Changes to the MFI interest rate statistics

The latest enhancements to the monetary financial institution (MFI) interest rate statistics have brought with them considerably more scope for data analysis in relation to monetary policy and financial stability. Renegotiated loans, for example, are now reported separately, meaning that the gross flow from bank loans issued to the real economy for the first time can now be estimated. This change allows the financing conditions of households and non-financial corporations to be analysed in greater detail with respect to the categories included in the MFI interest rate statistics. In addition, the further breakdown of outstanding loan amounts by residual maturity and interest rate reset period provides for a more thorough examination of the transmission of monetary policy measures.

The quality assurance measures for the MFI interest rate statistics data were expanded and better harmonised across Europe, with changes made to the grossing-up procedure used in particular. In addition, a further criterion for regularly checking the sample quality was introduced.

The MFI interest rate statistics data also serve as a basis for calculating the real interest rates on households' bank deposits. Since 1967, nominal interest rates in this category have been below the inflation rate on a number of occasions, meaning real interest rates were negative. Negative real interest rates on the bank deposits of households in Germany are therefore not unusual.

The new MFI interest rate statistics data and calculations on real interest rates are now available in the time series databases.

Content and purpose of the MFI interest rate statistics

Source of information for monetary policy and financial stability analysis

The MFI interest rate statistics provide key data for the analysis of monetary developments and the monetary policy transmission mechanism. The latter depicts the transmission channels through which a monetary policy measure, typically a change in the official interest rate, impacts economic variables such as output, employment and, finally, inflation. In theory, it is possible to identify a number of transmission channels in which bank interest rates frequently play a central role.[1] The MFI interest rate statistics data are also applied in other fields relevant to central banking, such as financial stability analysis, banking supervision and studies on the integration of Europe's financial markets.

Data collected for the MFI interest rate statistics

The data collected comprise the interest rates applied by monetary financial institutions (banks) in Germany and the corresponding volumes of new business and outstanding amounts for deposits and loans denominated in euro vis-à-vis non-financial corporations and households[2] in the euro-area member states. The aggregated interest rates are calculated as volume-weighted averages across all new business concluded during the reporting month or for all outstanding amounts at the end of the month. The German data are compiled based on a representative sample of financial institutions with reporting obligations.

Division of labour in the European System of Central Banks (ESCB)

The euro-area national central banks collect the MFI interest rate statistics data for their respective national banking sectors on a monthly basis following a common methodology. They also calculate the national aggregates and forward these to the European Central Bank, where they are consolidated and the figures for the euro area as a whole are determined.

Enhancements to the MFI interest rate statistics since 2003

Since the collection of these data began in 2003, the regulation on the MFI interest rate statistics has been revised twice.[3] For example, new reporting indicators were added in June 2010. The sampling procedure was also refined and the group of reporting agents updated.[4] Four years later, further enhancements were introduced with regard to the data collected. In addition, the data quality assurance methods were expanded and data aggregation procedures in the euro area better harmonised.[5]

Introduction of new data collection items to the MFI interest rate statistics

Additional reporting indicators since December 2014

The new items introduced to the MFI interest rate statistics for reporting as from December 2014 concerned both outstanding amounts and new business. In the case of outstanding amounts, loans were further broken down by residual maturity and next interest rate reset, while for new business, renegotiated loans were now to be reported separately.

Outstanding loan amounts by residual maturity and next interest rate reset

Further breakdown of outstanding amounts

The new statistical breakdown of outstanding loan amounts by residual maturity and time to next interest rate reset is prepared in combination with the existing breakdown by agreed original maturity, with data on loans to both households and non-financial corporations with an original maturity of over one year and over two years collected separately. These new items distinguish, first, between loans with a residual maturity of up to one year and up to two years and, second, between loans with a residual maturity of over one year and an inter-

