

# NEW AND MORE DETAILED MFI STATISTICS

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## INTRODUCTION AND SUMMARY

Danmarks Nationalbank has published new MFI statistics that are based on new and more detailed reporting. This will contribute to a more accurate and faceted picture of the activities of the financial sector and of the financing patterns of Danish firms and households.

Breaks will occur in both balance sheet and interest rate series due to changed measurement methods and quality improvements in the MFI statistics. The changes concern sectoral classification of MFI counterparties in particular.

This article describes the main changes from the previous version of the MFI statistics, and the most important data breaks are explained. In addition, new analysis opportunities offered by the changes are outlined.

## CHANGES IN METHODOLOGY AND DATA BREAKS

In some respects, the new MFI statistics deviate from the previous version as regards the data collection and processing method. Methodology changes and quality improvements have resulted in substantial shifts in levels in both interest rate and balance sheet statistics, particularly in terms of the sectoral distribution of deposits and loans. But the changes have not entailed any considerable impact on developments in the relevant series.

## DATA BREAKS AND CHANGES IN THE BALANCE SHEET STATISTICS

The primary reason for data breaks is changes in the sectoral classification of MFI customers. This can be attributed to several factors. Firstly, banks' and mortgage banks' increased use of business register data ensures a higher degree of consistency in sectoral classifications across banks. Secondly, Statistics Denmark has revisited the sectoral classification in the business register, which will impact the MFI statistics as from the transition to the new statistics. Finally, non-profit institutions serving households (e.g. unemployment insurance funds and the Red Cross) are no longer included in the household sector. Box 1 outlines the sectoral classifications.

Overall, the sectoral classification changes have brought about an increase of kr. 17 billion in banks' lending to households, relative to the previous figure, and a reduction of kr. 16 billion in lending to corporations. Conversely, lending by mortgage banks to corporations has increased by kr. 53 billion, while lending to households has decreased by kr. 54 billion, cf. Chart 1.

An important methodology change is that small institutions now – like the largest ones – report considerably more details than previously<sup>1</sup>. However, there is still an element of grossing-up in some of the published data series,

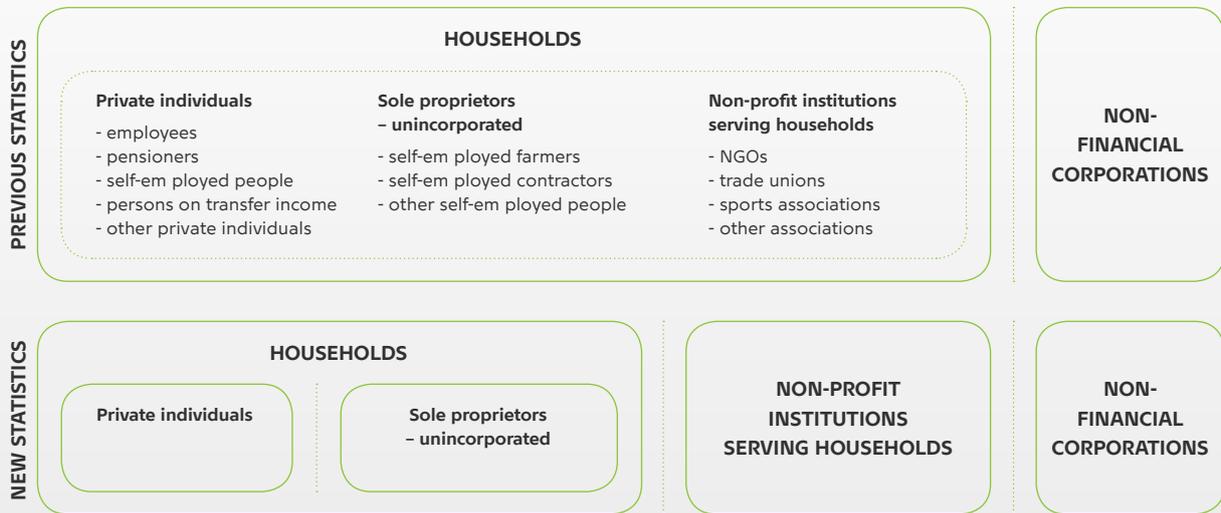
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1 The largest institutions, which at any time account for at least 96 per cent of the MFI sector's total balance sheet, have a monthly reporting frequency. Other institutions have an annual reporting frequency.

