

PUBLICATION OF THE BENCHMARK ALLOTMENT IN THE MAIN REFINANCING OPERATIONS

Since June 2000 the ECB has published its forecast of the average autonomous factors (i.e. factors comprising those items on the consolidated balance sheet of the Eurosystem that are normally not related to monetary policy operations, but that affect the liquidity position of credit institutions) on each main refinancing operation (MRO) announcement day (i.e. one day before the allotment decision on an MRO is taken). This has facilitated counterparties' preparation of bids and their interpretation of the ECB's allotment decision in these operations. Since 8 March 2004 the ECB has improved its communication further by publishing its updated forecast of autonomous liquidity factors on the MRO allotment day to take account of changes in the forecast. In addition, it has started to publish its calculation of the "benchmark allotment" (on both days) in the MROs.

This box introduces the benchmark allotment concept and explains the reasons for its publication.¹ It also presents how to calculate the benchmark allotment.

The benchmark allotment concept

To determine how much liquidity to supply in the MROs, the ECB first makes an assessment of the banking system's liquidity needs and then calculates the benchmark allotment. This allotment is defined as the amount that allows counterparties to smoothly fulfil their reserve requirements until the settlement of the next MRO, taking into account the liquidity already supplied via the longer-term refinancing operations or other open market operations and the following liquidity needs:

- liquidity imbalances that have occurred previously in the same reserve maintenance period;
- the ECB forecast of autonomous factors;
- the ECB forecast of excess reserves.

The benchmark allotment is the allotment normally required to establish balanced conditions in the short-term money market, given the ECB's complete liquidity forecast. Balanced liquidity conditions should normally result in an overnight rate close to the minimum bid rate.²

The benchmark allotment constitutes a baseline for the ECB when making its actual allotment decision. Sometimes, however, the ECB may deviate from the benchmark amount, for example, if it wishes to address a divergence of the short-term money market interest rates from the MRO minimum bid rate, or if there are exceptional factors hampering the smooth distribution of liquidity in the money market (e.g. during the euro cash changeover or after the terrorist attacks of 11 September 2001).

The main purpose of the changes to the communication policy is to eliminate misperceptions as to whether the ECB is aiming at balanced liquidity conditions. For example, in the past, there were often changes in the liquidity forecast between the MRO announcement day and the day on which

1 See the article entitled "The liquidity management of the ECB" in the May 2002 issue of the Monthly Bulletin, and Box 2 entitled "Autonomous liquidity factors in the euro area and the use of the forecasts of liquidity needs provided by the ECB" in the July 2001 issue.

2 See the box in the article entitled "Changes to the Eurosystem's operational framework for monetary policy" in the August 2003 issue of the Monthly Bulletin.

the MRO allotment decision was taken. As a consequence, the ECB took its allotment decision on the basis of a liquidity forecast that was different from that available to the market. This difference implied some uncertainty for market participants over whether the allotment decision was due to a change in the forecast or a deliberate policy choice. With the release of the updated forecast on the MRO allotment day, the ECB reduces such uncertainty. In addition, the publication of the ECB's updated autonomous factors forecast on the allotment day permits counterparties to observe directly any change in the most important factors underlying the calculation of the benchmark allotment amount.

The changes to the communication policy came into effect at the same time (8 March 2004) as several important amendments to the operational framework of the ECB.³ These changes are:

- the maintenance period for minimum reserves always starts on the settlement day of the MRO following the Governing Council meeting at which the monthly assessment of the monetary policy stance is pre-scheduled;
- changes in the standing facility interest rates are, as a rule, implemented on the first day of the maintenance period following the Governing Council meeting at which these changes are decided;
- the maturity of the MROs has been shortened from two weeks to one week;
- the longer-term refinancing operations are allotted on the last Wednesday of each calendar month.

How to calculate the benchmark allotment

The benchmark allotment, M_t^{bench} , can be calculated as follows on the basis of the information available on day t . Day t can either denote the announcement day or the allotment day of the MRO for which the benchmark is calculated.

$$M_t^{\text{bench}} = \frac{1}{H_t - X_t} \left[\underbrace{D_t \cdot (\overline{RR} + \overline{ER} - \overline{CA}_t)}_{\text{Accumulated liquidity imbalance}} + \underbrace{H_t \cdot (\overline{AF}_t + \overline{RR} + \overline{ER})}_{\text{Future liquidity needs}} - \underbrace{H_t \cdot L - X_t \cdot M^{\text{mat}}}_{\text{Liquidity already provided}} \right]$$

where:

