

# The Consumer Price Index: changes for 2017

The Consumer Price Index (CPI) follows each month the prices of a fixed basket of products. This basket is updated each year in order to remain representative of the consumption and in order to take into account the evolution in the consumer habits (Laspeyres-type indice). Each year a chain-linking of the indice is performed in January and enables to update the basket of products and their weights and possibly permits to introduce some methodological improvements.

## The weight update

Each year in January CPI and HICP weights are updated for the current year. These weights are used in order to aggregate 21,000 elementary indices for different consumption segments and geographical areas. These weights represent the share of each consumption segment in the total household consumption (in the scope of the CPI). They are mainly obtained from national accounts and their annual estimates of household consumption but also from different detailed specialist sources.

## The update of the products in the CPI basket

Each year, the product sample is updated in order to take into account changes in the household consumption. The products that are no more representative in 2016 are dropped from the CPI basket meanwhile new products, which represent a huge or an increasing market share, are introduced. The prices of these new products are collected from December 2016 in order to measure their price evolution between December 2016 and January 2017 and so that they contribute to the CPI from January 2017.

In 2017, as a consequence of the changes in the basket at a detailed level, a new index is disseminated (“09.1.1.9.1-Other equipments for the reception, recording and reproduction of sound and picture”) whereas the “other services for maintenance and repair of the dwelling” index (04.3.2.9) is no more followed by CPI.

Besides, with the change in CPI base realized in January 2016, the sample of urban areas where prices are collected were renewed. This change was gradually implemented because of price collection organization: in 2017, the target of prices collected in each urban area as planned by the new sampling is reached, improving the CPI precision relatively to 2016, which was a transition year.

## Changes in the freshfood basket

In the 1998 base, the CPI for freshfood products was computed thanks to a basket that might change within the year, depending if the products were sold or not, but that was fixed during the whole base (Rothwell-type indice). This methodology enabled to take into account the huge seasonality of freshfood products but forbid to update the freshfood basket and their weights during a CPI base.

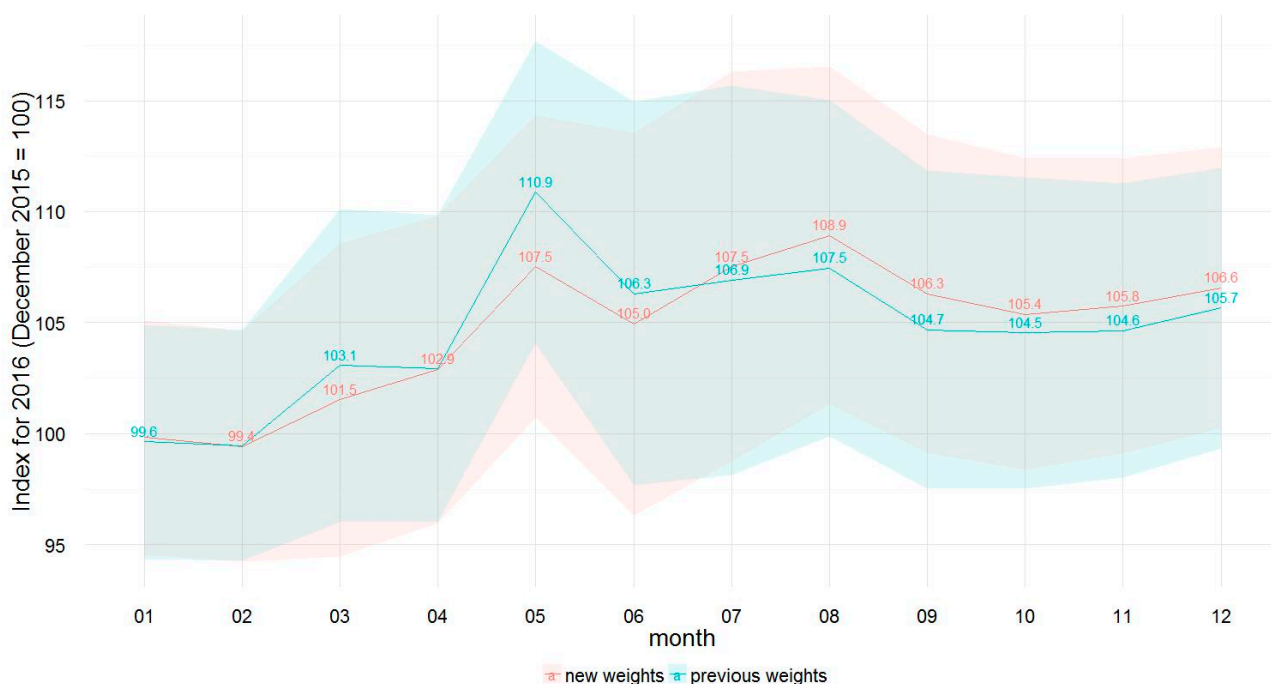
Since the 2015 base, the methodology has been adapted and freshfood products have been processed as the other seasonal products according to European standards: the freshfood index is now a Laspeyres-type index yearly chained-linked. When a freshfood product is out of season, its price is imputed with the evolution in the prices of the upper-level index to which it contributes.