## Breakdown of the private non-financial sectors in the previous and new statistics

Box 1

The classification of the private non-financial sectors has been changed from the previous to the new statistics. Previously, non-profit institutions serving households were included in the household sector. Moreover, the household sector was not consistently divided into the three subsectors private individuals, sole proprietors and non-profit institutions serving households, cf. the chart. In the new statistics, non-profit institutions serving households are no longer included in the household sector. Private individuals and sole proprietors are now consistently separated, but still under the umbrella of households, cf. the chart.



either because they are not reported by the smallest institutions, or because the smallest institutions' reporting frequency is lower than that of larger ones.

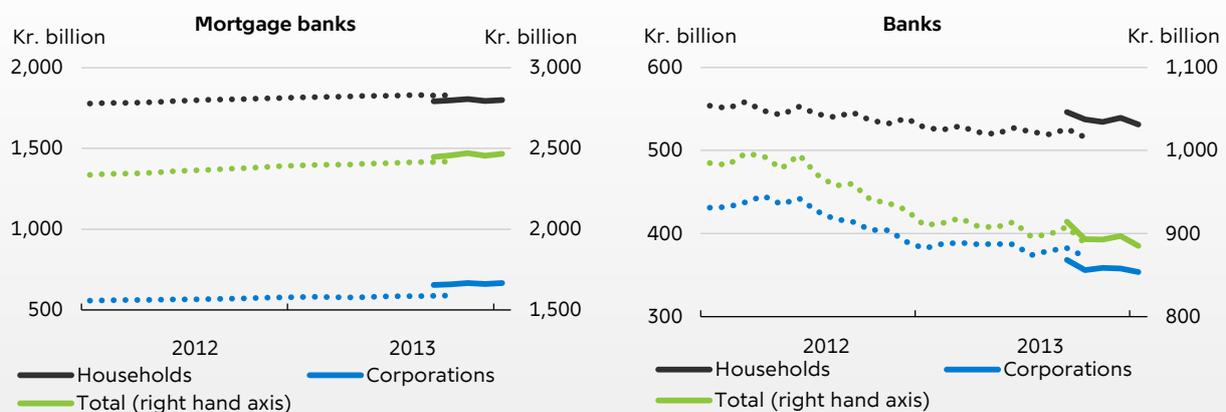
For example, the complete breakdown by industry of the institutions' loans and deposits is now available once a year, while the development in the smallest institutions in the remaining months is estimated on the basis of the monthly development in the largest institutions.

## DATA BREAKS IN THE INTEREST RATE STATISTICS

In the interest rate statistics, the detailed annual reporting of loan and deposit balances from smaller institutions is now used to estimate their influence on interest rates for the MFI sector overall. The strongest impact of this relates to differences in the composition of loans and deposits of different categories between smaller and larger institutions. Together with

## Shifts in the sector classification of domestic loans from banks (left) and mortgage banks (right)

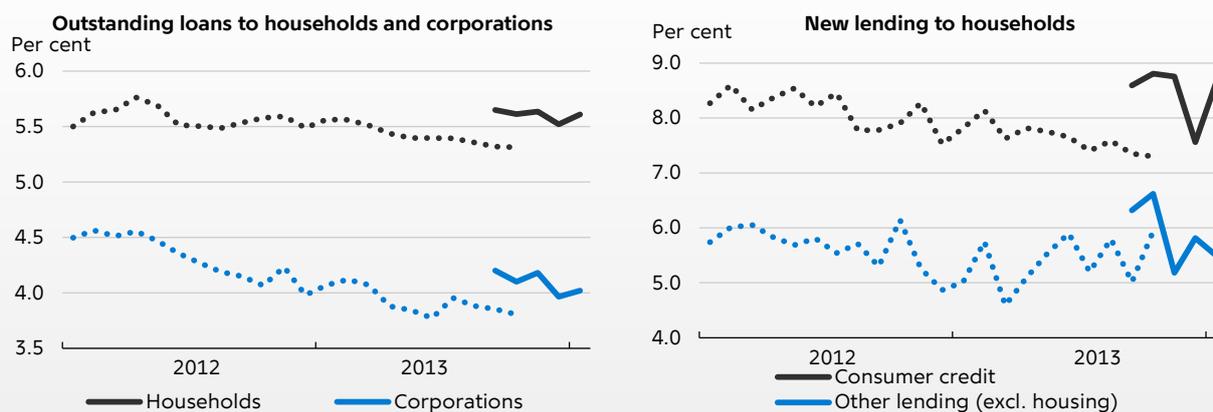
Chart 1



Source: Danmarks Nationalbank.

