# Preliminary statistical balance sheet of the MNB July 2003

Starting from this press release, the MNB has changed the structure of its published balance sheets and tables containing the monetary base<sup>a</sup> (see Appendix 1). Simultaneously, the Bank publishes seasonally adjusted data and annualised month-on-month growth indices calculated from trend data on developments in the monetary base (see Appendix 2).

The monetary base declined by HUF 52.4 billion to HUF 1810.3 billion. Of the components of the monetary base, the monthly average stock of currency in circulation fell by HUF 13.1 billion to HUF 1395.2 billion, the monthly average stock of other monetary financial institutions' current account deposits increased by HUF 4.4 billion to HUF 388.1 billion, and the average stock of other monetary financial institutions' overnight deposits fell by HUF 69.9 billion to HUF 27 billion.



### Components of the monetary base

<sup>&</sup>lt;sup>a</sup> The outliers occurring in the monetary base in January and February 2003 were caused by an extraordinary increase in the average stock of overnight deposits due to the speculative attack.



#### Changes in the monetary base

Note: The trend does not include one-off effects, such as changes in the reserve requirement regulation or outliers in overnight deposits statistics for January and February 2003.

The annualised month-on-month growth index of the monetary base derived from trend data stood at 114.2%, down by 5 percentage points on the rate for June.



Annualised growth indices of the monetary base and its components

Note: Annualised month-on-month growth indices derived from trend data. The Bank does not publish a separate index for overnight deposits, which are also a component of the monetary base, as the stock of overnight deposits fluctuates considerably (frequently moving to zero) and it shows no seasonality. The monetary base, however, includes overnight deposits.

Deposits by other monetary financial institutions (excluding the central bank) fell by HUF 157 billion to HUF 638.6 billion, while lending by other monetary financial institutions rose by HUF 1 billion to HUF 18 billion.



Loans and deposits by other monetary financial institutions

The stock of lending to the central government fell by HUF 1.6 billion to HUF 869.1 billion, and deposits by the central government rose by HUF 128.7 billion to HUF 437 billion.

Net assets of the central bank vis-à-vis non-residents fell by HUF 26 billion relative to June. Assets vis-à-vis non-residents fell by HUF 17.9 billion to HUF 3043.8 billion, and liabilities increased by HUF 8.1 billion to HUF 1187 billion.



#### Central bank's assets and liabilities vis-à-vis non-residents

For the source data used in this press release, refer to the MNB's website at <u>http://www.mnb.hu</u> under Statistics/ Statistical Time Series/VII. Monetary survey and monetary aggregates/Monetary Statistics/Table 1.

#### Appendix 1

## Changes to the MNB's statistical balance sheet

Consistent with the publication on developments in the monetary balance sheets released on 31 July 2003, the MNB has also changed the structure of the preliminary statistical balance sheet. Starting from this release, the preliminary data on the MNB's statistical balance sheet and the monetary base will be published as part of the series on the new monetary balance sheets, to be overwritten with the finalised data at the end of each month.

The new data to be published comprise seasonally adjusted and trend data for the monetary base, in addition to annual growth indices derived from the trend.

Some of the data excluded from the balance sheet will be available from other publications of the MNB, or have only limited information content. However, the data withdrawn from publication will be excluded only to the extent that they are published not as separate entries, but as part of other entries. In other words, no data have disappeared completely. The data left out and those reclassified into other balance sheet items are as follows:

- derivatives transactions vis-à-vis the central government and non-residents have been reclassified into other assets/liabilities in the new tables. the reason for this is that such data were published other assets/liabilities earlier, and the ECB follows the same approach as well;
- profits/(losses) of the MNB were published under other liabilities earlier. In the new table, profits/(losses) are included in equity and reserves;
- the Bank has ceased to break down lending to and foreign currency deposits of other monetary financial institutions according to short and long maturities;
- outstanding MNB bills issued in Hungary and abroad, and held by monetary financial institutions are now stated under (resident) holdings of debt securities;
- liabilities of the MNB other financial corporations are included in other domestic deposits;
- non-residents' assets and liabilities in a breakdown by instrument are not included in the table but are available in the balance of payments statistics.

