RECENT MONEY MARKET TRENDS

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INTRODUCTION AND SUMMARY

Activity in the Danish money market has declined over the last year, continuing the trend seen since the onset of the financial crisis. This is mainly attributable to the banks' increased focus on credit and liquidity risks, which is also reflected in the regulation of banks, and in the low level of interest rates.

Irrespective of the lower turnover in the money market, the monetary policy transmission to the overnight interest rate remains intact. There is also a clear pass-through from the interest rate on certificates of deposit to the slightly longer money market interest rates, which determine the exchange rate of the krone.

The increased focus on credit and liquidity risks is reflected in the market for uncollateralised overnight loans at the end of the year, quarter and month, when turnover is significantly lower and interest rates are higher. This should be viewed in light of the banks' wish to present a balance sheet to e.g. investors, authorities and credit rating agencies with as little risk as possible and as large a volume of liquid assets as possible. Consequently, they are unwilling to lend liquidity on an uncollateralised basis around the turn of the year, quarter and month. There are indications that this effect has become more important in recent years. The market participants mention that regulatory measures have contributed to this. Regulatory requirements apply not only at the time of calculation, but must be met on an ongoing basis.

Regulation of credit institutions has been strengthened after the financial crisis. In 2013, the EU reached agreement on a set of common rules which increase the capital and liquidity requirements of the institutions. The Liquidity Coverage Ratio, LCR, will be phased in gradually in the period 2015-18. The aim of liquidity regulation is to reduce the risk of banks incurring liquidity problems.

Viewed in isolation, the LCR means that banks are given a greater incentive to obtain funding via deposits from customers rather than via the money market, because deposits from customers provide a more stable source of funding. At the same time, the LCR encourages banks to replace short-term funding, e.g. short-term uncollateralised money market loans, by longer-term loans. Liquidity regulation may also provide banks with an incentive to increase the LCR by borrowing from and placing funds at the central bank rather than via the market. This is not the purpose of the LCR. The aim is for banks to hold sufficient liquid assets and thus, in normal times, to manage their liquidity via the market rather than via Danmarks Nationalbank. There are no indications of banks using the monetary policy instruments to increase the LCR prior to its implementation.

Below, a description is provided of the most recent developments in turnover and price formation in the Danish money market, including end of period effects. The significance of the LCR for the Danish money market and for the use of Danmarks Nationalbank's monetary policy instruments is then examined.

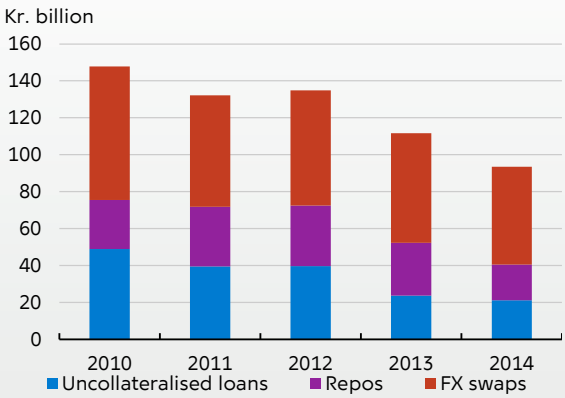
CONTINUED DECLINE IN TURNOVER IN THE MONEY MARKET

Turnover of money market loans[1] has continued to decline according to Danmarks Nationalbank's annual money market survey[2], cf. Chart 1. As a result of the financial crisis, liquidity and credit risks came under increased focus. Consequently, turnover of longer-term uncollateralised money market loans all but disappeared, and in the uncollateralised money market, turnover is predominantly made up of overnight loans, cf. Chart 2. The largest share of turnover is associated with loans against either bonds or foreign exchange as collateral, i.e. repos or FX swaps. The market participants mention that due to the stronger focus on risk management and costs, credit institutions now increasingly seek to conduct their business internally in the group and via customers, which has also contributed to reducing interbank activity in the money market. The groups' gross positions in the money market are reduced by internal trading and netting of positions, thereby limiting credit risk on counterparties. Moreover, costs are reduced when the group avoids paying the spread between lending and deposit rates in the market. Liquidity regulation contributes to the shift towards customers,[3] cf. the "Liquidity regulation" section below.