## Banks' interest rates on new lending by purpose (left) and outstanding loans by sector (right)

Chart 2



Note: The charts are based on loans in Danish kroner to Danish residents.  
Source: Danmarks Nationalbank.

## New elements of the MFI statistics

Box 2

The new MFI statistics entail collection and publication of new information in several respects:

- A new index of notional stocks, which is changed only in terms of the contributions from net transactions to growth in the outstanding amount
- Information on movements (but not outstanding volumes) in mortgage lending at regional level
- More detailed sectoral classification with the opportunity to combine the sector with more dimensions than previously
- New opportunities for analysing the financing patterns of individual industries
- More detailed breakdown by loan size and possibility of separating repos in the interest rate statistics
- Compilation of mortgage loans at both nominal and market value
- Compilation of loans by original maturity and remaining maturity
- Banks' customer funding surpluses and concentration indices on a monthly basis
- Breakdown of loans by whether the interest rate mirrors a reference rate or whether the loan is fully or partially collateralised. This information is not yet available to the public due to insufficient quality assurance.

the changed sectoral classification, the new method of grossing up is the principal explanation of the shifts in the main interest rate series, cf. Chart 2. Moreover, the method of measuring interest rates on outstanding amounts has been changed. The result is that the published series of aggregate interest rates – especially as regards repos – are not fully comparable between the previous and the new compilations.

## MORE INFORMATION THROUGH A HIGHER DEGREE OF DETAIL

The new MFI statistics are collected on a far more granular basis. This uncovers a host of new information and combinations and more details are collected. Box 2 describes the key new elements. Following the presentation of

the new dimensions in the box, the new analysis opportunities are illustrated by way of examples.

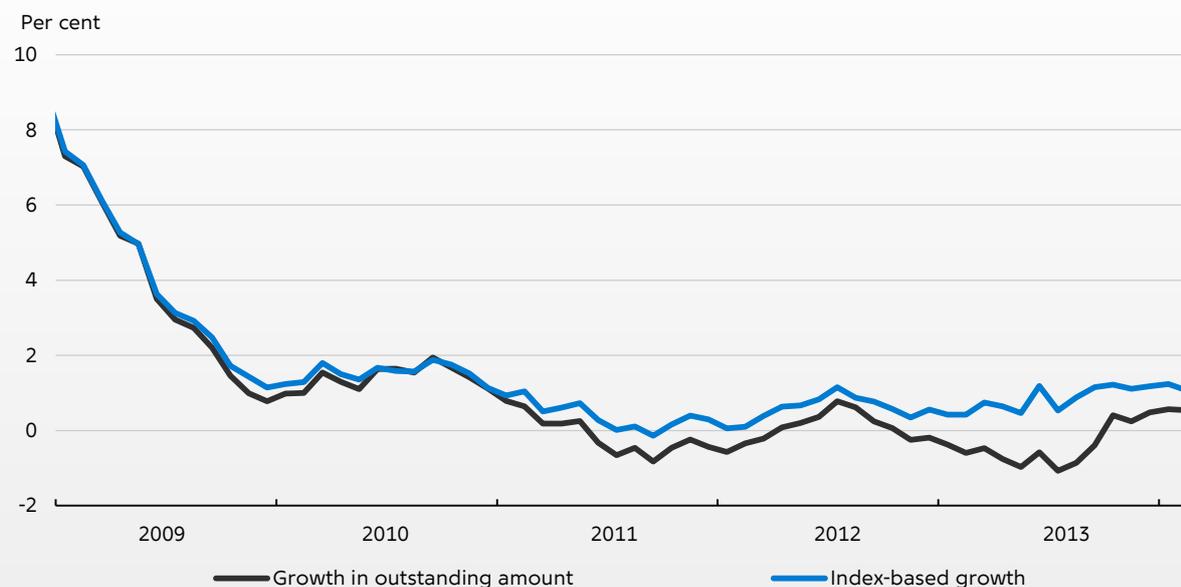
## INDEX OF NOTIONAL STOCKS

The transition to the new MFI statistics entails publication of an index of notional stocks, providing a better method of analysing developments in the individual balance sheet items. The index is based solely on the contributions of net transactions<sup>2</sup> to monthly growth in the

<sup>2</sup> Net transactions in loans are defined as the sum of new lending and increases of outstanding loans less the sum of instalments and redemptions of outstanding loans.