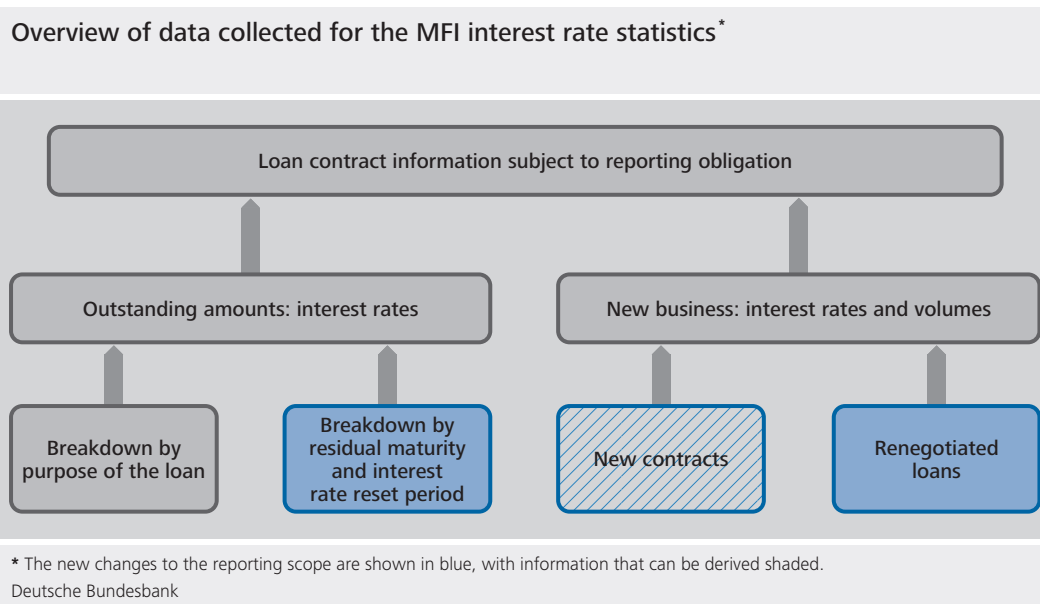**1** See European Central Bank, The monetary policy of the ECB, 2011.
2 Including sole proprietors and non-profit institutions serving households.
3 See Deutsche Bundesbank, The new MFI interest rate statistics – methodology for collecting the German data, Monthly Report, January 2004, pp 45-59.
4 See Deutsche Bundesbank, Extended MFI interest rate statistics: methodology and first results, Monthly Report, June 2011, pp 45-57.
5 See Regulation ECB/2013/34, Official Journal of the European Union (OJ L 297, p 51), and Regulation ECB/2014/30, Official Journal of the European Union (OJ L 205, p 14).

Overview of data collected for the MFI interest rate statistics *

Loan contract information subject to reporting obligation

Outstanding amounts: interest rates

New business: interest rates and volumes

Breakdown by purpose of the loan

Breakdown by residual maturity and interest rate reset period

New contracts

Renegotiated loans

* The new changes to the reporting scope are shown in blue, with information that can be derived shaded.
Deutsche Bundesbank

est rate reset within the next 12 months and loans with a residual maturity of over two years and an interest rate reset within the next 24 months. These new figures help to explain, for example, the extent to which monetary policy measures also have an effect on existing loans, where the interest rate is renegotiated upon expiry of the fixed interest period.

Analysis of outstanding loan amounts in Germany: mainly longer residual maturities with fixed interest rates …

At the end of May 2017, the outstanding volume of loans to households in Germany was approximately twice as high as the outstanding volume of loans to non-financial corporations. The vast majority of households' outstanding loans have original maturities of over two years. Only in relatively few cases will the contract end in the next two years or interest rates be adjusted in the next 24 months. A breakdown by purpose of the loan shows that outstanding loans with an original maturity of up to two years are primarily consumer loans. The outstanding volumes of loans to households with an original maturity of over two years, by contrast, are mainly comprised of housing loans. While loans with an original maturity of over two years also make up the largest share of the total outstanding volume of loans to non-financial corporations, short-term loans and loans with an interest rate reset within the next 24 months account for a significantly

greater proportion of the total volume than they do for households.

These observations illustrate that loan parties in Germany tend to enter into contracts with a long period of fixed interest. As a result, there is some delay before interest rate changes are reflected in the average interest rates on outstanding loans, with rate adjustments being visible sooner for loans to non-financial corporations than for loans to households.