- H_t = number of days from (and including) day t to (and including) the day before the settlement of the next MRO. In the case of a “regular” tender schedule, H_t is equal to 9 (8) when calculating the benchmark allotment on the MRO announcement day (MRO allotment day).
- X_t = number of days from (and including) day t to (and including) the day before the settlement of the MRO for which the benchmark is calculated. According to the “regular” tender schedule, X_t is equal to 2 (1) on the MRO announcement day (MRO allotment day).
- D_t = number of days from (and including) the start of the reserve maintenance period to (and including) day $t-1$.
- \overline{RR} = daily average required reserves of the relevant reserve maintenance period.
- \overline{ER} = daily average excess reserves for the relevant reserve maintenance period.
- \overline{CA}_t = average current account holdings since the beginning of the reserve maintenance period until (and including) day $t-1$.

³ See the article entitled “Changes to the Eurosystem’s operational framework for monetary policy” in the August 2003 issue of the Monthly Bulletin.

\overline{AF}_t = estimate of average autonomous factors for the period covered by H_t . On the MRO announcement day this estimate is simply given as the one published by the ECB, $\overline{AF}^{\text{publ}}$, which always covers the period from (and including) the MRO announcement day to (and including) the day before the settlement of the next MRO. However, on the MRO allotment day, the updated forecast published by the ECB, $\overline{AF}^{\text{rev}}$ covers the day on which the ex post autonomous factors are known (i.e. the autonomous factors, AF_{t-1} , on the MRO announcement day). These ex post autonomous factors need to be subtracted from $\overline{AF}^{\text{rev}}$, so that \overline{AF}_t only covers days on which the autonomous factors are not yet known.

$$\overline{AF}_t = \begin{cases} \overline{AF}^{\text{publ}} & \text{for } t = \text{MRO announcement day} \\ (H_{t-1}\overline{AF}^{\text{rev}} - (X_t - X_{t-1})AF_{t-1})/H_t & \text{for } t = \text{MRO allotment day} \end{cases}$$

L = expected daily average liquidity supplied by the longer-term refinancing operations in the period covered by H_t .

M^{mat} = size of the maturing MRO.

All items required to calculate the benchmark allotment – apart from the forecast of excess reserves – are provided by the ECB via newswire services. The benchmark allotment published by the ECB is rounded to the nearest €500 million.

The following example shows the computation of the benchmark allotment, using the MRO announced and allotted on 15 and 16 March 2004 respectively. By using information made available by the ECB on newswire services on 15 March, the MRO announcement day, including the forecast for the average daily autonomous factors for the period 15 to 23 March of €144.1 billion, and applying a forecast of daily average excess reserves of €0.7 billion, the benchmark allotment was:

$$M_{\text{announcement day}}^{\text{bench}} = \frac{1}{9-2} \left[\underbrace{5 \cdot (134.6 + 0.7 - 134.3)}_{\text{Accumulated liquidity imbalance}} + \underbrace{9 \cdot (144.1 + 134.6 + 0.7)}_{\text{Future liquidity needs}} - \underbrace{9 \cdot 65 - 2 \cdot 212.5}_{\text{Liquidity already provided}} \right] = 215.7$$

On that day, the ECB published a benchmark allotment corresponding to the rounded amount of €215.5 billion. On the next day, when the MRO was allotted, the estimate of average autonomous factors for the same period (15 to 23 March) was revised upwards to €144.8 billion and the realised autonomous factors on 15 March amounted to €140.9 billion. Therefore, on the MRO allotment day, the relevant autonomous factors forecast was:

$$\overline{AF}_{\text{allotment day}} = (9 \cdot 144.8 - (2 - 1) \cdot 140.9) / 8 = 145.3$$

and

$$M_{\text{allotment day}}^{\text{bench}} = \frac{1}{8-1} \left[\underbrace{6 \cdot (134.6 + 0.7 - 134.7)}_{\text{Accumulated liquidity imbalance}} + \underbrace{8 \cdot (145.3 + 134.6 + 0.7)}_{\text{Future liquidity needs}} - \underbrace{8 \cdot 65 - 1 \cdot 212.5}_{\text{Liquidity already provided}} \right] = 216.6$$

The rounded amount of €216.5 billion corresponded to the benchmark allotment that was eventually decided and published on the MRO allotment day.

In this example, the benchmark allotment was €1 billion higher on the MRO allotment day than on the announcement day. Without the publication of the updated figures on the allotment day, market participants could possibly have misinterpreted the allotment. This highlights the usefulness of publishing the updated figures on the MRO allotment day.