**Annual growth in lending by banks and mortgage banks to Danish households and corporations on the basis of outstanding amount and an index of notional stocks, respectively**

Chart 3



Source: Danmarks Nationalbank.

outstanding amount<sup>3</sup>. The index can thus be used for calculations of monthly and annual growth rates for e.g. deposits and loans on the basis of net transactions.

Since the index is based on the contributions of net transactions to the balance sheet change, it has been adjusted for e.g. exchange rate fluctuations and losses as well as transfers of loan portfolios to and from abroad. To some extent it has also been adjusted for loans transferred to units without a banking licence under the Financial Stability Company. Although the previous version of the MFI statistics also enabled compilation of the index, the data of the new MFI statistics is more targeted to the index, given the full coverage of the components of changes in the balance sheet – i.e. net transactions, revaluations due to exchange rate and price changes, loan losses and other changes.

Chart 3 shows annual growth rates in lending by banks and mortgage banks to Danish

households and corporations calculated as percentage changes in the outstanding amount (previous method) and as the growth rate calculated on the basis of the index of notional stocks. The chart shows that the annual growth rates in lending measured on the basis of net transactions were only negative in one single month during the financial crisis.

#### **NEW INFORMATION ON MOVEMENTS IN MORTGAGE LENDING AT REGIONAL LEVEL**

New information in the MFI statistics enables monitoring developments in new lending by mortgage banks across regions. Just under two thirds of new lending in November for owner-occupied homes and summer cottages situated in the Capital Region of Denmark were variable rate loans, while gross new lending in other regions was almost equally distributed on fixed rate and variable rate loans, cf. Chart 4.

#### **MORE DETAILED SECTORAL CLASSIFICATION**

The new statistics meet the requirements in the new European national accounts manual, ESA2010, regarding the sectoral classification

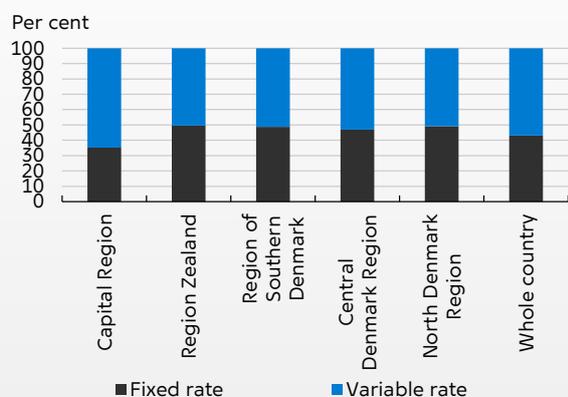
<sup>3</sup> The index is calculated using the following formula:

$$I_t = I_{t-1} * \left(1 + \frac{T_t}{B_{t-1}}\right)$$

where  $I_t$  is index values in month  $t$ ,  $B_{t-1}$  is the outstanding volume in month  $t-1$  and  $T_t$  is net transactions in month  $t$ .

**New lending by mortgage banks for private individuals' owner-occupied homes and summer cottages, broken down by fixed or variable rates and by regions, November 2013**

Chart 4



Note: Loan conversions from e.g. F1 to F3 will be included as gross new lending at variable interest rate.

Source: Danmarks Nationalbank.

of MFI counterparties, which is more detailed than in the previous ESA95. The degree of detail in the published MFI statistics is even higher, however, implying e.g. that the household sector can now consistently be broken down into private individuals and sole proprietors, cf. Box 1. Sole proprietors are e.g. farmers, dentists and small contractors that are not classified as non-financial corporations due to the form of ownership. In the previous statis-

tics non-profit institutions serving households – e.g. unemployment insurance funds and the Red Cross – were included in the household sector. In the new statistics they constitute a separate sector.

In general, the new statistics show that private individuals opt for different loan types than sole proprietors. For example, compared with sole proprietors a smaller share of private individuals' bank loans is in foreign currency, and their loans generally have longer maturities, cf. Chart 5. The latter is also influenced by the fact that a larger share of loans to private individuals consists of housing loans, which typically have longer maturities than e.g. corporate loans.

