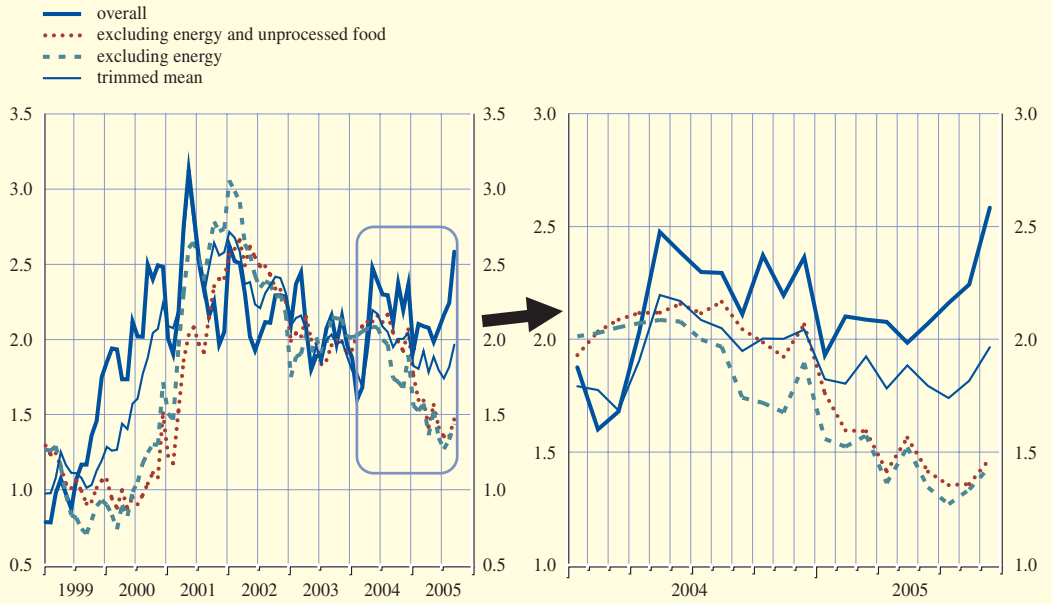
Box 3

DIVERSE PATTERNS IN HEADLINE AND UNDERLYING INFLATION

Since January 2005, the patterns of headline HICP inflation and commonly used indicators of underlying inflation have diverged significantly. For example, while overall inflation stabilised at around 2.0% in the period up to July 2005 before rising to 2.6% in September, HICP inflation excluding unprocessed food and energy decreased from around 2% to around 1.5% over the whole period. This is not the first time that such a large gap (more than 1 percentage point) between the two indicators has arisen. From the second half of 1999 to 2002 a similar gap appeared, and was finally closed when underlying inflation caught up with headline inflation. In this episode, contrary to arguments often put forward, indicators of underlying inflationary pressures in fact turned out to lag developments in the overall HICP rather than providing a reliable signal of medium-term inflationary pressures. This box

Chart A Headline and underlying inflation, short and medium-term perspectives

(annual percentage changes)



Sources: Eurostat and ECB calculations.

presents two important messages drawn from an analysis of current developments and a comparison with past ones, namely that: (1) there is no clear-cut answer to the question of which indicator is lagging the other, as this depends on the nature of the shocks affecting the economy, and (2) the uncertainty with regard to the nature of current shocks impacting on inflation – whether they are temporary or more lasting – suggests a need for caution in interpreting the currently relatively subdued levels of some underlying inflation indicators.

The relationship between headline and underlying inflation depends on the nature of the shock impacting on inflation

Various types of underlying inflation indicators can be referred to (for a detailed presentation, see "Measures of underlying inflation in the euro area", ECB Monthly Bulletin, July 2001). One type of measure, which can be labelled "permanent exclusion", relies on the exclusion of the same HICP items over time. A commonly used permanent exclusion measure for the euro area is HICP inflation excluding unprocessed food and energy, two categories generally considered particularly volatile. Another frequently cited measure of this type is simply the HICP excluding energy. The second type of measure is more ad hoc: it excludes items from the basket at given points in time on the basis of their behaviour. The composition of the indicator therefore differs from period to period. For instance, the trimmed mean measure we refer to hereafter excludes the 10% strongest price decreases and increases (5% on each side) of the index.

As noted above, while overall inflation rose in August and September, the permanent exclusion measures have pointed to an easing of inflation, particularly since January 2005 (Chart A). The

picture is slightly different for recent developments in the trimmed mean measure, which lies between headline inflation and the two permanent exclusion measures. Unlike the two exclusion measures, the trimmed mean excludes by construction the effect of some downward shocks on overall prices. It was relatively stable, at around 1.7% to 1.9%, in the first eight months of 2005, before rising slightly, to 2.0%, in September. However, the gap between this measure and overall inflation has also widened recently.

It is interesting to compare the current situation with the period from mid-1999 to 2002, in which a considerable gap also opened up between overall HICP inflation and underlying measures. Also during this period, the difference between headline inflation and the trimmed mean was smaller than the gap with permanent exclusion measures. In the end, all the indicators of underlying inflation clearly converged upwards towards headline inflation with a lag. What is evident from both this period and today's situation is that an oil price shock is undoubtedly the initial driving force behind the rise in headline inflation. Such a shock initially impacts on headline inflation. Given that it can also result in indirect effects and possible second-round effects, it could be expected that the indicators of underlying inflation would at least partly adjust upwards, albeit with some delay.

