

Box 5

RECENT AND PROSPECTIVE MOVEMENTS IN HICP INFLATION: THE ROLE OF BASE EFFECTS

In the course of 2010 there were strong upward movements in energy and food prices, which had a significant impact on the profile of HICP inflation. This box illustrates the extent to which these developments, owing to so-called base effects, will affect the path of the annual inflation rate during 2011.

Definition

When assessing changes in annual inflation rates, it is important to understand the extent to which they reflect current price developments (i.e. actual “news” from one month to the next), as well as the extent to which they reflect index movements that took place 12 months earlier through so-called base effects. Base effects occur when variations in the annual growth rate of the HICP are attributable to an atypical movement in the index in the base period.¹ They tend to be particularly influential during periods when inflation volatility 12 months earlier was high, for instance as a result of sharp movements in commodity prices.

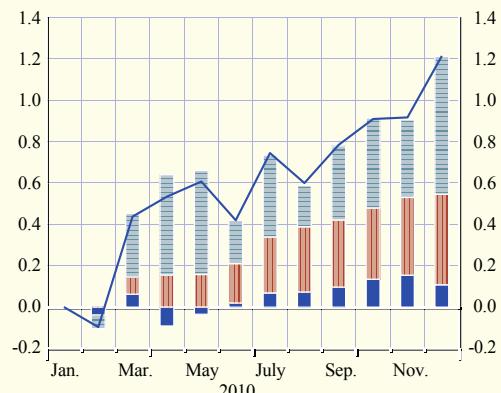
Although the concept is intuitive, identifying and estimating base effects is not straightforward in practice. Defining a base effect as stemming from atypical influences affecting the price index 12 months earlier involves calculating the deviation of the month-on-month rate of change in the base period from its usual pattern. However, there is normally no commonly agreed way of identifying such atypical influences on inflation. For the purposes of this box, the usual pattern of month-on-month changes in the HICP is computed for each month by adding an estimated seasonal effect to the average month-on-month change observed since January 1995.

Looking at the recent past, annual HICP inflation in the euro area increased steadily in the course of 2010, from 1.0% in January to 2.2% in December. This increase of 1.2 percentage points was due almost entirely to developments in the food and energy components of the HICP, with the contribution from the other components being relatively muted (see Chart A). In turn, the increase in the inflation rate of the energy and food components was due, at least in part, to upward base effects stemming from the past volatility

Chart A Contributions to the change in annual HICP inflation since January 2010

(percentage points)

- other HICP components¹⁾
- total food
- energy
- change in total HICP inflation



Sources: Eurostat and ECB calculations.

1) Includes services and non-energy industrial goods.

1) Technically, a base effect can be defined as the contribution to the change in the year-on-year inflation rate in a particular month that stems from a deviation of the month-on-month rate of change in the base month (i.e. the same month one year earlier) from its usual pattern, taking into account seasonal fluctuations. For further details, see the box entitled “Accounting for recent and prospective movements in HICP inflation: the role of base effects”, *Monthly Bulletin*, ECB, December 2008.

in commodity prices.² However, the rise in HICP inflation also reflected actual developments in 2010, in particular the pass-through of the increases in crude oil prices recorded in international markets in the course of the year, the depreciation of the euro in the first half of the year and the impact of the more recent increases in non-oil commodity prices in global markets. Furthermore, with regard to food prices, the sharp increases towards the end of 2010 also reflected higher prices for unprocessed food items, such as meat and vegetables, which were related to weather effects. Hikes in indirect taxes also pushed up inflation temporarily in some countries.

Impact of base effects on the profile of HICP inflation in 2011

In 2011 base effects are expected to have a strong influence on the profile of headline inflation. Chart B shows the expected contributions of base effects in the energy and food components to the monthly changes in the annual inflation rate in the 12 months to December 2011. Notably, it shows that the contributions of base effects stemming from developments in energy prices are estimated to be mostly negative and to become particularly large in the spring and in December, as the sharp monthly increases in energy prices recorded a year earlier drop out of the annual comparison. At the same time, the contributions of base effects stemming from developments in food prices are estimated to be more volatile throughout 2011, but to remain generally small and never to exceed 0.1 percentage point.

Chart C cumulates the contribution of base effects to annual changes in the HICP over the next 12 months, starting from December 2010. It shows that the base effects in the energy and food components are projected to have a cumulated downward impact on annual HICP inflation of

² For more details, see the box entitled "Base effects and their impact on HICP inflation in 2010", *Monthly Bulletin*, ECB, January 2010.

Chart B Contribution of base effects in the energy and food components to the monthly change in annual HICP inflation in 2011

(percentage points)

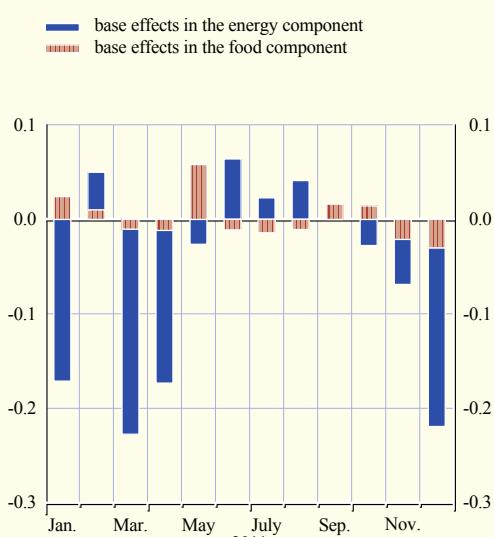
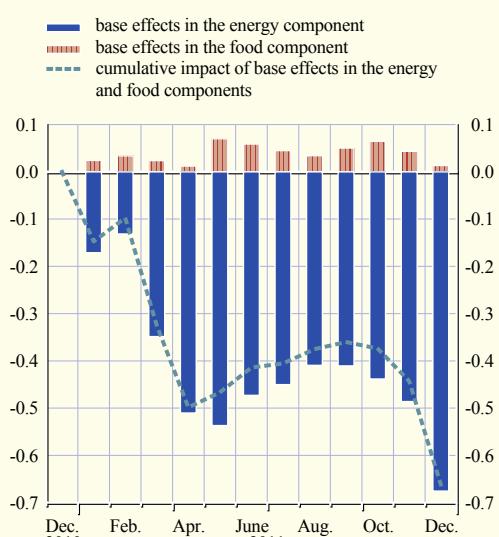


Chart C Cumulative impact of base effects in the energy and food components in 2011

(percentage points)



Sources: Eurostat and ECB calculations.

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around 0.7 percentage point from January to December 2011. This impact is expected to stem mainly from base effects in the energy component, with the relevance of the base effects in the food component remaining generally modest over the year.

Overall, downward base effects stemming from changes in energy prices are likely to contribute to shaping the outlook for developments in annual HICP inflation over the coming months. However, future inflation developments are uncertain and cannot be assessed mechanically on the basis of base effects alone. The profile of the annual growth rate of the HICP will depend on the impact of changes in economic fundamentals, such as the strength of consumer demand and labour cost growth, developments in indirect taxes and administered prices, as well as future developments in commodity prices and how these are passed on to euro area consumers. Should the pace of the euro area recovery become faster than currently envisaged and should commodity prices continue to rise in the course of 2011, inflationary pressures may become stronger. However, the emergence of stronger inflationary pressures in the course of 2011 may be masked, at least initially, by the downward impact of the projected base effects on annual inflation rates.