… causing lag in interest rate adjustment for existing loans

The respective interest rates on outstanding loan amounts have been drifting downwards. The latest figures show that interest rates on loans to non-financial corporations with an original maturity and residual maturity of over two years and an interest rate reset within the next 24 months are, at just under 2%, significantly lower than those for loans to non-financial corporations with an original maturity of over two years as a whole (2.3%). The interest rate on loans with an original maturity of over two years and a residual maturity of up to two years is even higher, at around 2.4%.
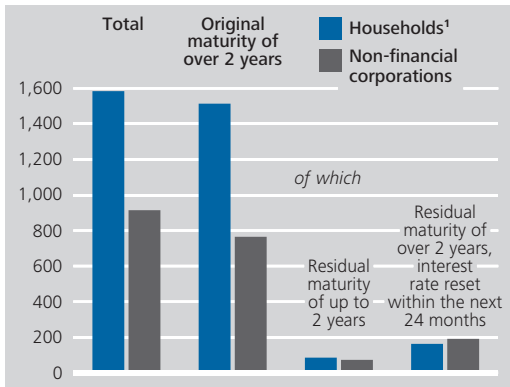
Sinking interest rates on outstanding loans to non-financial corporations

Interest rate developments for loans to households are less uniform than for non-financial corporations. While the interest rates on loans with an original maturity and residual maturity of over two years and an interest rate reset

Mixed developments for interest rates on loans to households

Outstanding loan amounts of banks in Germany

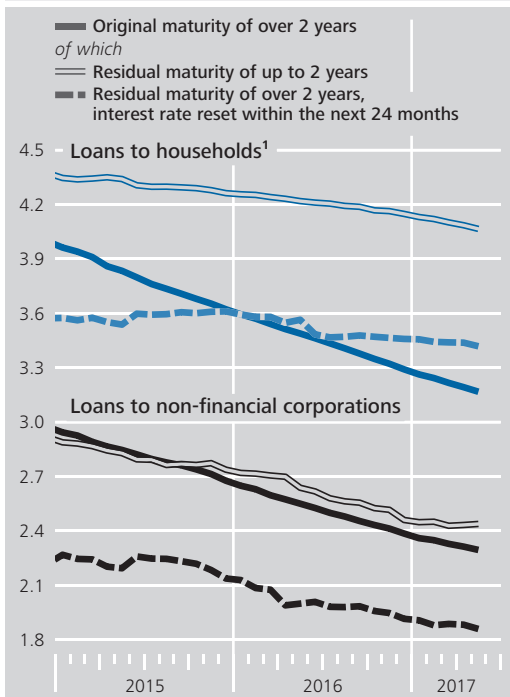€ billion, as at 31 May 2017

1 Including sole proprietors and non-profit institutions serving households.
Deutsche Bundesbank

Interest rates on outstanding loan amounts of banks in Germany

% pa

1 Including sole proprietors and non-profit institutions serving households.
Deutsche Bundesbank

within the next 24 months have remained virtually unchanged at around 3.5% since December 2014, the rates on loans with a residual maturity of over two years have continually fallen as a whole, now standing at approximately 3.2%. Interest rates on loans with an original maturity of over two years and a re-

sidual maturity of up to two years, on the other hand, are significantly higher and were roughly 4.1% at last count. One reason for this is that this category comprises considerably more consumer loans, which typically have shorter maturities and higher interest rates than, for example, long-term housing loans.

New lending: differentiating between new and renegotiated loans

New sub-items in new business …

Besides the described changes to outstanding amounts, additional classifications have also been introduced for new business. In the MFI interest rate statistics, new business includes, by definition, all new and all renegotiated agreements between the reporting institution and households or non-financial corporations during the period under review.[6] Since December 2014, interest rates and volumes of renegotiated loans are reported separately in every lending category. It is easier for reporting agents to collect data on renegotiated loans than to provide the corresponding information on new loans, which is now calculated and published by central banks.

