Box 1

Core inflation

The shift to inflation targeting requires an adequate framework for decision-makers, which implies having in place and using a measurement of inflation relevant for monetary policy decisions.

It is universally accepted that the consumer price index – an indicator the general public is most familiarised with, which is used by most central banks in defining the inflation target – reflects the impact of some factors that are beyond the control of the monetary authority such as the adjustments in administered prices and in taxes, adverse weather conditions or oil market shocks. Despite their significant impact on inflation rate, such short-lived shocks do not require monetary policy responses, as they are usually reversible and do not affect inflation expectations. In order to separate the effects of such shocks, inflation is decomposed into a transitory component and a permanent component – core inflation – that mirrors the persistent sources of inflationary pressures and, owing to its lower volatility, is more relevant for monetary policy decisions and easier to forecast than headline inflation.

Professional literature features several methods to construct core inflation. In order to single out the most adequate measure, the following criteria must be met: (i) it should be available in a timely manner for decision-making purposes and revisions must not be frequent; (ii) distortions can be removed so that the trend of the time series should not be systematically different from the trend of inflation rate, thus obviating the possibility of sending false signals, and (iii) it should be readily verifiable, which is essential for ensuring credibility.

The National Bank of Romania chose, like most central banks, to determine core inflation by using the exclusion method, i.e. CORE1[*] which strips out administered prices from headline inflation and CORE2[*] which, apart from excluding administered prices, strips out highly-volatile prices, i.e. those of fresh fruit and vegetables, eggs, fuels. The main reason behind this option was that this method is a simple one, which is essential in ensuring good communication with the public, especially when it comes to introducing a new concept. Moreover, the importance of this selection criterion was underscored by the need to avoid potential credibility erosion that could arise from the fact that the institution whose main objective is to attain a certain inflation target is, at least for the time being, the same as the one calculating core inflation.

The most common approaches to deriving measures of core inflation include:

- **moving averages**, by determining the inflation trend; however, this time series is not available in timely manner, as the observation at a specific moment should be based on both past and future information (in the case of centred moving averages);
- **exclusion** of some products from the CPI basket, which are believed to have a substantial contribution to inflation volatility or which are affected by supply-side shocks;
- **trimmed mean** (including **median**); the upshot of this method is an index obtained as a weighted average of an ordered distribution of price changes, by removing in advance a certain percentage of the lowest and the highest price changes;
- **Edgeworth index**, by recalculating the weights in the CPI basket, highly volatile components being associated with lower weights.

*) For lack of fixed base indexes, calculations took into account the monthly growth rates of prices.