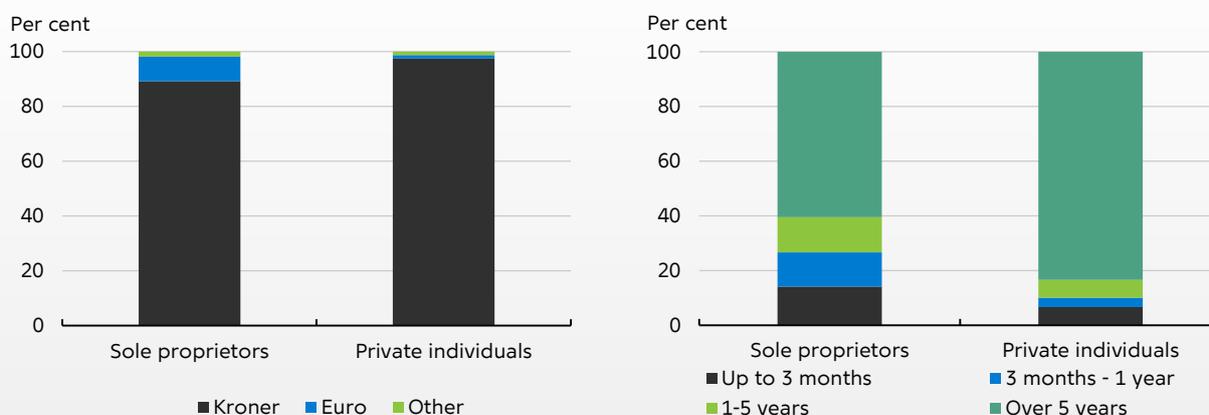
Moreover, the choice of mortgage loans varies between the two groups. Compared with sole proprietors, private individuals tend to have more fixed rate loans, and private individuals with variable rate loans tend to have loans with longer periods of fixed interest rate, cf. Chart 6. In addition, private individuals generally repay a marginally larger share of their total mortgage loans than sole proprietors do.

### NEW OPPORTUNITIES FOR ANALYSING THE FINANCING PATTERNS OF INDIVIDUAL INDUSTRIES

The new statistics also enable better monitoring of trends in deposits and loans in individual

**Lending by banks to households by subsector and currency (left) and original maturity (right)**

Chart 5

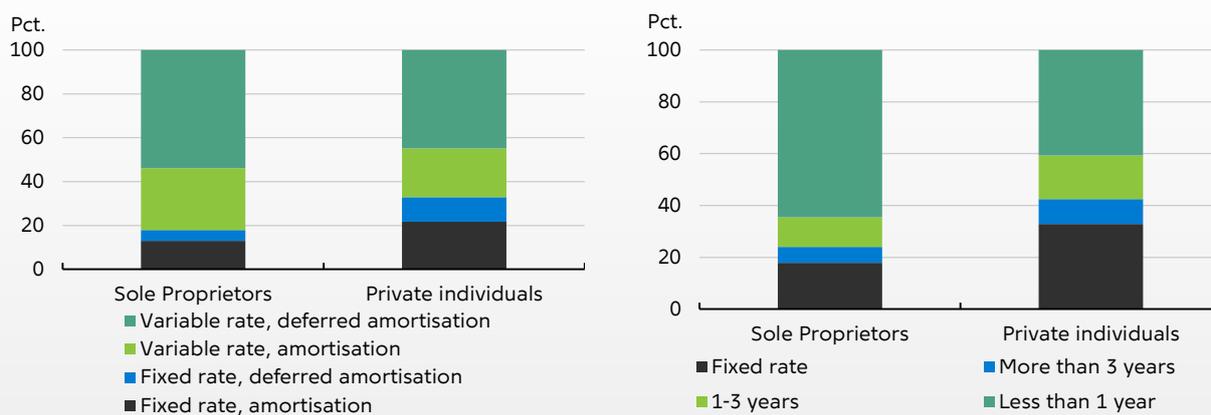


Note: The chart is based on data as at end-December 2013.

Source: Danmarks Nationalbank.

