

Box 3

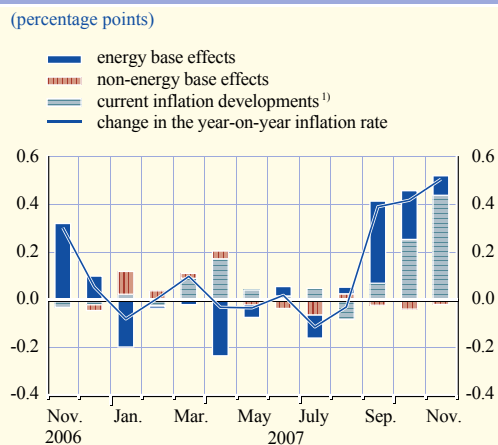
ACCOUNTING FOR RECENT AND PROSPECTIVE MOVEMENTS IN HICP INFLATION: THE ROLE OF BASE EFFECTS

In the 12 months to November 2007, annual HICP inflation rose from 1.9% to 3.1%, on the back of the sharp increases in energy and processed food prices recorded in particular since August 2007.¹ A key question when interpreting changes in annual rates of growth is to what extent they reflect price developments in the current year (i.e. actual “news” between one month and the next) and to what extent they reflect a carry-over from price volatility in the previous year through the so-called “base effect”. The 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 or “normal” pattern, taking account of seasonal fluctuations.² Variations in the seasonal patterns of price changes from one year to the next may also induce noise in the annual rate. This box reviews the role of base effects in driving recent and prospective HICP inflation developments.

The derivation of a monthly seasonal pattern for each HICP component makes it possible to separate the contributions of base effects and those of current developments to monthly changes in the annual rate of HICP inflation.³ Chart A shows that base effects stemming from energy

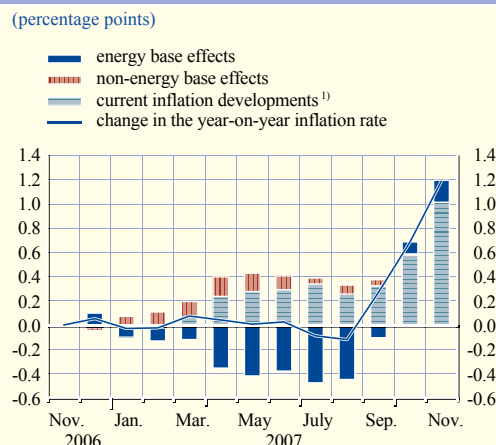
- 1 For more information on food prices, see the box entitled “Euro area food prices: recent developments and outlook” in the December 2007 issue of the Monthly Bulletin.
- 2 See the box entitled “Base effects and their impact on HICP inflation in early 2005” in the January 2005 issue of the Monthly Bulletin. See also the box entitled “The role of base effects in driving recent and prospective developments in HICP inflation” in the January 2007 issue of the Monthly Bulletin.
- 3 The contribution of base effects to the monthly changes in the year-on-year rate of inflation is calculated as the deviation of the (non-seasonally adjusted) month-on-month change 12 months earlier from the estimated “normal” month-on-month change. The “normal” month-on-month change is obtained by adding an estimated seasonal factor for each month to the average month-on-month change observed since January 1995.

Chart A Decomposition of the monthly change in annual HICP inflation



Sources: Eurostat and ECB calculations.
1) Calculated as the difference between the change in the year-on-year inflation rate and the combined base effects from energy and non-energy components.

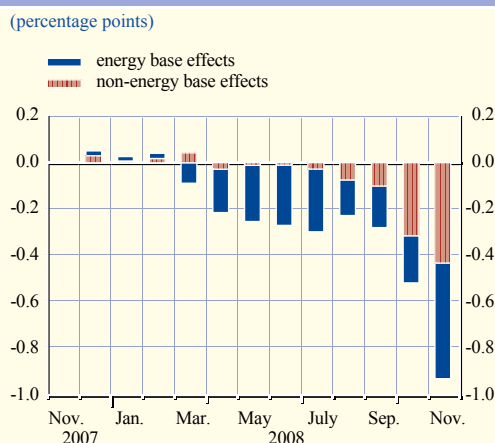
Chart B Decomposition of the change in annual HICP inflation since November 2006



Sources: Eurostat and ECB calculations.
1) Calculated as the difference between the change in the year-on-year inflation rate and the combined base effects from energy and non-energy components.

prices had a favourable (downward) impact on annual HICP inflation in the first half of 2007 and a strong unfavourable (upward) impact in September and October. In December energy base effects are estimated to have been negligible. Base effects from non-energy components were, overall, relatively small in 2007. For the year as a whole, favourable and unfavourable base effects from energy and non-energy components broadly offset one another, and most of the cumulative increase in annual HICP inflation was accounted for by current inflation developments (see Chart B). Of the total rise in HICP inflation between November 2006 and November 2007, 0.2 percentage point reflected a cumulative upward impact of energy base effects, while the remaining 1 percentage point reflected price dynamics in 2007.

Chart C Projected impact of base effects on annual HICP inflation compared with November 2007



Sources: Eurostat and ECB calculations.

In 2008 base effects from both energy and non-energy prices are expected to make substantial downward contributions to inflation developments (see Chart C). The impact will generally be concentrated towards the end of the year as the significant increases in energy and food prices recorded in the second half of 2007 will drop out of the annual comparison 12 months later. Other possible favourable base effects related to the disappearance from the annual comparison of the German VAT and university fee increases in 2007 would have their main impact during the period from January to April 2008. Even if domestic energy and food prices evolve in line with their historical trends, the implied base effects would pull down HICP inflation by around 1 percentage point cumulatively in the 12 months to November 2008. However, the extent to which these favourable base effects will also lead to lower HICP inflation hinges crucially on the absence of further shocks to oil and food prices and on the evolution of the other HICP components. Clearly, therefore, it cannot be taken for granted that, by the end of 2008, inflation will fall by the amount depicted in Chart C.