Box 3

METHODOLOGICAL CHANGES IN THE COMPILATION OF THE HICP AND THEIR IMPACT ON RECENT DATA

A new regulation[1] on the treatment of seasonal products in the HICP entered into force in all EU Member States with the index for January 2011. This has had a significant impact on the seasonal pattern of several national HICPs. At the euro area level, the impact on the annual rate of overall inflation was -0.1 percentage point in the first two months of 2011, but more

1 Commission Regulation (EC) No 330/2009 of 22 April 2009 laying down detailed rules for the implementation of Council Regulation (EC) No 2494/95 as regards minimum standards for the treatment of seasonal products in the Harmonised Indices of Consumer Prices (HICP).

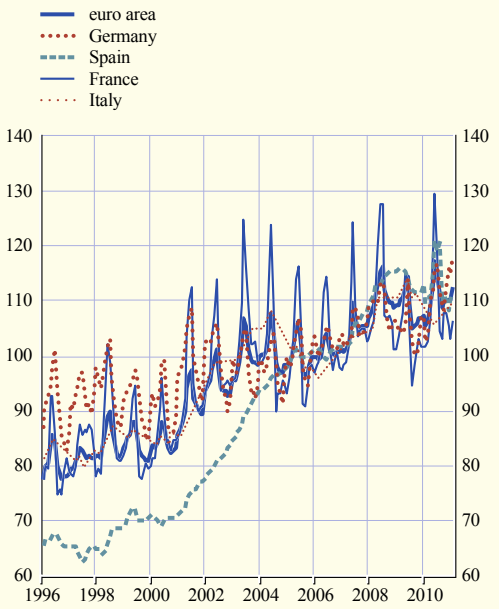
significant for the non-energy industrial goods component. This box explains the background of the methodological changes and assesses their impact on recent data.

Background

Cross-country differences in the statistical treatment of seasonal products, such as seasonal clothing and certain types of fresh food that are only available in some months of the year, have made it difficult to compare national HICPs. Although there is no indication that the former calculation methods led to any long-run bias in the HICP, the wide variety in the methods[2] applied has rendered problematic the interpretation of short-term movements in the affected euro area HICP sub-indices. For example, Chart A shows the divergence in the patterns of the sub-index for fruit, which is largely due to the use of different statistical methods (in addition to differences in national markets).

Chart A HICP sub-index for fruit in the euro area and selected countries

(index 2005 = 100)



Source: Eurostat.

The aim of the new regulation is to harmonise the statistical treatment of seasonal products by defining a restricted set of calculation methods that should produce more comparable results. It is therefore highly appreciated by the ECB.[3] The regulation encourages the use of methods that are consistent with imputing the price of out-of-season products, either from those that are in season (e.g. in the winter months changes in the price of fresh cherries may be imputed from changes in the price of apples) or from all available products in the same category (e.g. fresh fruit). The regulation applies to the sub-indices for the prices of fish, fruit, vegetables, clothing and footwear (with a combined weight of 10.5% in the euro area HICP). Although national statistical institutes may also apply the new methods to other sub-indices on a voluntary basis, no significant breaks have been observed in the sub-indices for other product groups.

Impact of the changes on national HICPs

In most euro area countries, the previously used methods were already broadly in line with those required by the regulation. Therefore, the impact of the methodological changes has been minimal. However, in Spain, Greece, Italy, Luxembourg and Portugal, whose former methods were considerably different, the regulation has brought about significant changes in the seasonal pattern of the affected indices. For all countries except Spain, the previously published HICPs have not been revised to take account of the new calculation methods; instead, indices based

2 Previously, in some countries, the approach to dealing with out-of-season products was to use the latest observed price, while in others, it was to either apply different expenditure weights for each month of the year (with much reduced or zero weights for the out-of-season months) or impute the price change from the change in prices of in-season products. In addition, Italy and Spain used to use moving averages within the sub-indices for fresh food, thereby greatly reducing the seasonal pattern in the indices.

3 See ECB Opinion (CON/2009/14).

Estimated impact of seasonal products regulation on HICP inflation [1)]

(percentage points)

	Non-energy industrial goods*		Overall HICP	
	January 2011	February 2011	January 2011	February 2011
Greece	-1.6	-4.0	-0.5	-1.0
Italy	-1.6	-1.9	-0.4	-0.4
Luxembourg	-1.1	0.2	-0.4	0.0
Portugal*	-0.9	-1.3	-0.2	-0.3
euro area	**-0.4**	**-0.5**	**-0.1**	**-0.1**

Sources: ECB estimates (denoted by *), Eurostat (all remaining figures).
1) The impacts given in the table refer to the difference between the published annual rate of change in the HICP and the estimated annual rate of change based on the former calculation methods.

on the former methods up to 2010 have been linked to indices based on the new methods from January 2011. This approach has led to distortions in the annual rates of change for 2011.[4] In the case of Spain, however, the national statistical institute has recalculated the indices for 2010 using the new methods. Consequently, the impact has been not on the annual rates of change for 2011, but on those for 2010. Even at the level of the overall index, the size of this distortion on national HICPs has been significant. For example, with regard to the Spanish HICP, the annual rate of change for March 2010 was revised from 1.5% to 2.7% and the absolute average revision to the annual rates of change in 2010 was 0.5 percentage point. The annual average rate of change for 2010 was revised from 1.8% to 2.0%, with large, partially counteracting, effects across different months of the year.

