Box 5

NEW STATISTICAL SERIES MEASURING THE IMPACT OF INDIRECT TAXES ON HICP INFLATION

Two key channels through which national governments can have a direct impact on consumer price developments are those of administered prices and indirect taxes. In order to assess the role of the government sector in influencing inflation developments, it is therefore useful to properly measure the size of these effects.

In the case of administered prices, the ECB has published an experimental index since April 2007. This index is a sub-index of the HICP, which includes only those products whose prices are influenced by government.[1]

With regard to indirect taxes, Eurostat has recently published a new experimental HICP index at constant tax rates (HICP-CT).[2] For reasons of simplicity, this new index, developed by Eurostat in consultation with the ECB, eliminates the "mechanical" impact of changes in taxes on consumer price inflation on the assumption that these changes are immediately and fully passed through to consumer prices. The HICP-CTs have been published for all EU countries, with the exception of Ireland, with the series for most countries starting in December 2002. The aim of this box is to provide a brief introduction to the attributes and interpretation of the newly published HICP-CT.

The taxes that fall within the scope of the HICP-CT are taxes on products that are part of final consumption expenditure. These are mainly VAT and excise duties, particularly on alcoholic beverages, tobacco and energy items (fuel, heating oil, etc.), as well as taxes on some specific items such as cars, insurance and entertainment.[3] In principle, all taxes covered by the HICP-CT ought to be kept constant. However, for simplicity, taxes which generate very small revenues may be ignored in the calculation of the HICP-CT, in the sense that they are not kept constant, but change as recorded in the headline HICP.[4]

The HICP-CT is calculated using the same weights, index formulae and structure of aggregation as the headline HICP. The key difference is the treatment of taxes applied to the different products. In the HICP-CT, the tax rates are kept constant with their level for December of the previous year. In a given month, the current tax rates are removed from the consumer price and the tax rates from the previous December are applied instead. If all tax rates in a given

1 Administered prices cover all goods and services with prices fully set or mainly influenced by government. See also the box entitled "Measuring and assessing the impact of administered prices on HICP inflation" in the May 2007 issue of the Monthly Bulletin.
2 See http://epp.eurostat.ec.europa.eu/portal/page/portal/hicp/methodology/hicp_constant_tax_rates.
3 Subsidies directly related to final consumption are not considered within HICP-CT for the time being.
4 Any individual tax which accounts for less than 2% of total tax revenue does not need be taken into account for the HICP-CT calculation, as long as the sum of all taxes which are kept constant in the index reaches a minimum level of 90% of the total tax revenue.

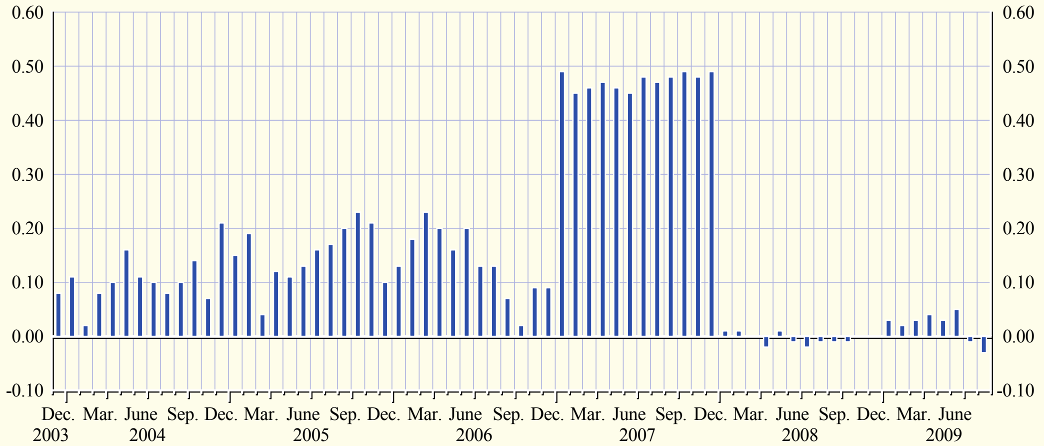
year have remained unchanged since December of the previous year, the HICP and the HICP-CT will show exactly the same monthly rates of change. Any differences in the developments between the HICP and the HICP-CT provide the upper bound for the realised impact of tax changes. Moreover, this impact is concentrated at the point in time when the change in the tax rate becomes effective. This is due to the fact that the methodology described above implicitly incorporates the mechanical assumption of a full and immediate pass through of tax changes to consumer prices. Although in reality the pass through is slower, for statistical purposes there is no practical alternative to assuming a full and immediate pass-through given that the index must be compiled on a monthly and timely basis.