Banks' use of the uncollateralised overnight market is motivated by daily liquidity management considerations. The turnover of repos and FX swaps is to a large extent driven by bond transactions and the customers' foreign exchange positions, respectively. Repos are often concluded because of bond traders' demand for the underlying bond in the repo. The market participants point out that the depth and liquidity of the FX swap market and, to some extent, the repo market exceed those of the uncollateralised market, which is why those markets are used when large transactions are needed in the banks' liquidity management. The participation of foreign banks in the FX swap market supports liquidity in that market. Transactions with foreign banks account for more than 80 per cent of turnover of FX swaps.

In addition to money market loans, CITA swaps and FRAs are also comprised by the money market survey.[4] FRA turnover declined in line with the rest of the market, while turnover of CITA swaps fell only slightly. CITA swaps account for the largest share of turnover in the money market for maturities from 6 months and upwards. The CITA reference rate was introduced by the Danish Bankers Association in 2013 and is now used for certain mortgage loans.

Average daily turnover in uncollateralised loans, repos and FX swaps Chart 1



Note: Average daily turnover in both loans and deposits in April for 2010-11 and in the 2nd quarter of 2012-14.
Source: Danmarks Nationalbank.

LOW LEVEL OF INTEREST RATES

Turnover in the overnight market declined with Danmarks Nationalbank's introduction of the negative rate of interest on certificates of deposit in early July 2012, cf. Chart 3. The rate of interest

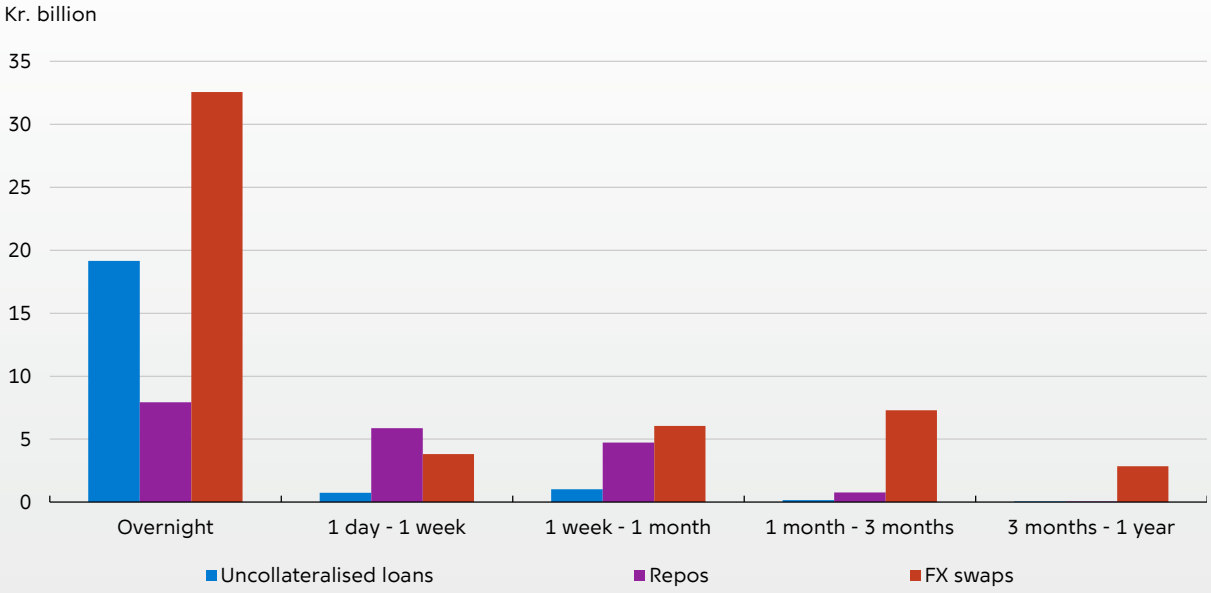
1 In the money market, money market loans are conducted and interest rate derivatives with a maturity of up to and including 1 year are traded among banks. Money market loans comprise uncollateralised loans, repos (loans against bonds as collateral) and FX swaps, which may be regarded as loans against foreign exchange as collateral, short-term securities and certificates of deposit issued by Danmarks Nationalbank. Interest rate derivatives include CITA swaps, FRAs and interest rate options. For further information about money market products, see Danmarks Nationalbank (2009).

