Box 1

Annual review of the reference value for monetary growth

At its meeting on 6 December 2001 the Governing Council of the ECB reconfirmed the reference value for monetary growth of 4½% per annum for the broad monetary aggregate M3. This box provides some background information on this decision.

In the ECB's monetary policy strategy, money is assigned a prominent role. To signal the prominent role of money to the public, the Governing Council decided in October 1998 to announce a quantitative reference value for the growth rate of the broad monetary aggregate M3. Several studies have provided empirical evidence in support of this role and confirm that the conditions for announcing a reference value are satisfied for the euro area. The official series of M3 (which is now adjusted for all non-euro area residents' holdings of negotiable instruments) exhibits all the desired properties: M3 continues to have a stable relationship with key macroeconomic variables like prices, income and interest rates, and good leading indicator properties for future price developments at medium-term horizons.

The reference value refers to the rate of monetary growth which is consistent with – and serves the achievement of – price stability over the medium term. The derivation of the reference value is therefore based on the ECB's definition of price stability as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%. In addition, to be consistent with the medium-term relationship between money and prices, the reference value is derived using assumptions for the medium-term trends in M3 income velocity and potential output growth. On 6 December the Governing Council reviewed the estimates of the medium-term assumptions for M3 income velocity and potential output growth underlying the reference value on the basis of additional data that had become available since the last review of the reference value in December 2000. The Governing Council confirmed the medium-term assumptions that M3 income velocity declines at a trend rate in the range from ½% to 1% per annum and potential output grows at a trend rate of between 2% and 2½% per annum.

Taking account of the definition of price stability and these two assumptions, the Governing Council decided to reconfirm the existing reference value for monetary growth, namely an annual growth rate of 4½% for M3. Furthermore, the Governing Council announced that it would continue to monitor monetary developments in relation to the reference value on the basis of a three-month moving average of annual growth rates.

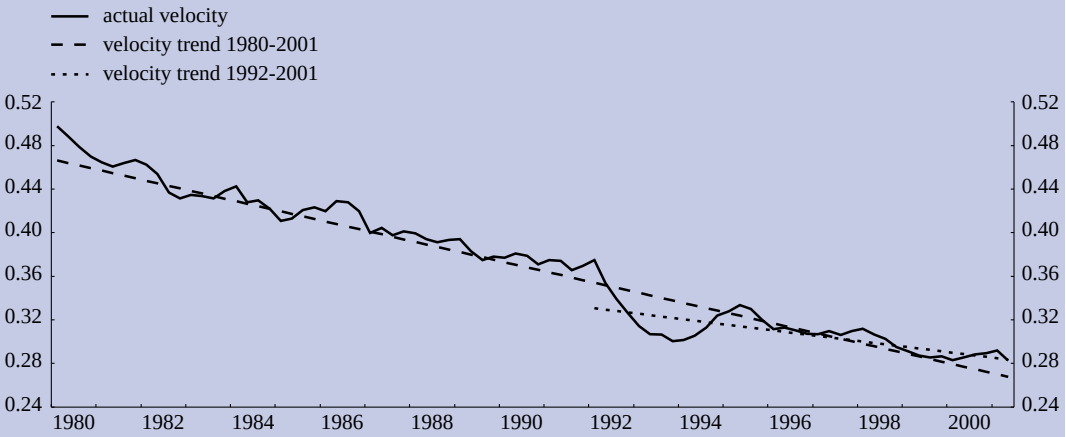
With regard to the assumption of trend potential output growth, the Governing Council considers that there is still no decisive evidence of measurable and lasting increases in productivity growth in the euro area that would warrant an upward revision to this assumption. The Governing Council believes that the potential upward impact on trend output growth from structural reforms and technological innovation could be large. However, while some progress has been made in the field of structural reforms, significant further steps, especially in the labour and goods markets, need to be taken in order to achieve a permanent and significant increase in potential output growth in the euro area. Against this background, the Governing Council will continue to monitor the evidence with regard to developments in productivity growth in the euro area, and the ECB's monetary policy will take such evidence into account as appropriate.

As regards the empirical evidence for M3 income velocity, the Governing Council confirmed the validity of the assumption of a trend decline in M3 income velocity over the medium term within a range of ½% to 1% per annum. This was based on the following considerations. A simple trend estimate over the sample period from 1980 to 2001 suggests that the historical decline is at or close to 1% per annum on average. However, over a shorter and more recent time span the trend decline in velocity in the last decade turns out to be closer to ½% (see chart below). Still, a simple trend estimate may not represent the best estimate of a medium-term trend in velocity in the future, since it may to some extent fail to take account of the fact that the decline in inflation and nominal interest rates throughout the sample period may have contributed to the past decline in

velocity. Thus, the process of disinflation should have contributed to making the holding of liquid assets more attractive. In contrast to this, in an environment of price stability, where inflation and interest rates no longer exhibit a medium-term downward trend, the trend decline in velocity is likely to be less pronounced than over a period dominated by disinflation and falling nominal interest rates. Using money demand models[1] which incorporate additional information on the evolution of the opportunity costs of holding money (interest rates and/or inflation) it is possible to isolate the effect that the disinflation process over the 1980s and 1990s had on the historical trend decline. In the context of these models, in an environment of price stability, the trend decline is around the middle of the range of ½% to 1%. This result is fairly robust across different models and across different methods for aggregating euro area data.

