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## Improved calculation of HICP special aggregates and German package holidays methodological change

*Eurostat has changed the calculation of special aggregates. Additionally, indices of package holidays for Germany are compiled according to a new methodology.*

### Improved calculation of HICP special aggregates

For the Harmonised Index of Consumer Prices (HICP) Eurostat calculates 36 special aggregates. Eleven of them are published in the news release. The individual components, from which the special aggregates are derived, were until now the class level (4-digit) of the European classification of individual consumption according to purpose' ([ECOICOP](#)). From now on Eurostat calculates the special aggregates from the subclass level (5-digit) of the classification.

Deriving the special aggregates from the more detailed 5-digit level allows better allocation of the HICP sub-indices to the respective special aggregates. For example, the finer classification allows a more precise distinction between goods and services, and better separation of processed and unprocessed food.

The new compositions of all special aggregates based on the 5-digit level can be found on [Eurostat's classifications server](#) (while the previous compositions of special aggregates based on the 4-digit level is available [here](#)).

Eurostat publishes the revised time series of special aggregates based on the 5-digit level starting with January 2017. The data prior to 2017 will remain to be based on the 4-digit level and thus there is for individual countries as well as the euro area and the European Union aggregates a statistical break in the series between December 2016 and January 2017.

The differences between the previously reported figures and the new data vary widely across special aggregates<sup>1</sup>. The biggest changes are reported for *unprocessed food* and for *processed food including alcohol and tobacco*. The revisions of annual inflation rates for the euro area for *unprocessed food* range from -0.9 to +1.8 percentage points (p.p.). Rates for '*processed food including alcohol and tobacco*' are less affected; revisions ranging from -0.5 to +0.1 p.p. The aggregate *food, alcohol and tobacco* is unaffected. For other main special aggregates (energy, non-energy industrial goods and services) the impact is small, not higher than 0.2 p.p.

Detailed data on the revisions due the changed calculation of special aggregates can be found [here](#).

**Table 1:** Euro area weights of main special aggregates before and after the change.

Euro area	Weight before revision (‰)		Revised weight (‰)		Difference weight	
	2017	2018	2017	2018	2017	2018
All-items HICP	1000.0	1000.0	1000.0	1000.0	0.0	0.0
Food, alcohol & tobacco	195.9	195.7	195.9	195.7	0.0	0.0
> processed food, alcohol & tobacco	120.8	121.0	149.4	149.6	+28.6	+28.6
> unprocessed food	75.1	74.8	46.5	46.1	-28.6	-28.6
Energy	95.3	97.0	94.5	96.2	-0.8	-0.8
Non-energy industrial goods	263.1	263.3	264.2	264.4	+1.1	+1.1
Services	445.7	443.9	445.4	443.6	-0.3	-0.3

<sup>(1)</sup> Differences are calculated excluding the revisions originating from the methodological change of the German package holidays sub-index.

### **German package holidays methodological change**

Germany compiled the January 2019 HICP according to a new methodology for package holidays. The seasonal pattern of the German indices for package holidays has changed due to a different statistical treatment of package holidays in their index (more on the methodological change [here](#), in German).

In order to obtain undistorted annual inflation rates for the current year, back series of package holidays indices in the German HICP are revised. The revised data starts from January 2015.

The revision of the German package holidays leads to a number of revisions in the corresponding higher-level aggregates, including the all-items inflation rate and some of the special aggregates, for Germany, the euro area and the European Union.

Annual inflation rates in the months of 2015 are distorted due to the change in methodology (those annual rates compare a value calculated with the new methodology with the value from the previous year calculated with the old methodology). From January 2016 onwards, the annual inflation rates can be derived from indices compiled according to the same methodology. The difference between the published and the revised annual inflation rates for Germany at the all-items level ranges between -0.2 and +1.2 p.p. during 2015. In the following years, the impact of the revision is smaller, between -0.2 and +0.3 p.p. Consequently, the euro area all-items annual rates are revised between 0.0 and +0.3 p.p. in 2015 and between -0.1 and +0.1 p.p. after.

Detailed data on the revisions due to the methodological change of the German package holidays sub-index can be found [here](#).

### **HICP index reference period: 2015=100**

The HICP index reference period is the year 2015, for which the value of the index is set to 100. It means that the average over the 12 months for each index must equal 100 in 2015. The index reference period is changed with 10 years intervals or in case of a major methodological change of the HICP. The change of the calculation of special aggregates and revision of German package holidays index is not such a methodological change and thus the HICP reference period is not changed.

The German package holidays index was revised from January 2015 onwards. Consequently, the average of the 2015 monthly indices did not equal 100 anymore. In order to express the revised series in the 2015 reference year, the whole series taking into account the revisions was multiplied by a factor. This factor is specific for each series and they ensure that the average of the twelve 2015 monthly index values equals 100 for each series.

The values from 2015 to 2018 differ from those that were previously published because of the revision of the German package holidays index and because of the subsequent necessary multiplication by the factor to obtain series that have an average of 100 for 2015. The values from 1996 to 2014 differ from those that were previously published only because of the multiplication by the factor. The multiplication of the values prior to 2015 has no impact on previously published monthly and annual rates, except for minor revisions stemming from rounding<sup>2</sup>.

An example of this process and the multiplication factors for selected aggregates can be found [here](#).

### **First published data**

Eurostat stores in its dissemination database the HICP indices as they were published on the day of the flash estimate or the final release, and these data are kept unchanged even in case of revisions. The data are available in table 'HICP – First published data' [prc\_hicp\_fp]. The table contains monthly indices in reference years 2015=100, 2005=100 and 1996=100, as well as the annual rates. The table was created in 2016 to replace the discontinued Data in Focus publication.

As this table contains all first published values, the values until the end of 2018 are before the revisions while the values as of January 2019 are after the revisions. Therefore, annual and monthly rates that are calculated by comparing a value of December 2018 or before, with a value of January 2019 or later, are biased:

- If 2015=100 series are used, the comparison is impacted by both the revision and the subsequent necessary multiplication of the index by the factor.
- If 2005=100 series are used, the comparison is impacted only by the revision because the reference year is before the period during which the revision took place.

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<sup>(2)</sup> Annual and monthly rates are calculated from the published values that are rounded to 1 or 2 decimals, depending on the country. European indices are published with 2 decimals.