2 Danmarks Nationalbank performs an annual survey of the Danish money market in the 2nd quarter with banks reporting data on notably turnover. In this connection, Danmarks Nationalbank has interviewed several market participants about developments in the money market.

3 This article defines customers as households and firms other than banks and mortgage banks.

4 A CITA (Copenhagen Interest T/N Average) swap is a short-term interest rate swap where a variable rate of interest (the T/N rate) is swapped for a fixed rate of interest determined at the start of the agreement. An FRA (Forward Rate Agreement) is an agreement to fix the interest rate of a future loan. For a more detailed explanation, see Mindested et al. (2011).

Average daily turnover broken down by instruments and maturities Chart 2

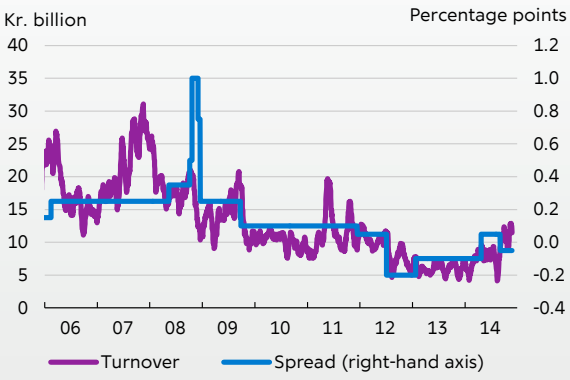


Note: Average daily turnover in both loans and deposits in the 2nd quarter of 2014. The intervals cover from the start of the interval up to and including the end of the interval. For instance, "1 week – 1 month" covers loans with a maturity of more than 1 week up to and including 1 month. Since loans for a longer period of time can be obtained by renewing short-term loans during the period, the turnover will tend to be higher for short maturities than for long maturities. For instance, five overnight loans must be raised rather than a 1-week loan.
Source: Danmarks Nationalbank.

on certificates of deposit was changed from being higher than the current account rate to being lower, giving banks and mortgage banks, i.e. the monetary policy counterparties, an interest rate incentive to increase their current account deposits at Danmarks Nationalbank. At the same time, the institutions' access to place funds in current accounts was extended with the increase of the current account limits. The higher current account deposits enhanced the institutions' scope for managing daily liquidity fluctuations without resorting to the money market.

The rate of interest on certificates of deposit was raised in April 2014, returning to positive territory, but the spread to the current account rate was a modest 0.05 percentage point, so the interest rate incentive to place funds in certificates of deposit rather than current accounts was limited. In September 2014, the rate of interest on certificates of deposit became negative again, as Danmarks Nationalbank followed suit when the ECB lowered its interest rates.

Turnover in the uncollateralised overnight market and the spread between the rate of interest on certificates of deposit and the current account rate Chart 3



Note: Turnover in uncollateralised O/N, T/N and S/N loans. 21-day moving average of daily observations. The most recent observations are from 26 November 2014.
Source: Danmarks Nationalbank.

Turnover in the uncollateralised overnight money market in the euro area has also declined since the financial crisis. This should be viewed in light of the substantial surplus liquidity within the banking system since the ECB introduced full allotment of loans in October 2008. The resulting increase in banks' overnight deposits at the ECB, reduces the need for using the money market.[5] Turnover increased over the last year, however, when excess liquidity was reduced.