… allow interest rates and volumes for new loan contracts to be calculated

The volume of new loans (v_E) is calculated as the difference between the total credit volume (v_G) and the volume of renegotiated loans (v_{NV}):
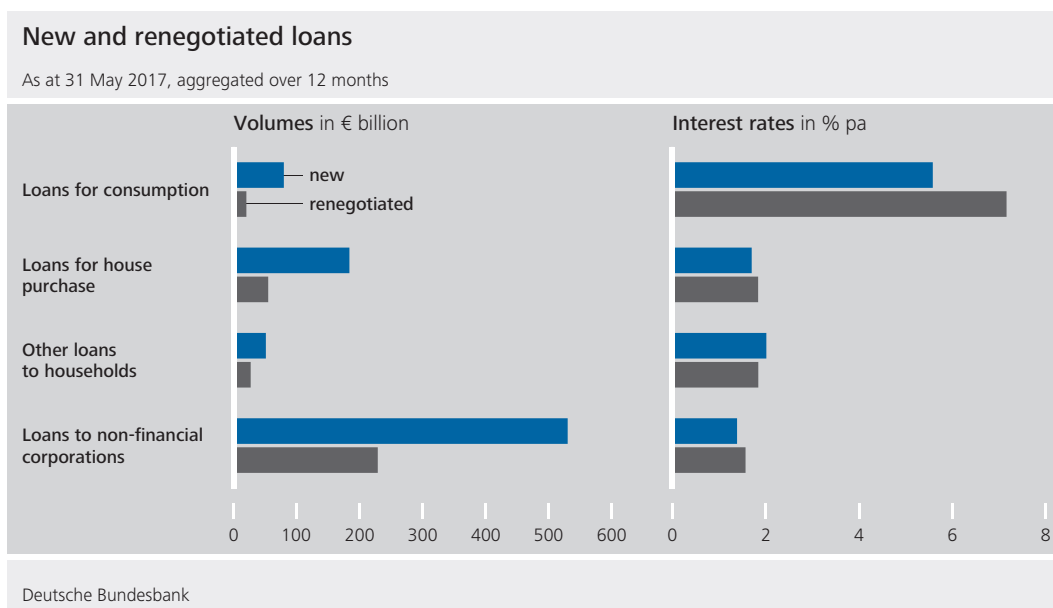
$$v_E = v_G - v_{NV}$$

The associated volume-weighted average interest rate on new loans (z_E) can be calculated using the average interest rate for all new business (z_G) and the average interest rate on renegotiated loans (z_{NV}):

$$z_E = \frac{z_G v_G - z_{NV} v_{NV}}{v_E}$$

---

6 By contrast, new business does not include previously agreed or automatic (ie without the customer's active involvement) changes to existing loan contracts which do not require a renegotiation of the contract's terms and conditions (including the interest rate).

New and renegotiated loans

As at 31 May 2017, aggregated over 12 months

Volumes in € billion   **Interest rates** in % pa

- new
- renegotiated

Loans for consumption

Loans for house purchase

Other loans to households

Loans to non-financial corporations

Deutsche Bundesbank

More detailed analysis of lending possible	The data on new loans can be used to measure the gross flow of new loans to the real economy. While growth in new lending that is in line with overall economic factors contributes to healthy economic expansion, significantly higher lending growth may be linked to the emergence of speculative asset bubbles.[7]

atic and has occurred almost every month since the new reporting categories were introduced. Amongst other things, this is because the intensity of competition when issuing new loans for house purchase is higher than for renegotiated loans, and banks try to increase their market share by offering attractive terms.

New loans dominate new business

New loans make up the largest part in all items relating to new business volume, roughly 80% for loans to households for consumption and house purchase and around 65% for loans to non-financial corporations and other loans to households.[8]

In the case of other loans to households and loans to non-financial corporations, aggregate interest rates for new and renegotiated contracts are largely at a similar level and display comparable trends. There is no indication of systematic divergences.

Only minor differences for loans to non-financial corporations

Interest rates for new loan contracts lower than for renegotiated loans for consumption …

The interest rate level for consumer credit is significantly higher than the interest rate level for other categories. At the same time, renegotiated loans for consumption are concluded on average at notably higher rates than new loan contracts. This is largely due to banks whose business model specialises in higher-yielding instalment loans. Because these institutions account for the majority of renegotiated loans in total new business, the interest rates for renegotiated loans are on the whole higher than for new loans.

■ Higher data quality

In addition to expanding the reporting items in the MFI interest rate statistics, the new rules further harmonise Europe-wide data preparation by national central banks. To this end, the grossing-up procedure used in the MFI interest rate statistics has been revised and a further cri-

Stronger harmonisation across Europe

… and for house purchase

Interest rates for renegotiated loans for house purchase are also slightly above the interest rates for new loans. This observation is system-

7 See Deutsche Bundesbank, Financial Stability Review 2015, p 76, and Ò Jordà, M Schularick and A M Taylor (2013), When credit bites back, Journal of Money, Credit and Banking, Vol 45, Special Issue 2, pp 3-28.
8 Loans to sole proprietors are mostly allocated to the "Other loans to households" category. Loans to non-financial corporations and other loans to households therefore often have similar features.

terion of regularly checking the sample quality introduced.