**Lending by mortgage banks to households by subsector as well as interest and redemption profile (left) and time to next interest rate fixing (right)**

Chart 6



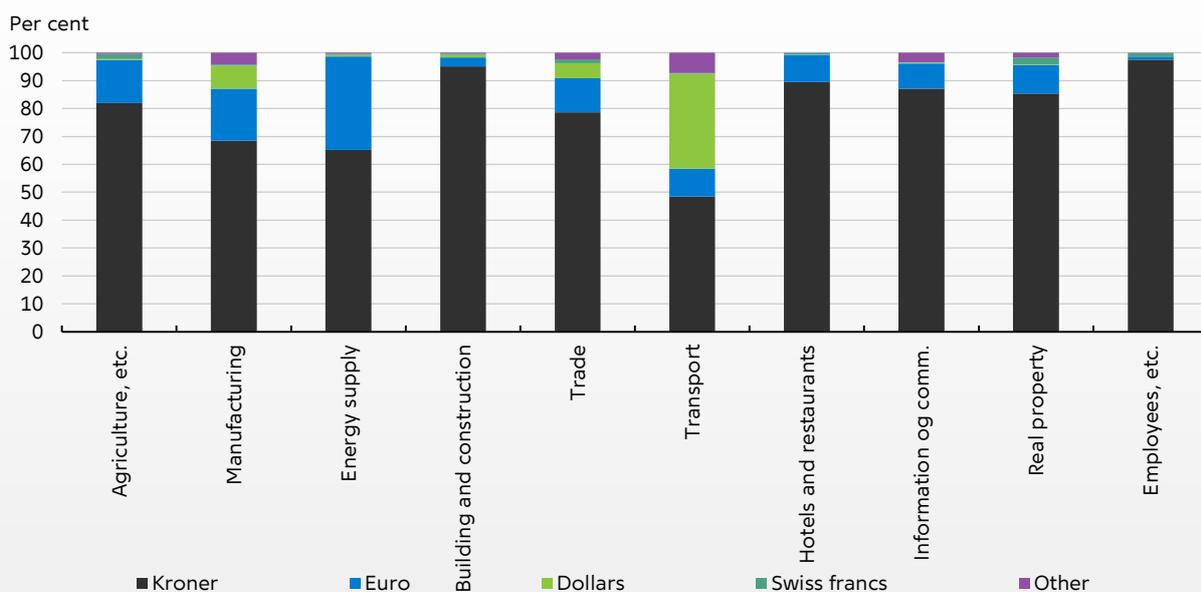
Note: The chart is based on data as at end-December 2013.  
Source: Danmarks Nationalbank.

industries – including in industries with various types of firms classified into different sectors. Moreover, the new statistics provide deposits and loans by industry at a monthly frequency, compared with the previous quarterly frequency, and the statistics for loans by industry are now combined with currency information. For example, it is now possible to monitor the development in banks' agricultural loans in Swiss

francs – as regards all farm types irrespective of the form of ownership. As another example, the new statistics show that particularly the transport industry is directly exposed to foreign currency, especially dollars, due to its international orientation, while the building and construction industry, which is mainly domestically oriented, has very few currency denominated loans, cf. Chart 7.