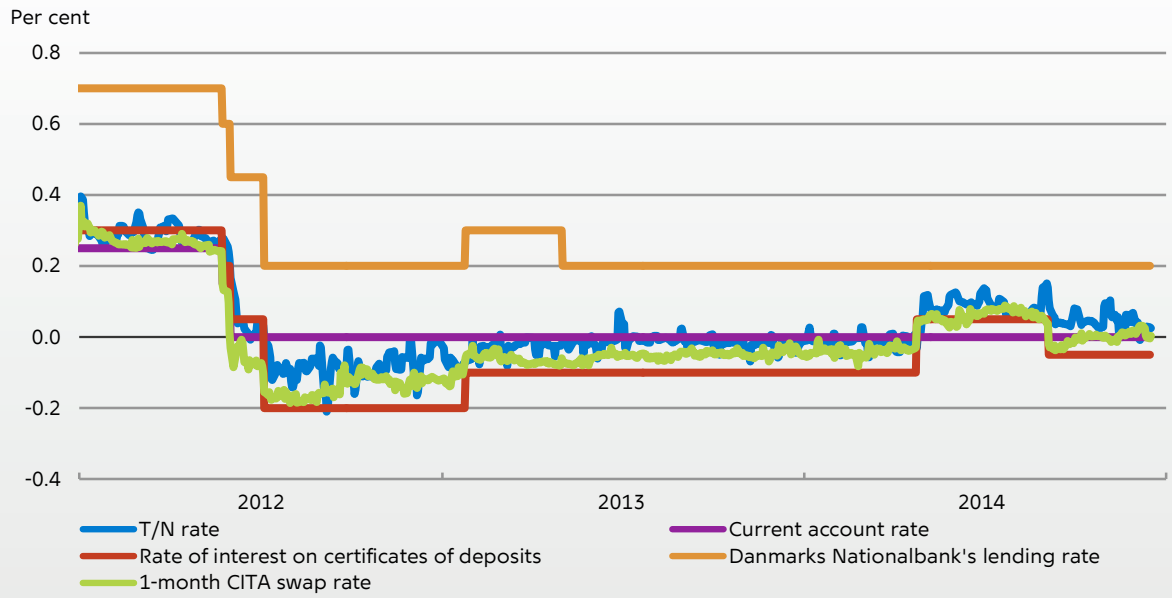
PRICE FORMATION AND TRANSMISSION

Irrespective of the lower turnover, the general assessment among market participants is that the money market is able to absorb large transactions without any major impact on prices. The spread between the lending and deposit rates offered in the uncollateralised T/N market has been virtually unchanged in recent years.

The monetary policy transmission to the T/N rate, which is the reference rate in the uncollateralised overnight market, is intact.[6] There is also a clear pass-through from the rate of interest on certificates of deposit to the slightly longer money market interest rates, cf. Chart 4.

On average, the T/N rate is close to the rate of interest on certificates of deposit. In the period from April to September 2014, when the rate of interest on certificates of deposit was positive, the average T/N rate was, however, 0.04 percentage point higher than the rate of interest on certificates of deposit. Part of the explanation for the wider spread between the T/N rate and the rate of interest on certificates of deposit may be the relatively uneven distribution of the deposits of monetary policy counterparties at Danmarks Nationalbank during that period, cf. Chart 5. Model estimations of the T/N rate thus indicate that an uneven distribution of deposits at Danmarks Nationalbank push up interest rates in the Danish money market, cf. Box 1.

