

Methodological notes to the press release on interest rate statistics

Beginning with the publication for August 2017, the Internet time series were expanded with data on forint housing loans broken down by the purpose of use from January 2017, grouping them into categories based on up to one year and over one year interest rate fixation.

All of the chart pack graphs accompanying the press release plot monthly average APRC and monthly average interest rates, weighted by the volume of new business in loans and deposits in the given month, as well as the volumes of new business.

From 2006 until the end of 2016, the Bank used a sampling technique to define the range of data providers. The disaggregation of the reporting population into homogenous strata has served as a basis for designing the sample. The new contractual data published in the press release are derived by aggregating the respective data of credit institutions included in the sample that have been designated to provide data. The combined balance sheet total of credit institutions in the sample accounts for more than 95% of the banking sector's aggregate balance sheet total. As a result, the composition of reporting institutions has changed, with a reduction in the number of data providers. Generally, the change in the range of data providers has not influenced developments in average interest rates, except in the case of certain loan facilities (e.g. loans for house purchase with 10 year maturity), where few data providers reported significantly different data in 2005. Here, the change in the range of reporting institutions has amplified the effect of changes in the composition of loans.

From January 2017, all credit institutions and EEA branch offices provide interest rate statistics to the MNB, replacing the previous practice of defining the range of data providers using a sampling technique.

This press release includes, in addition to data on transactions in the forint interbank market, credit institutions' lending and deposit rates and APRC applied in their loan and deposit transactions with non-financial corporations (S.11) and households (S.14), as well as the aggregate amounts of new loans provided to and deposits accepted from the two sectors, presented from the perspective of credit institutions. The interest rate statistics on 'households' also include data on non-profit institutions serving households (S.15), in addition to the household sector (S.14). Furthermore, credit institutions also include building societies.

In the case of households' consumer and housing loans, the Annual Percentage Rate of Charge (APRC), and indicator containing all payment obligations, excluding principal payments, is also published. The rule for calculating the annual percentage rate of charge published by the MNB is identical to that defined by the Government Decree on the calculation, definition and publication of the APRC in force, and is applicable to all types of consumer credit and housing loans, irrespective of maturity.

The average interest rates, published in the press release, are calculated in a multi-stage process. The different levels of aggregation are illustrated by the table below:

| Levels of aggregation (i.e. of calculating averages) | Stages of aggregation (calculation of averages) | Who aggregates? |
|--|---|---------------------------------|
| 4 | Average interest rate calculated for data providers | Magyar Nemzeti Bank |
| 3 | Average interest rate on all products of data provider (e.g. consumer credit) | Data provider, from 2017 MNB |
| 2 | Average interest rate on one product (e.g. hire purchase) | Data provider, from 2017 MNB |
| 1 | Interest rate agreed in contract | Data provider |

A change in the average interest rate may be caused by a combination of a change in individual interest rates and the composition of loans.

The table also shows that until the end of 2016 interest rates reported to the MNB are averages, and therefore, the MNB is only able to decompose the effects of interest rate changes or composition changes for average interest rates by data providers individually. Consequently, an interest rate change derived at the highest level of aggregation only means that (provided that there is no supplementary information available for the MNB) a change in the banking sector's average interest rate has been caused by a change in average interest rates at data providers individually. However, individual data providers' average interest rates may also change as a result of composition effects, i.e. because there has been a shift in the percentage shares accounted for by the

various facilities and/or within the individual facilities. Generally, the MNB has no information on the size of a composition effect or actual interest rate change occurring at individual data providers. The so-called composition effect may have a significant influence on the average interest rate, if the number of transactions is low.

If there is a break in one of the charts for households or non-financial corporations, i.e. if neither contractual amounts nor interest rates/APRC are published, it means that less than three data providers have supplied data for the given facility. The rule of at least three data providers ensures that individual data cannot be identified in the statistical releases.

The chart pack graphs do not include seasonally adjusted volumes of new business in cases when the behaviour of time series changes to an extent that the results of seasonal adjustment cannot be meaningfully interpreted as an effect of exogenous factors, such as the global financial crisis. Average interest rates do not include those on non-performing loans.

The weighted average interest rate on housing loans includes data on home loans whether they are provided under market conditions or subsidised. Interest rates on loans subsidised by the government are presented from the perspective of credit institutions; consequently, they include the amount of subsidy provided to customers until June 2009. The government subsidy was eliminated in July 2009, but it was re-introduced by the Government as of 1 October 2009. Data providers adjusted the averages of assets-side subsidised interest rates by adding the amount of government subsidy to the interest rate charged to customers. In the case of liabilities-side subsidised loans, the difference between the reference yield on government securities, nearest to the term of the loan, and the interest rate on funds borrowed in the interbank market was added to the interest rate charged to customers. Consequently, interest rates on housing loans were also influenced by variations in money and capital market interest rates. On 1 October 2009, the Government resumed its programme of subsidised lending for house purchase; therefore, from that date the interest rates on subsidised loans include the amount of the government subsidy provided to customers again.

