index" press release on the Istat website at http://www.istat.it/en/prices.

The series of the updated indices are published, in conjunction with the issue of the press release, on the Istat data warehouse within the theme Prices - Consumer prices. Together with the monthly indices, the short-term and trend percentage variations, the average annual indices, the average annual variations and the annually calculated weights are issued.

Information on the consumer price indices is available in on the EconomicTrends.Stat database, that collects and organizes the short-term statistics produced by Istat, and offers itself as a study tool for policy makers, social workers, scholars and citizens.

Information on the historic series of all indices, beginning from 1861 to 2015, is available on the Istat website at http://www.istat.it/en/products/databases/time-series.

Summary data and studies on consumer prices and on the basket of goods and services are in addition contained in some editorial publications issued by Istat annually, such as the Statistical Yearbook, the Annual Report and publication Noi Italia.

In compliance with European Regulation No. 792/2016, the data of the survey on consumer prices is transmitted to Eurostat twice per month. The main indicators, archived in the Eurostat database, are accessible at http://ec.europa.eu/eurostat/data/database (Theme "*Economy and finance*", topic "*Prices*").