With this new methodology, the basket of freshfood products may be updated from now on. Important changes were performed in 2017 as no change had been introduced for many years: obsolete consumption segments were deleted; organic products were added; the seasonality of products were adapted, out-of-date

characteristics of products were modified... Weights were also changed.

All these changes may modify the seasonality of the freshfood index as it was already the case last year. The impact of the change in the seasonality schedule for each product and in the weight computation was simulated with 2016 data. According to this simulation, the impact of the modifications on the month-on-month change in freshfood index would peak at 3 points of percentage in May (see figure 1). Year on year, the impact of the change in weights would peak at 3 points in May for the freshfood index. Between 2005 and 2015, a period during which the methodological treatment of freshfood products was unchanged, the standard error of the year-on-year change is equal to 5 points. Freshfood prices are indeed very volatile. The impact on the year-on-year change in the all-item indice would be inferior to 0.05 point of percentage, except in May (0.07 point).

**Figure 1 - consumer price index for freshfood products in 2016 (December 2015=100) according to two different hypothesis on weights and seasonality period**



How to read it : in red, the freshfood indice computed with the weight used in 2016 - in blue, with the weights that are used in 2017. The shadow area represents 1.69 time the standard error measured for a given month over the period 2005-2015.

## Changes in the fuel prices collection

From January 2017, the collection of fuel prices in metropolitan France has changed. Before, fuels prices were collected by price collectors directly in outlets. From now on, they are collected on the website <http://www.prix-carburants.gouv.fr/>. This website was created in 2007; it posts in real time and stores the fuel prices of about 90% petrol stations in metropolitan France. According to the ministerial decree stated the 12 December 2006 regarding consumer information on fuel prices, petrol stations which distribute more than 500 m<sup>3</sup> fuel each year are compelled to declare their prices through a secure interface. Their declaration are regularly checked by the DGCCRF, the General Directorate for Fair Trading, Consumer Affairs and Fraud Control.

This change in data sources improve the precision of fuel index and average prices. This new estimation sticks better to the definition of “calendar” months and to the consumption structure.

## Methodological Note

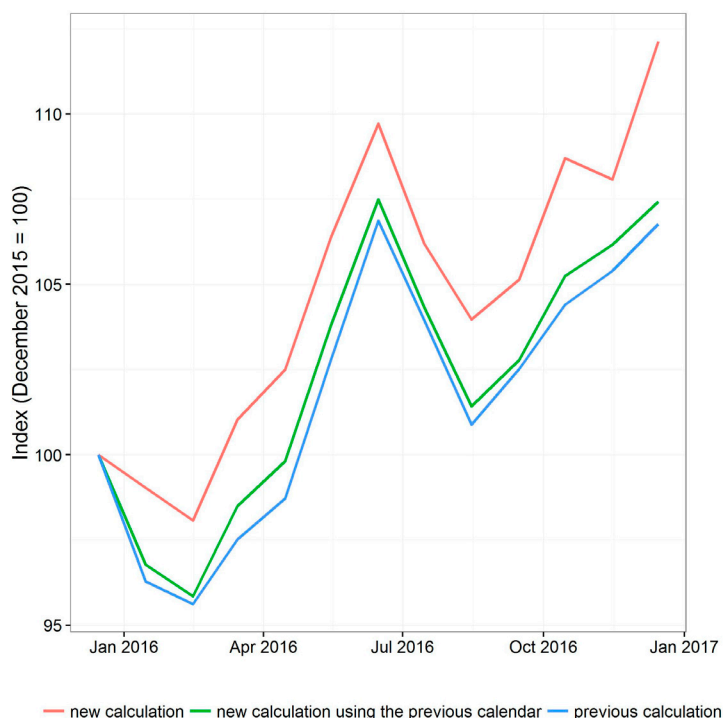
1. Before, fuel prices, as most of CPI product prices, were collected each month during 4 weeks in the row (from Monday to Friday) by price collectors. Depending on the way these four weeks were located during the month, the month-on-month change could be slightly different from the change that would have been measured over the full month. Nevertheless, this had no impact on the inflation measure in the long run. From now on, with the new collection method, the period on which prices are collected is defined independently from the price collectors activity. In consequence, it is always chosen in accordance with the calendar month, that is to say the first 28 days of each month.
2. The website <http://www.prix-carburants.gouv.fr/> disseminates a more important number of fuel prices. From now on, prices are structured into strata depending on the geography and the network to which the station belongs (the road vs highway system; the distribution network: supermarket or hypermarket; oil company or independent station). Before, prices were collected by price collectors in some urban area representative of the whole consumption (not specifically of the consumption in fuel).