**Lending by banks to selected industries by currency**

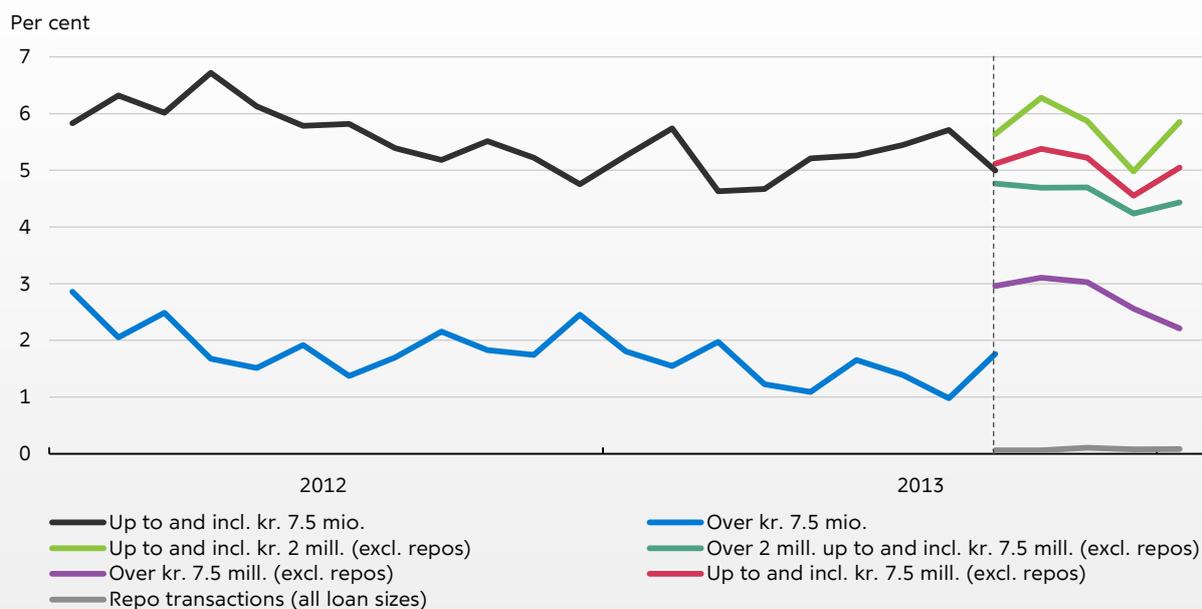
Chart 7



Note: The chart is based on data as at end-December 2013. The picture of industries' exposure to exchange rate risk is not necessarily accurate, since e.g. FX swaps can either increase or reduce this risk.  
Source: Danmarks Nationalbank.

Interest rate on new lending by loan size

Chart 8



Note: New lending comprises new lending for the month and loans renegotiated during the month.  
Source: Danmarks Nationalbank.

## LOAN SIZE AND REPO INFORMATION IN THE INTEREST RATE STATISTICS

The new statistics offer better opportunities to monitor trends in interest rates on corporate loans, cf. Chart 8. The two most important improvements are a more detailed breakdown by loan size (up to and including kr. 2 million, kr. 2-7.5 million and over kr. 7.5 million) and better opportunities to separate repo transactions (loans based on securities as collateral), which previously influenced especially interest rates on loans over kr. 7.5 million.<sup>4</sup> Separate identification of repos has three main advantages. Firstly, repos are concluded only with large firms, meaning that the average level of interest rates, including repos, is not representative of the borrowing rates of most Danish firms. Secondly, it improves the opportunities for analysing the competitive situation in the banking sector, given the substantial variation in the repo share of lending across banks. In other words, it is now possible to better compare interest rates on relatively similar products

across banks. The third advantage is the improved usability for international comparisons of interest rate levels, since large firms' repo transactions in other countries (e.g. Germany) are not concluded with banks as counterparties, so they are not included in the statistics for these countries.

## OTHER KEY CHANGES

Data for total mortgage lending by mortgage banks is now collected both at nominal value – as previously – and at market value. Since mortgage loans are closely linked to the underlying bonds, the market value of loans corresponds to the market value of bonds. As regards uncallable loans (i.e. most variable rate loans), compilation at market value is a better way of calculating the debtor's remaining debt, since this is the amount the debtor must pay to redeem the loan. Moreover, this corresponds to the calculation in mortgage banks' accounts. For this reason, market value is used in future as the main dissemination method, though both figures are available in the Statbank. The market value of mortgage loans is approximately 1-3 per cent higher than the nominal value.

<sup>4</sup> See Brian Liltoft Andreassen, Paul Lassenius Kramp and Andreas Kuchler, The banks' interest rates, Danmarks Nationalbank, Monetary Review, 4th Quarter 2012.

In addition, banks' customer funding surpluses are published monthly in the Statbank, including a series excluding repos. Concentration indices, which were previously published at a quarterly frequency, are now also published monthly.

Finally, there are new dimensions, as mentioned in Box 2, which are not yet at a stage of sufficient quality to allow publication. However, these statistics will be published as soon as the quality is found to be satisfactory. Examples of new dimensions include a breakdown of loans by whether the interest rate follows a reference interest rate, and a breakdown by extent of collateralisation.

## THE AVAILABILITY OF THE STATISTICS

The new published MFI statistics imply that the tables in the Statbank have been adapted<sup>5</sup>. At the moment, the new tables contain only data from the new statistics while the old tables contain data from the previous statistics which are no longer updated. In the near future, Denmark's Nationalbank will transfer the old data to the new tables. This work will be performed in stages:

- First, data from main series from before September 2013 will be transferred to the new tables. In this connection, adjustment will be made for data breaks to the greatest possible extent.
- Later the remaining historical series available will be transferred.
- Finally, the dimensions not yet at a sufficient stage of quality assurance will be included in the Statbank in step with improvement of the data quality.

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<sup>5</sup> <http://nationalbanken.statistikbank.dk/statbank5a/default.asp?w=1280>