Thus such a delayed upward movement in underlying inflation indicators back towards headline inflation might also be expected to occur, at least to some extent, in the current situation. However, there are also substantial differences between the two periods. In the period from 1999 to 2002, the oil price shock was reinforced by the depreciation of the euro and by adverse food price shocks related to animal diseases. In addition, domestic demand was more robust in 1999 and 2000 than it is today, and wage pressures were stronger. It is also likely that the euro cash changeover constituted an additional shock which affected the HICP, in particular services prices. This example illustrates that an analysis of the economic context is a necessary condition for understanding the relationship between the headline HICP and measures of underlying inflation. Thus, the ECB's strategy relies on an analysis of all the shocks affecting headline inflation and on a wide variety of economic indicators, in order to enable such a comprehensive economic diagnosis.

The uncertainty with regard to the nature of current shocks impacting on inflation is particularly strong

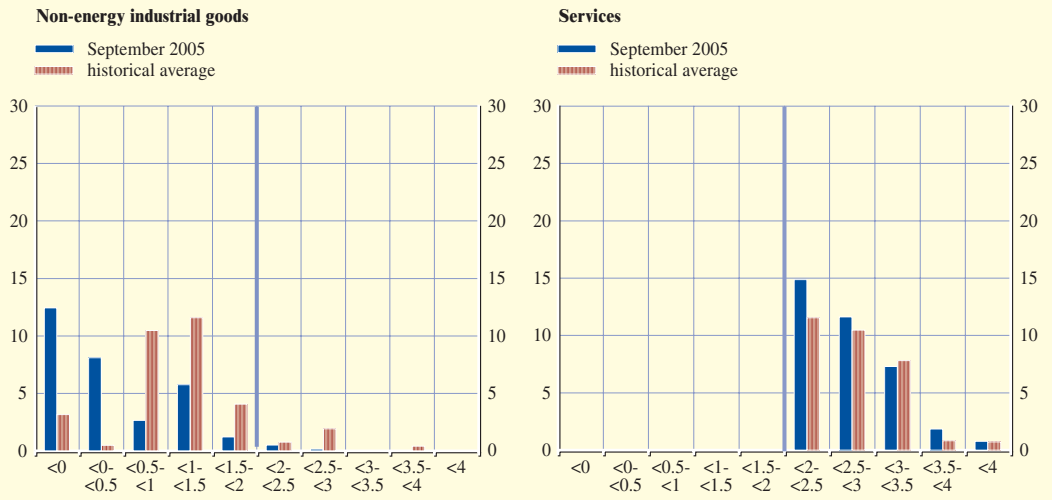
There is strong uncertainty today about the precise nature of some shocks impacting on prices – in particular as to whether or not these will be of a lasting nature; thus excluding them in order to obtain a measure of underlying inflation may be misleading as regards the overall price pressures that may be faced by consumers over the medium term.

On the one hand, the oil price pattern could have significantly changed, as stronger demand (in particular from China and other emerging economies) and supply constraints (due to insufficient refinery capacity) may last for some time. While this conclusion must still be tentative, the possibility must be considered when assessing the outlook. Thus, it could be argued that the current oil price rise should not simply be regarded as "volatility" and should not, therefore, be excluded from indicators of underlying inflation.

On the other hand, on the downside, there are also a number of uncertainties. From the distribution of annual rates of change, two observations can be highlighted: services prices are

Chart B Distribution of the annual growth rates of HICP components

(in percentage of overall HICP)



Sources: Eurostat and ECB calculations.
Note: The charts show the distribution of annual growth rates in non-energy industrial goods and services at the detail level of almost 100 sub-components of the HICP. A bar for a given range (for example between 1.5 and 2.0) reports the share of HICP items whose annual growth rate is within this range. The "historical average" is the average growth between January 1995 and September 2005. The vertical line represents the upper limit of the ECB's definition of price stability over the medium term.

persistently increasing faster than goods prices, and the distribution of the annual rates of change in goods prices has clearly shifted to the left (Chart B). A detailed analysis of the HICP sub-components reveals that this shift is attributable to several factors. The decline in the price of household high-tech equipment has recently accelerated: the rates of change in the prices of equipment for recording and photographic instruments are today significantly below their ten-year averages (1995 to September 2005) and computer prices in the HICP have persistently been decreasing by around 13-14% a year. Average textile prices have also declined, with the annual growth rate of textile items today being between 0.6 and 1.7 percentage points below their ten-year averages. For many manufactured goods, notably textiles, these more subdued price developments may be related to the rise in exports from China. They may therefore persist for some time to come, even if the overall impact of this factor is difficult to gauge (see the box entitled "Trade liberalisation and its impact on the euro area textile and clothing sectors" in the October 2005 issue of the ECB's Monthly Bulletin). If this is the case, such developments, which may help to keep inflation low for a while, should not be regarded as pure volatility (as is implicitly the case with the trimmed mean measure).

One possible interpretation of this analysis may well be that the global economy is currently experiencing sizeable changes in relative prices, which may in part reflect the strong rise in exports from China and a number of other Asian countries. On the one hand, the strong demand for resources from these economies is putting upward pressures on commodity prices. On the other hand, the growing importance of these economies in the world markets is fostering competition and helping to keep manufactured goods prices low. Seen from this angle, it would be misleading to exclude only one effect, namely the rise in oil prices, from the HICP in order to assess underlying inflation trends. At the current juncture, the uncertainty with regard to the

temporary or permanent nature of some of the current shocks impacting on inflation is limiting the ability of underlying inflation indicators to signal medium-term inflationary trends.

Summing up, an optimal assessment of medium-term inflation developments will not rely only on indicators of underlying inflation, but rather be based on a broad cross-check of all indicators with a view to identifying the nature of the shocks impacting on inflation and their likely persistence. In this context, there would be little justification for giving priority to indicators of underlying inflation over such a broadly-based analysis of the shocks driving prices.