MFI interest rate statistics as stratified sampling with low reporting costs

The MFI interest rate statistics are collected in Germany as a representative stratified sample that avoids the high costs of a complete survey.[9] For this purpose, the reporting population of potential reporting institutions is divided into strata, with banks with similar business models being allocated to the same stratum.[10] In Germany, the largest institutions within each stratum were chosen so that, with approximately 13% of credit institutions obliged to report, there is coverage of roughly 70% of the relevant business and it was possible to achieve a significant reduction in the reporting burden of smaller banks. The data collected are grossed up in order to reflect the reporting population of all financial institutions.

Specification of the grossing-up procedure

This procedure, which has been the standard and recognised practice for some time now, is explicitly named in Guideline ECB/2014/15. The guideline also includes a new formula for calculating the expansion factors when applying this method.[11] There are now also detailed rules at the European level on the use of grossed-up volumes to calculate the national volume-weighted average rates.

A further criterion for checking the sample quality

The synthetic mean absolute error was also introduced to check the sample quality regularly. This indicator must not exceed a set threshold. Otherwise, measures to improve the sample quality must be taken, eg by expanding the number of reporting institutions.[12] The sample quality of the German MFI interest rate statistics can be regarded as good based on the synthetic mean absolute error, too. There is no need for adjustment.

Data pool for calculating the real rate of interest on the bank deposits of German households

Real interest rates calculated as …

In addition to the areas of use described above, the MFI interest rate statistics data are also used to calculate the real interest rate on households' deposits in Germany. The real interest rate describes the rate of interest on a financial investment adjusted for developments in purchasing power. It is broadly calculated (in the case of low interest rates and relatively stable prices) as the difference between the nominal interest rate and the inflation rate. The Bundesbank's calculation is based on the exact formulation of the Fisher equation (see the box on pages 101 to 103).

… the interest rate on households' deposits …

The required (nominal) interest rates on bank deposits are derived from reports for the MFI interest rate statistics. For outstanding household deposits, a distinction is made between the categories of overnight deposits (sight deposits), deposits with an agreed maturity (time deposits) and deposits redeemable at notice.[13] In new business for households' deposits, the survey is limited to time deposits with varying maturity bands for practical reasons. For the period before the introduction of the MFI interest rate statistics, data from the "survey of lending and deposit rates" (Bundesbank interest rate statistics) that are available until 2003

9 For a detailed description of the sampling method, see Deutsche Bundesbank, Extended MFI interest rate statistics: methodology and first results, Monthly Report, June 2011, p 53.
10 See European Central Bank, Manual on MFI interest rate statistics, January 2017, pp 126 ff.
11 For an explanation of the previous grossing-up procedure, see Deutsche Bundesbank, The new MFI interest rate statistics – methodology for collecting the German data, Monthly Report, January 2004, pp 54-56.
12 For a more detailed description of this criterion, see Guideline ECB/2014/15 on monetary and financial statistics, Part 14, paragraphs 19 to 21, as well as the European Central Bank, Quality measures in non-random sampling, ECB Statistics Paper Series No 3, 2013.
13 Households' savings deposits constitute the largest share of deposits redeemable at notice. This item also includes a small percentage of corporate deposits redeemable at notice.

New grossing-up procedure for the MFI interest rate statistics

The new grossing-up procedure applies a two-step process to every reporting item. In a first step, grossing-up takes place at stratum level, with aggregate interest rates and volumes calculated in a second step. For each item, the interest rate for each stratum is calculated as the average interest rate weighted by the volume reported in the MFI interest rate statistics:

$$I_j = \frac{\sum_{i=1}^{I} MV_{ij} * I_{ij}}{\sum_{i=1}^{I} MV_{ij}}$$

where

i index for banks in the actual reporting population,

j index for the strata,

I_j volume-weighted interest rate of stratum j,

MV_{ij} reported volume of bank i in stratum j,

I_{ij} reported interest rate of bank i in stratum j.

The stratum volume is grossed up based on the volumes recorded in the balance sheet statistics[1] using the ratio of the volume reported for all banks in a stratum to the volume reported for the banks in the actual reporting population in that stratum:

$$HF_j = \frac{\hat{B}_j}{\sum_{i=1}^{N_j} \hat{B}_{ij}}$$

where

HF_j expansion factor of stratum j,

$\hat{B}_j$ total volume for all institutions within stratum j as estimated from the balance sheet statistics,[2]

$\hat{B}_{ij}$ volume within each stratum j for sampled bank i as estimated from the balance sheet statistics,[2]

N_j number of banks sampled in stratum j.