In the period from December 2003 to August 2009, for the euro area, an average of 0.15 percentage point of the overall annual inflation can be attributed to changes in indirect tax rates. The mechanical effect of such changes in tax rates on inflation varies significantly over time. In fact, the largest difference (0.5 percentage point) was observed in 2007. This was mainly accounted for by the increase in the standard rate of VAT in Germany, which rose from 16% to 19% in January 2007. The tax rate changes between December 2002 and December 2007 had an impact on overall annual inflation on average of 0.21 percentage point. After December 2007 there are no significant differences between the HICP and the HICP-CT inflation rates, as there have been no major tax rate changes since then at the euro area level.

The case of the German VAT increase in 2007 illustrates the difference between the mechanical impact of changes in indirect taxation and the realised impact. This is captured by the difference in the annual growth rates of the HICP and the HICP-CT, which amounts to about 0.5 percentage point for the euro area (see chart). In practice, as the German VAT increase was announced well in advance, some of the increase was already anticipated in the last months of 2006. With the introduction of the change in January 2007, there was indeed a sharp increase in consumer prices, but the full pass-through was only realised with a lag by the end of 2007. According to estimates by the Deutsche Bundesbank, just under 30% of the total impact was

Impact of indirect tax changes on euro area HICP inflation

(percentage points)



Sources: Eurostat and ECB calculations.

anticipated in 2006, roughly one-third came at the beginning of 2007 and the remainder was accounted for by adjustments during the rest of 2007.[5]

This case study illustrates that, at the time of implementation of changes in tax rates, making use of the HICP-CT may lead to an overestimation of their realised impact, since the pass-through is assumed to be full and instantaneous. To the extent that the tax rate increase eventually passes through in full, this simply suggests that the timing and pace of the realised impact may differ from the mechanical ones implied by the HICP-CT. The overall realised impact may, however, also be smaller than the mechanically calculated one, depending on firms' pricing strategies. Still, the availability of the new euro area index and the data for its country correspondents will make it possible to pinpoint exactly when tax changes are implemented and their possible long-run impact on inflation.[6]

Together with the index for administered prices, the HICP-CT will permit a better and more transparent assessment of the impact of government measures on HICP inflation. Overall, the impact of both indirect taxation and administered prices on euro area inflation has not been negligible. Developments in such measures thus need to be taken into account when assessing overall inflationary pressures. Notably, indirect taxes limit the extent to which wages and profits may contribute to inflation without endangering price stability. The new HICP-CT index comes at a time when several euro area countries are discussing changes in indirect taxation and may therefore facilitate a better evaluation and anticipation of the possible impacts of such measures on inflation developments.

5 See the article entitled "Price and volume effects of VAT increase on 1 January 2007" in the Deutsche Bundesbank's April 2008 Monthly Report.

6 Eurostat will initially only publish the HICP-CT for the overall index without breakdowns for HICP components and with an additional one month delay vis-à-vis the headline HICP (i.e. around 45 days after the reference month, rather than 15). However, the eventual aim is to produce indices with the full breakdown for HICP components and the same timeliness as the HICP.