From January 2003, contractual data on loans are broken down by initial interest rate fixation instead of original maturity. Interest rate fixation refers to the period for which the interest rate is fixed in a loan contract.

The euro equivalent of individual forint loans is calculated using the MNB's central exchange rate for the last day of the month.

Where seasonal adjustment can be performed efficiently, the volumes of new business are seasonally adjusted. In the press release, seasonally adjusted data are analysed for the period up to March 2010, provided that such data are available. For April 2010 and the subsequent periods, original, not adjusted contract data are analysed in the press releases until December 2013. From January 2014, the MNB analyses developments in new business volumes regarding the forint loans and deposits of households and non-financial corporations on the basis of seasonally adjusted data, while Table 1 and Table 2 of the press release, as well as the chart pack present both seasonally adjusted and seasonally unadjusted data for new businesses.

Under Act IV of 2009, government bridging loans are forint loans at a 0% rate of interest, extended with a government guarantee, with the purpose of maintaining debtors' ability to service their debts. From December 2009, forint housing and general purpose mortgage loans of the household sector do not include data on new contracts for government bridging loans, as such loans cannot be treated as transactions expanding volumes in the credit market.

From February 2010, new loans to the household and corporate sectors do not include other restructured loans either. The reason for this methodological change is the same as that for the treatment of government bridging loans. Due to this adjustment, the volumes and APRC of new general purpose Swiss franc mortgage loans for the period September 2009–January 2010 and those of euro personal loans for the period July 2009–January 2010 contain estimates.

From December 2008, the average APRC for foreign currency-denominated housing, general purpose, personal and motor vehicle loans may contain a number of one-off effects due to the steady fall in contract volumes, and, consequently, it does not necessarily reflect actual market conditions. Therefore, the Bank does not publish the average APRC for new loans up to HUF 1 billion.

Act XC of 2010 entered into force on 14 August 2010. The law prohibits credit institutions from registering a mortgage under a foreign currency loan. This has been reflected in a decline in foreign currency lending from

September 2010. The amount of new foreign currency lending of greater than zero is explained by the opportunity to convert foreign currency loans disbursed earlier.

Due to the above legislative change to foreign currency lending, developments in the new contract values of, and APRC on, foreign currency borrowings of households will not be published in the accompanying chart pack and analysed in the press release from January 2011. However, in order to enhance comparability of forint and foreign currency lending, a chart of housing and general purpose mortgage loans as well as personal loans to the household sector, plotting the corresponding amounts of forint and foreign currency lending by instrument, will continue to be included in the chart pack.

Two new statistical tables have been added to the press release compiled from August 2011 data, consistent with the practice followed by the European Central Bank. The tables show interest rates and volumes of credit institutions' new lending and deposit contracts with the household and non-financial corporate sectors. Accordingly, the structure of the press release has been modified: the first section contains information on households' borrowing and deposits contracts and the second on non-financial corporations' borrowing and deposits contracts.

From the press release containing data on December 2011, data on forint loans granted by credit institutions for the purpose of early repayment are estimates. The reason for using estimates is that data on early repayments are cumulated from weekly reports, while those contained in the press release are derived from monthly reports. In order to ensure comparability, in cases when the last day of a month does not coincide with the weekend, an estimating method is used where only that part of a weekly report containing the last day of the month which refers to the days of the month is taken into account on a proportionate basis. The calculation is the following: amount of loans for early repayment granted in the month = (opening value for the week containing the last day of the month – closing (estimated) value for previous month) + (closing value for the week containing the last day of the month – opening value for the week containing the last day of the month)*(number of working days of the week containing the last day falling within the month)/(number of working days of the week containing the last day of the month).

From January 2012, the average APRC on loans to purchase goods in the chart pack of the press release and the time series on the Bank's website also includes the amount of contribution paid by merchants to credit institutions in the case of 0% interest or 0% APRC schemes. The values adjusted to include the amount of contribution have caused the time series containing the APRC on such loans to change by an order of magnitude from January 2012.

As an effect of early repayments of foreign currency loans, forint housing loans and general purpose loans of households rose significantly in the period November–December 2011 and January–February 2012, reflecting forint borrowing for the purposes of early repayment. However, those changes cannot be linked to seasonal effects, and therefore they would distort the seasonally adjusted value of new business. Consequently, the effects of forint borrowing for the purposes of early repayment are removed from the data on new business of forint housing loans and general purpose loans before seasonal adjustment; however, the time series continue to be adjusted for other seasonal effects.

Accordingly, in the case of forint housing loans and general purpose loans in November–December 2011 and January–February 2012, the average of the period prior to the launch of the early repayment scheme (July–August–September–October 2011) is taken into account for the purposes of seasonal adjustment, then the seasonally adjusted values for November 2011–February 2012 are increased by the difference between the estimated and the actual original values of new business.