The expansion factor thus indicates, for each stratum, the factor by which the total stratum volume as reported in the balance sheet statistics exceeds the volume that the actual reporting population of the MFI interest rate statistics reports in the balance sheet statistics. The volume reported in the MFI interest rate statistics must be increased by this factor. To this end, the reported volume for each stratum (MV_j) is multiplied by a stratum-specific factor in order to determine the grossed-up volume per stratum (HV_j):

$$HV_j = HF_j * MV_j$$

In the second step, aggregate interest rates and aggregate volumes are calculated. The aggregate volume of a reporting item (HV) is calculated as:

$$HV = \sum_{j=1}^{J} HV_j$$

Finally, the aggregate interest rate of an item (I) is calculated as the volume-weighted interest rate using the volume-weighted interest rate per stratum and the grossed-up stratum volume:

$$I = \frac{\sum_{j=1}^{J} HV_j * I_j}{HV}$$

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1 The monthly balance sheet statistics give a comprehensive overview of the business of German banks (MFIs). The latter report their balance sheet data on a monthly basis, with annexes containing a more in-depth breakdown by sector and original maturity. The monthly balance sheet statistics are a key source of data for the consolidated balance sheet of the sector of monetary financial institutions in Germany and thus for the German contribution to the monetary aggregates of the euro area.
2 The breakdowns in the MFI interest rate statistics and the balance sheet statistics do not match up exactly. For the grossing-up, the items from the balance sheet statistics that best fit the MFI interest rate statistics data are used.

… adjusted for the inflation rate

are used.[14] The deposit categories in the MFI interest rate statistics are compared with those categories of the Bundesbank interest rate statistics with the greatest similarities in terms of data collection method.

To measure developments in purchasing power, the Consumer Price Index (CPI) which is calculated monthly by the Federal Statistical Office is used. A distinction should be drawn between the CPI and the Harmonised Index of Consumer Prices (HICP), which is calculated for each member state of the European Union on the basis of common standards. Both indicators measure inflation for goods and services using the changing cost of a basket of goods. However, because the HICP was designed specifically to allow pan-European comparisons and for the data to be aggregated into a European index, the CPI and the HICP differ from each other in certain fundamental aspects, such as the inclusion of equivalent rents for owner-occupied housing in the basket of goods (included in the CPI, but not in the HICP). When it comes to the real deposit rates for households in Germany, savers are more concerned with comparing the purchasing power of the interest they earn on bank deposits over time than with comparing real deposit rates across the European Union. The CPI was therefore used to calculate the underlying real interest rates.

■ Publications

Publication in the online time series database

All the results presented here are published in the Bundesbank's time series database.[15] A complete breakdown of all newly collected and calculated positions is thus available alongside the previous information. Chapter VI in the Statistical Section of the Monthly Report now shows renegotiated loans separately. This means that external data users, too, can use the extended range of information for their analyses.