With the new methodology, fuel price aggregation is performed for each type of fuel in two steps. The first step is a simple arithmetic average for each stratum of prices with a correction for quality effect. The second step is an arithmetic average of averaged prices per strata, weighted by the consumed quantity for each stratum. Quantities are obtained thanks to an exhaustive survey realized each year by the DGEC, the General Directorate for Energy and Climate. The index is yearly index-linked as the multiplication of the index in December of the previous year time the average price of the current month over the average price of December of the previous year.

The impact of these methodological changes -new data source, change in the calendar, new weights for fuel consumption- is presented on figure 2 for the year 2016.

The change in data sources has no important impact on the fuel CPI (see figure 2 the slight gap between the blue and the red lines). However, the change in calendar impacts the observed month-on-month evolution since the fuel prices may change sharply in few days (see figure 2 the gap between the blue and green lines). In order to take into account in the CPI the sharp increase in fuel prices observed at the end of December 2016 (which was not taken into account in the 2016 collection calendar), the base prices for year 2017 (prices measured in December 2016 to which the prices observed in 2017 are compared each month) are exceptionally computed according to the calendar used in December 2016 with the previous methodology.

**Figure 2 : fuel price index in 2016 according to different methodologies  
(December 2015=100)**



How to read it:

Previous calculation: index disseminated in 2016 computed with prices collected by price collectors during 4 weeks in the row each month

New calculation using the previous calendar: index computed according to the 2017 methodology with prices from the website [www.prix-carburants.gouv.fr](http://www.prix-carburants.gouv.fr); these data are aggregated according to the previous calendar (4 weeks in the row).

New calculation: index computed according to the 2017 methodology with prices from the website [www.prix-carburants.gouv.fr](http://www.prix-carburants.gouv.fr) aggregated according to the new calendar (the first 28 days of the month)

## The update of the consumer profiles for telecommunication services

The methodology used for communication services index is specific. Because of the high turnover in tariff offers -changes in prices are generally linked to changes in the bundled offer- the CPI does not follow the price of a precise tariff offer. In fact, each month, the price of the best offer i.e. the offer that fits better the consumer profile needs- is selected. The telecommunication services index is measured as the averaged change in the price of the best offer measured for each profile and for each provider. Each year, the weights associated to each profile are updated. In 2017, the profiles themselves are modified.

Indeed, because of the change in mobile phone services since 2012, consumer profiles was updated by Arcep -the post office and communication regulator- thanks to data on month consumption and invoices given by each provider. At the end, profiles are different for each provider, for mobile communication or prepaid cards according to the intensity in vocal consumption and data consumption. Finally 11 new profiles were defined for each provider and will be used for the 2017 CPI.

Moreover, bundled offers for mobile and landline communication were analyzed because these offers are often associated with a rebate. According to this analysis, consumers of bundled offers are not different from consumer of non-bundled offers. Consequently, these bundled offers are split between mobile offers and

### *Methodological Note*

landline offers. The rebate (that is known thanks to the providers list prices) is applied to the mobile prices. Therefore, there are no specific profiles for bundled offers as before.

## **The update of seasonal adjustments and seasonal adjusted indices**

As each year seasonal adjustments for the all-item indice (France, all household) and for four indices of core inflation have been revised over the period January 2000- December 2016 taking into account the 2016 data.