From January 2012, the confidentiality treatment procedure has been extended. As a result, a distinctive sign has been used in cases when none of the data providers had data on an instrument, or only one or two of them transacted in that instrument. If none of the data providers had data, a '-' sign has been used, while confidential data from one or two data providers have been published with an '*' sign. The new methodology for confidentiality treatment has been applied to the time series for forint, euro and Swiss franc consumer loans going back to 2010, and it has been applied from January 2012 in the case of the other time series for interest rate statistics. From January 2012, partial aggregates in the case of the time series for forint, euro and Swiss franc consumer loans have been published going back to January 2010, excluding the time series for personal loans, car purchase loans and general purpose loans with five-year rate fixation periods. This has caused a structural change in the time series on the published on the Bank's website.

In accordance with the confidentiality treatment methodology used in the period to December 2011, a ‘-’ sign has been used when the number of data providers was less than three in confidential cases, excluding the time series for consumer loans.

Also from January 2014, (i) volumes of and interest rates on secured loans within other forint and euro loans to non-financial corporations; (ii) volumes of and interest rates on new loans with maturities of more than one year within loans with floating interest rates or with up to one year initial rate fixation; and (iii) loans of up to the equivalent of EUR 1 million in a further breakdown by amount will be published in the Internet time series linked to the press releases on interest rate statistics. The data have been backdated to January 2012.

Within forint and euro loans to households for consumption and house purchase, the volumes of, and interest rates as well as the APRC on secured loans will also be published. In addition, loans to self-employed persons will be shown separately from other loans.

In the case of data published for the period prior to 2014, the volume of secured loans includes only loans secured with 100% cover, where mortgage has already been registered. Based on the methodology applied from 2014, coverage for housing mortgages is treated in a way as if mortgage had already been registered, irrespective of whether the mortgage was registered at the time the contract was signed. Developments in interest rates on secured loans are influenced by this composition effect.

In the case of interest rates on loans to non-financial corporations, interest rates on secured loans are in some cases higher than those on total loans. The reasons for this are that developments in loan interest rates are also influenced by the borrower’s credit scoring and other individual conditions, in addition to the value of collateral (as a specific parameter), on the one hand, and average interest rates on secured loans are mainly comprised of loans bearing higher interest rates, on the other.

New business volumes of forint housing loans and general purpose mortgage loans to households do not include foreign currency loans converted into forints automatically under Act CLXII of 2009 on consumer loans; and new business volumes of forint consumer loans do not include loans automatically converted into forints under Act CXLV of 2015. In the press releases on interest rates and the time series, only new debt consolidation loans provided with the active participation of credit institutions’ own or new customers are treated as new business.

From the January 2016 publication, Table 2 of the press release has changed: agreed interest rates on forint loans of over the equivalent of EUR 1 million, adjusted for the effect of money-market loans, are presented separately. A reason for this is that interest rates on money-market loans are generally lower than those on other market loans, and changes in their volumes from month to month can have a significant influence on the average interest rate, which in turn makes the time series highly volatile. The table ‘Average interest rates on non-financial corporations’ forint loans and deposits’ will also be expanded with the times series discussed above going back to January 2015. New business volumes of forint loans of over the equivalent of EUR 1 million presented in the press release and the Internet time series will continue to include the values of money-market loans contracts.

Another change is that the charts showing the contract values of households’ forint, euro and Swiss franc housing loans, general purpose loans and personal loans (charts previously numbered 1, 3, and 5) as well as the chart ‘Monthly average APRC on forint loans for purchases of goods and the total amount of new business’ (chart previously numbered 7) will no longer be included in the chart-pack of the press release.

Beginning with the publication of data for August 2016, Table 1 of the press release has been expanded with data on forint housing loans in breakdown by interest rate fixation of up to and over one year. Average interest rates on new housing loans with initial rate fixation of up to and over one year as well as new business volumes will be presented in the press release. However, the same data will be presented in a more detailed breakdown in the Internet time series.

From January 2017, all credit institutions and EEA branch offices provide interest rate statistics to the MNB, replacing the previous practice of defining the range of data providers using a sampling technique. From 2017, the press releases and the Internet time series are compiled with full coverage of data providers. For this reason, in analysing data for December 2016 and January 2017, the composition effect may be greater than the usual value in the case of certain instruments.

The source of is also different from that of previous periods: in the case of loans, new business volumes and the related interest rates are obtained by aggregating and weighting individual contractual data. The time

series of interest rates on the outstanding amount of loans and new business volumes and interest rates on the stock of deposits are also compiled on the basis of granulated data collections, although not by individual contract data.

Beginning with the release of January 2017 data, the MNB has migrated from the tool Demetra to the JDemetra+ software in producing seasonally adjusted data.