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14 The Bundesbank's old interest rate statistics measured the interest rates most frequently agreed upon for new business with domestic non-banks as well as extensions and changes to earlier interest rate agreements in a two-week (mid-month) reporting period. The average rates were calculated as the unweighted arithmetic mean of the reported interest rates within the spread. The spread was ascertained by eliminating the highest 5% and the lowest 5% of interest rates.
15 These are available at www.bundesbank.de. MFI interest rate statistics data can be found under "Statistics/Money and capital markets/Interest rates and yields/Interest rates on deposits and loans".
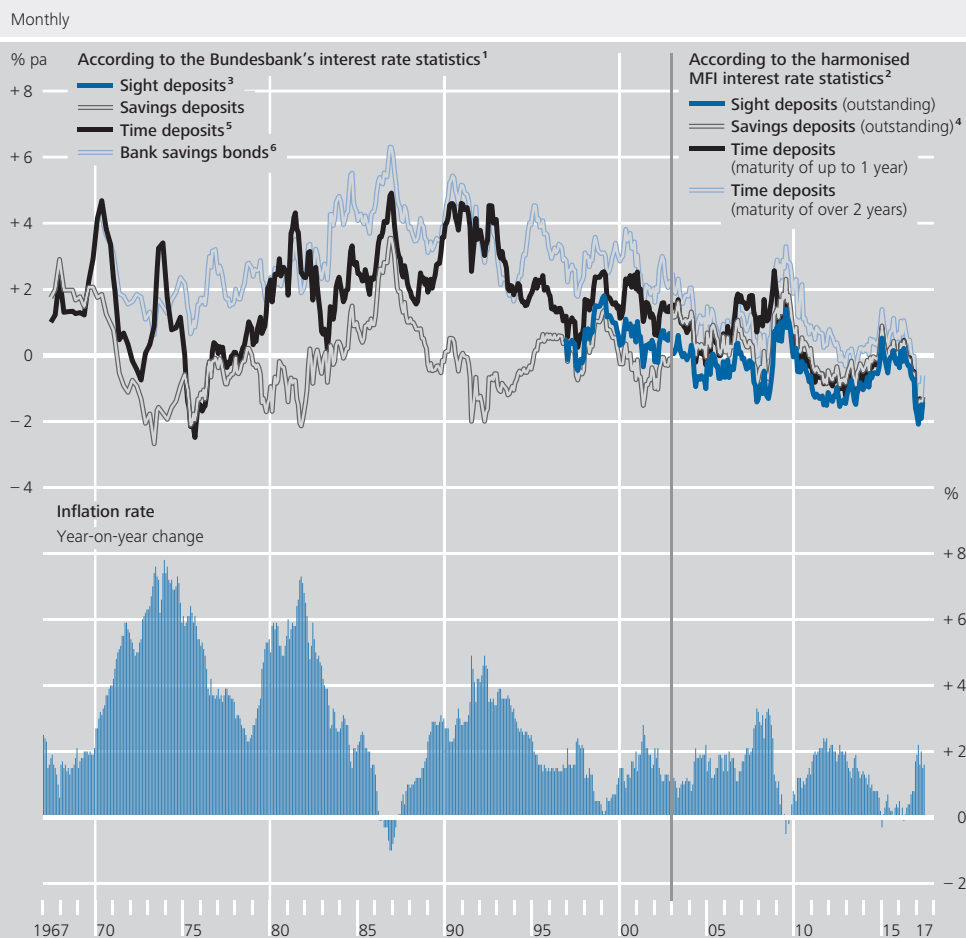
Developments in real interest rates on deposits in Germany

Households in Germany traditionally hold a significant proportion of their financial assets in the form of bank deposits. Because the nominal interest rate on these deposits has been historically low in recent years, it has increasingly become the subject of public debate.[1] However, of greater relevance to savers than the nominal interest rate i_t is the purchasing power associated with the interest credited, and thus the real interest rate r_t on deposits. According to the simplified Fisher equation,[2] the real interest rate is approximately equal to the difference between the nominal interest

[1] See Deutsche Bundesbank, German households' saving and investment behaviour in light of the low-interest-rate environment, Monthly Report, October 2015, pp 13-31.
[2] The simplified Fisher equation is based on the following relationship between the nominal interest rate i_t, the real interest rate r_t and the expected inflation rate π_{t+1}^e: $(1+i_t) = (1+r_t)\,(1+\pi_{t+1}^e)$. Expanding the right-hand side of the equation and disregarding the cross-product, which is very minor in the case of low inflation and nominal interest rates, yields the equation overleaf as a condition for equilibrium. This relationship was formally derived for the first time in I Fisher (1896), Appreciation and interest, Publications of the American Economic Association, pp 23-29 and pp 88-92.

Real interest rates on deposits in Germany*

Monthly

% pa

According to the Bundesbank's interest rate statistics[1]
— Sight deposits[3]
═ Savings deposits
— Time deposits[5]
— Bank savings bonds[6]

According to the harmonised MFI interest rate statistics[2]
— Sight deposits (outstanding)
═ Savings deposits (outstanding)[4]
— Time deposits (maturity of up to 1 year)
— Time deposits (maturity of over 2 years)

Inflation rate
Year-on-year change

* Adjusted for inflation using the CPI (officially called the price index for the standard of living of all households prior to 2000; up to 1994, data for West Germany). **1** Interest rates not weighted by volume; new business of households unless otherwise indicated. **2** Interest rates are weighted by the respective volume; new business of households. **3** Sight deposits with higher interest rates. **4** Deposits redeemable at notice of up to 3 months. **5** Time deposits of domestic non-banks with agreed maturity of 1 month, from €50,000 to less than €500,000. **6** Bank savings bonds of domestic non-banks with 4-year maturity.