M3 velocity trends for the euro area

(log levels)



Sources: ECB (M3) and ECB calculations based on Eurostat data (GDP).
Note: Velocity is measured as the ratio of nominal GDP to M3. The underlying quarterly series are seasonally adjusted and constructed by aggregating national data converted into euro at the irrevocable exchange rates announced on 31 December 1998 and in the case of Greece determined on 19 June 2000. The M3 series is based on the headline index of adjusted stocks (for further details, see the technical notes in the "Euro area statistics" section of the ECB Monthly Bulletin). M3 quarterly data are averages of end-month observations.

It should be recalled that the reference value for monetary growth is a medium-term concept. Short-run movements in M3 may stem from a number of temporary factors and do not necessarily have implications for future price developments. For this reason the Governing Council already made it clear in 1998 that the announcement of the reference value does not imply a commitment on the part of the ECB to mechanically correcting deviations of monetary growth from the reference value. Rather, developments in M3 are thoroughly analysed by the ECB, in conjunction with other indicators, in order to ascertain their implications for the risks to price stability over the medium term.

The analysis of the deviations of annual M3 growth from the reference value represents an important element in the evaluation of monetary developments and the implications for future price stability. However, monetary analysis is not limited to this evaluation. First, other monetary indicators (such as components and counterparts of M3, in particular loans to the private sector) also contain significant information. Second, it is important to take into account past deviations from the reference value which have dropped out of annual growth rates, in order to come to a broadly based assessment of the liquidity conditions in the euro area. Third, developments in M3 need to be analysed in conjunction with other indicators (e.g. real GDP, prices, interest rates and other financial market indicators) in order to understand the nature of the shocks affecting monetary developments and to best extract the indications for future price developments.

1 *See, for instance, Coenen and Vega (1999), "The demand for M3 in the euro area", ECB Working Paper No. 6; Brand and Cassola (2000), "A money demand system for euro area M3", ECB Working Paper No. 39; and Calza, Gerdesmeier and Levy (2001), "Euro area money demand: measuring the opportunity costs appropriately", IMF Working Paper 01/179.*

Looking back at the experience since the start of Stage Three of Economic and Monetary Union, the analysis of developments in M3 has constituted a very useful input into monetary policy decisions. Generally, monetary data have provided signals pointing to increased upside risks to price stability from mid-1999 onwards. Up to the first half of 2000 developments in M3 indicated relatively generous or sufficient liquidity conditions. In late 2000 and early 2001, however, monetary developments started to signal a clear easing of inflationary pressures over the medium term.

The relatively high growth rate of M3 observed over the recent past should be assessed in the light of the above considerations. The recent pick-up in the rate of growth of M3 can be explained partly as an adjustment of M3 following a sharp increase in the price level resulting from the oil and food price shocks observed in 2000 and early 2001 in the euro area and partly as a consequence of the effects of portfolio shifts. These shifts were initially triggered by a relatively flat yield curve and developments in stock markets, and, more recently, by a surge in financial market uncertainty in the aftermath of the events of 11 September. Taking into account also the continuing decline in the growth of credit to the private sector, the Governing Council has made it clear that it does not see any risks to price stability in the medium term arising from recent monetary developments.

Owing to the current economic and financial market uncertainty, the interpretation of monetary developments in the near future is likely to be more difficult than under normal circumstances – as is true for other indicators – and these developments should therefore be assessed with caution. Should, however, the current economic and financial market uncertainties subside, any persisting excess liquidity in the economy should be carefully re-assessed with respect to whether it signals risks to future price stability.

It should be borne in mind that the ECB's monetary policy strategy uses two pillars in order to assess the risks to future price stability.[2] The monetary analysis always has to be seen in conjunction with the second pillar of the ECB's monetary policy strategy, which uses other economic and financial indicators for the evaluation of the risks to price stability. This diversified approach to the analysis stimulates the cross-checking of information and takes into account various interpretations of this information, thereby reducing the risks of policy-related mistakes in an uncertain environment.

The next annual review of the reference value is scheduled for December 2002.

2 *See the article entitled "The two pillars of the ECB's monetary policy strategy" in the November 2000 issue of the ECB Monthly Bulletin.*