The new series published on the website (<u>http://www.mnb.hu</u>/Statistics/ Statistical Time Series/ VII. Monetary survey and monetary aggregates/Monetary Statistics) presents the statistical balance sheet of the MNB and data on the monetary base in the following tables:

Table 1./a Statistical balance sheet of the MNB (S.121) and the monetary base (Ft billions (not seasonally adjusted; month-end stocks))

- 1/1. Assets
- 1/2. Liabilities

Table 1./b The monetary base and its components (Ft billions; monthly average stocks)

1.b/1. Seasonally not adjusted stocks and annual growth indices

1.b/2. Seasonally adjusted stocks and annual growth rates

## Appendix 2

#### Methodology of seasonally adjusting the monetary base

Developments in the original times series are influenced by a number of factors which may make it difficult to analyse data. Such factors are, for example, more or less regular within year fluctuations in the series, which may result from economic activities depending on a particular period of the year and variations in the number of working days. These fluctuations are generally referred to as seasonal patterns. In the case of longer time series, lasting changes which may take more than a year are called trends, those exhibiting ups and downs may be called cycles. One-off, accidental effects also influence the behaviour of times series, in addition to lasting effects, which divert the time series from the outturn expected on the basis of the effects of the trend, cycle and seasonal patterns. These one-off spikes are called outliers. Several types of outliers are distinguished - there are additive outliers, transitory changes, where the time series return to the original path after a short period, and level shifts, where the path of the time series changes permanently. In order to eliminate seasonal fluctuations in a simple way, the Bank uses annual indices to calculate the growth rates. One disadvantage of this approach is that it reflects economic developments with some delay and for a full one-year period. However, eliminating seasonal fluctuations from the time series makes it possible to generate month-on-month growth rates. After eliminating the outliers form the time series, seasonal effects may also be eliminated using a calculation method developed for this purpose. Consequently, the seasonally adjusted time series, derived in this way, only includes

a trend component, the cyclical component and the irregular component. If accidental events play an important role in developments in the time series, it is more expedient to use smoother trend data for the purposes of analysis.

Starting from this press release, the MNB publishes the seasonally adjusted data for the monetary base. The seasonally adjusted data for the components of the monetary base available on the Bank's website also include currency in circulation and current account deposits. These time series include the effect of external, specific factors. In other words, the outliers have not been eliminated from the time series data. In the case of the monetary base, the directly seasonally adjusted data are published. Due to the complexity of the calculation method, the sum of seasonally adjusted components does not produce the seasonally adjusted value of the monetary base. The dates of the outliers found during the procedure are also published in the times series on the Bank's website. Where it is justified on the basis of economic factors, explanation for the phenomenon is also provided.

As, based on the Bank's experience, the seasonally adjusted data for the monetary base tend to behave erratically, trend data after eliminating external factors (such as changes in reserve requirement regulation and outliers in overnight deposits in January and February 2003) are used to derive the month-on-month annualised growth indices published in the press release. The trend data, providing the basis for the indices, are published as part of the times series on the Bank's website.

The TRAMO/SEATS software package, available on the Demetra interface and including model-based filtering, is used to perform the calculations. Auxiliary variables have been introduced to eliminate the effects of outliers. An unavoidable characteristic of the calculation procedure is that data for earlier periods may change, depending on the new incoming data. In order to handle the problem, the Bank has chosen the solution, whereby the parameters of the model for analysing the time series are fixed for the time series for the period up to December 2002, and the parameters derived in this manner have been used to estimate data for 2003. The Bank continuously evaluates the applicability of the model; however, it first plans to re-estimate the model only on the basis of data for December 2003.

Methodological notes to the seasonally adjusted data:

1 The monetary base is seasonally adjusted using the TRAMO/SEATS software package, within the Demetra interface.

2 The effects of holidays are eliminated using a built-in variable designed for holidays in Hungary; the working-day effect is eliminated using two-regression variables.

3 Outliers are identified according to the default setting, allowing the identification of all three types of outlier.

4 In order to minimise revisions, the same model setting is to be used for one year.

5 When interpreting the results, it is important to note that the indices for the latest two months may change significantly, depending on the new incoming data.