Deutsche Bundesbank

rate and the expected inflation rate over the investment period π_{t+1}^e:

$$r_t \approx i_t - \pi_{t+1}^e$$

Fisher's theory emphasises that depositors ultimately think in terms of real units of goods; that is to say, they look through changes in the price level over the investment period. To reflect the expectations component, the term "*ex ante* real rate of interest" is used in this context. The "*ex post* real rate of interest*", on the other hand, is obtained by replacing the expected inflation rate with the actual inflation rate achieved over the investment period. It reflects the real interest income that is actually generated by a bank deposit, ie the increase in purchasing power resulting from the interest payment. From a saver's perspective, this is the relevant variable for an *ex post* comparison of real interest rates. A precise determination of the *ex post* real rate of interest would require information about the actual length of time the deposit was held at the bank, the nominal interest rate paid and the actual inflation rate over this period. However, because no sufficiently robust data are available for this, the *ex post* real interest rate can only be approximated. For reasons of consistency, we use the annual inflation rate recorded for the relevant reporting month for each deposit category of the interest rate statistics.[3]

If the real interest rate is negative, the nominal interest credited does not compensate for the inflation-based loss of the deposit's purchasing power, and it loses value in real terms. Negative real interest rates on the bank deposits of households in Germany are not uncommon. Over the past five decades, savings deposits in particular, of which there is a significant volume, have experienced roughly as many phases of negative real interest rates as phases of positive real interest rates. In the first half of this period, negative real interest rates dominated, not least owing to the significantly higher inflation rates in this period.

Looking at sight deposits, which are households' most liquid form of investment, the interest rate statistics include data on interest rates only from November 1996 onwards. On top of this, only higher-yielding segments of sight deposits had to be reported until 2003, making long-term comparative analyses impossible.[4] Since records on total holdings of sight deposits began (with the introduction of the MFI interest rate statistics in 2003), nominal interest rates in this segment have mostly been below the inflation rate, meaning that real interest rates were almost consistently negative, with developments in nominal interest rates closely mirroring movements in key monetary policy rates. However, low nominal interest rates on sight deposits should also be seen in the context of bank customers' greater preference for liquidity, which has been reflected in a sharp rise in sight deposits at German banks since 2008. With the general interest rate level approaching zero, the nominal interest rate on sight deposits and the inflation rate drifted further apart, meaning that real rates of interest on this form of investment were strongly negative although the inflation rate was low by historical standards.

Compared with sight deposits and savings deposits, time deposits play a much smaller role as a form of investment for households in the aggregate balance sheet of the German banking sector. Their longer maturities mean that yields on these deposits are traditionally higher than those on sight and savings deposits provided the yield curve is not inverted. Since the start of the 1990s, nom-

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3 See also Deutsche Bundesbank, Real interest rates: movements and determinants, Monthly Report, July 2001, pp 31-47. For an analysis from an after-tax perspective, see Deutsche Bundesbank, Return on private financial assets taking into account inflation and taxes, Monthly Report, July 2017, pp 69-75.
4 For the purposes of the Bundesbank's interest rate statistics, interest rates on the sight deposits of employees had to be taken into account only if they were higher than the reporting institution's standard conditions. The statistics included accounts both with and without a payment function.

inal interest rates for time deposits in new business have recorded a downward trend that cannot be explained by a reduction in the average investment horizon. All the same, interest rates have not generally fallen below the inflation rate. Although the real interest rate therefore fluctuated in line with the inflation rate, it remained, by and large, in positive territory until the financial crisis. The onset of the financial crisis changed the situation, however. The general interest rate level fell sharply, which also translated into a clear downturn in interest rates on new time deposits. These sank to historic lows and are currently negative.

The longer the low-interest-rate environment persisted, the narrower the gap became between the interest rates on longer-term deposits (time and savings deposits) and the interest rates on overnight deposits. This is due, amongst other things, to the fact that most German banks are trying to avoid introducing negative nominal interest rates on households' bank deposits (the zero lower bound). On balance, all the nominal interest rates analysed here have fluctuated within a narrow corridor of between 0% and 1% for more than 12 months. At a nominal interest rate of 0%, however, a positive inflation rate leads to a negative real interest rate of identical size. This is why the fact that the inflation rate has edged back up towards the 2% mark over the last 12 months has been a key factor driving the real interest rate in this definition into negative territory for all types of deposits. The overall picture of negative real interest rates for all the types of deposits under analysis remains essentially unchanged even if the expected *ex ante* inflation rate according to the Consensus Forecast or the Survey of Professional Forecasters is used instead of the actual *ex post* inflation rate.