The distortions in the annual rates of change are most significant in the sub-indices for clothing and footwear. Previously, when an item was no longer available to price (such as a summer jacket in winter), the approach taken by many of the affected countries was to repeat the last available in-season price until the item became available again. This implied a zero price change during the out-of-season months. According to the new calculation methods, the change in the price of a summer jacket may be imputed from the change in the price of a winter jacket. Therefore, in months in which end-of-season sales take place, such as January and February or July and August, the new methods imply stronger declines in the index as the zero price change is replaced by an imputed price reduction. Opposite effects may be seen at the start of the new season. The table provides an overview of the impact of the new regulation on the annual rates of change in January and February 2011 for the affected countries. Thus far, the impacts have been largest in Greece and Italy.

With regard to the sub-indices for unprocessed food, the impact is more difficult to estimate, owing to the higher volatility of the series and the less stable seasonal pattern compared with that of the sub-indices for clothing and footwear. An estimate of the impact on the annual rate of change in the food component as a whole has been published for Italy and amounts to +0.3 percentage point in January and +0.4 percentage point in February 2011. Given that the statistical changes only affected the prices of unprocessed food, this implies an impact of around +0.6 percentage point to +0.8 percentage point on the annual rate of change in the prices of unprocessed food in Italy. For Spain, the impact was greater in the

4 The ECB Opinion (CON/2009/14) on the regulation requested that, in cases where the impact would be significant, national statistical institutes revise their HICPs for at least one year prior to the implementation of the regulation.

same months in 2010 and had the opposite sign (-1.0 percentage point and -1.1 percentage points respectively). The other affected countries have not yet published estimates of the impact at the component level.

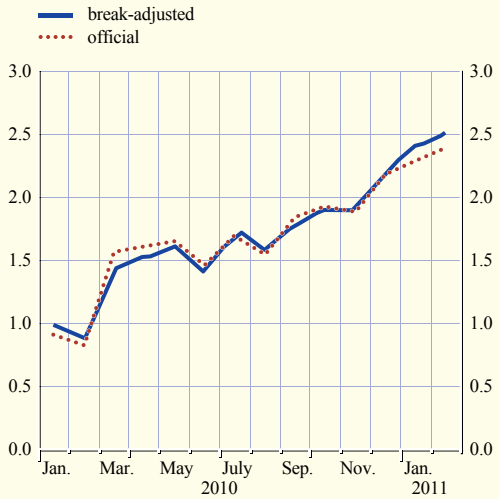
Impact of the methodological changes on the euro area HICP

At the euro area level, the fact that Spain has recalculated its indices for 2010, and other countries have not, means that the annual rates of change in the euro area average will be distorted for two consecutive years, namely 2010 and 2011. The impact on the overall euro area HICP since January 2010 has been minor (between 0.0 percentage point and 0.1 percentage point in most months), reflecting, in some cases, counteracting effects in the unprocessed food and non-energy industrial goods components. The impact on the non-energy industrial goods index has been more significant.[5] Charts B and C compare the annual rates of change in the official overall index and non-energy industrial goods component, with those in indices adjusted for the break associated with the change in methodology. In 2010 the official annual rates of change in the non-energy industrial goods component were more volatile, with negative effects in the sales periods and positive effects in other months, while the annual average was similar (0.5% in the official index, compared with 0.4 % in the break-adjusted index). For the first two months of 2011, a similar pattern has emerged, but with a higher level of intensity. The annual rate of change is estimated to be affected by -0.4 percentage point in January and by -0.5 percentage point in February.

5 The lack of available country estimates means that the impact on the euro area unprocessed food component in 2011 is difficult to estimate. However, given the counteracting (and relatively limited) impacts for Spain and Italy, it is not expected to be large at the aggregate euro area level.

Chart B Euro area overall HICP

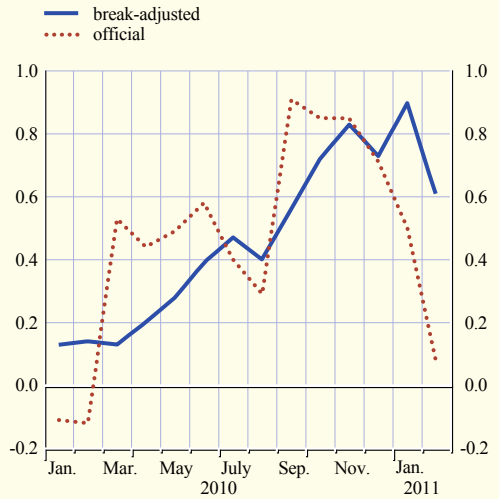
(annual percentage changes)



Sources: Eurostat and ECB calculations.

Chart C Euro area HICP for non-energy industrial goods

(annual percentage changes)



Sources: Eurostat and ECB calculations.

As national statistical institutes have not yet published long series in order to estimate the new seasonal pattern, there is a degree of uncertainty in interpreting and forecasting movements in the annual rates of change in the non-energy industrial goods component and in the permanent exclusion measures of underlying inflation (such as the HICP excluding food and energy) for the rest of 2011. Furthermore, the changes in the seasonal pattern and the lack of backdata make it more challenging to assess movements in short-term inflation dynamics. However, the overall impact on the annual average HICP for 2011 is expected to be minor. From 2012 the volatility in the annual rates of change is expected to return, more or less, to its former level.