Monetary policy interest rates and market rates Chart 4



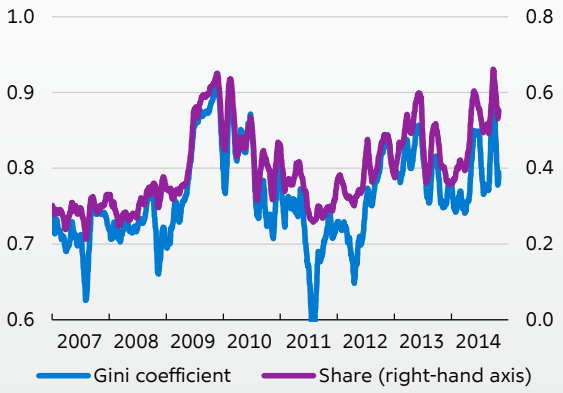
Note: Daily observations. The T/N interest rate is a 5-day moving average. The most recent observations are from 25 November 2014.
Source: Reuters and Danmarks Nationalbank.

5 This has also been the case in the USA, Japan and the UK, cf. Jackson and Sim (2013).

6 Cf. the regression model in Box 1, where the coefficient on "pass-through" measuring the pass-through from monetary policy interest rates to the T/N rate remains high.

Concentration of the deposits of the monetary policy counterparties with Danmarks Nationalbank

Chart 5



Note: 21-day moving average of daily observations. "Gini coefficient" indicates the Gini coefficient on the T/N reporting banks' deposits with Danmarks Nationalbank, cf. Box 1. "Share" indicates the share of the monetary policy counterparties' total deposits with Danmarks Nationalbank provided by the T/N reporting bank with the largest deposits. The most recent observations are from 31 October 2014.
Source: Danmarks Nationalbank and own calculations.

END OF PERIOD EFFECTS

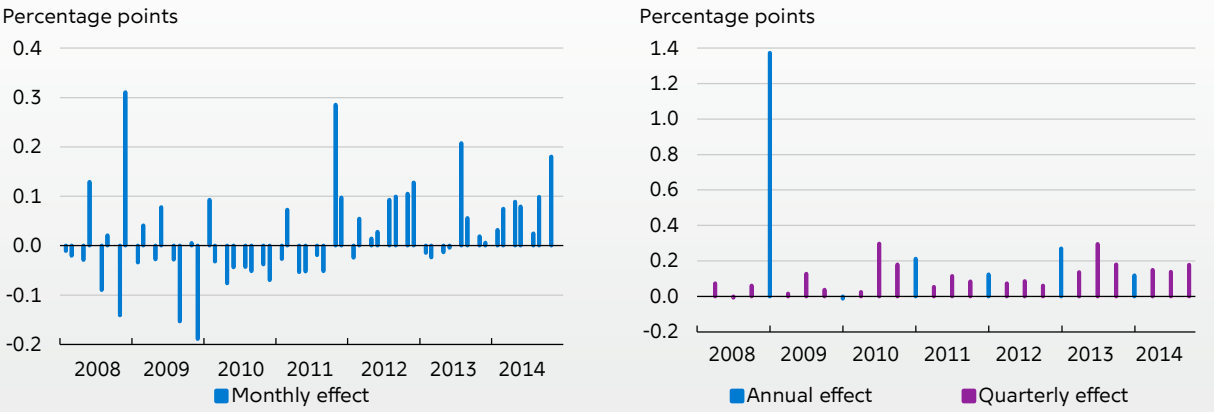
The increased focus on credit and liquidity risks is reflected in the rate of interest on and turnover of uncollateralised loans in connection with banks' balancing of accounts and liquidity situation, i.e. at the end of the year, quarter and month. This applies particularly at the end of the year when turnover is lower and the interest rate is appreciably higher on uncollateralised loans with maturities that span the turn of the year. This should be viewed in light of the banks' wish to present a balance sheet to e.g. investors, authorities and credit rating agencies with as little risk as possible and as large a volume of liquid assets as possible. Consequently, they are unwilling to lend liquidity on an uncollateralised basis, particularly around the turn of the year, and therefore demand a higher rate of interest.

This effect is reflected in the Danish T/N rate and in the overnight interest rate in the euro area (Eonia), cf. ECB (2008). Estimations on data since mid-2007 indicate that the T/N rate can increase by approximately 35 basis points at the end of the year, but a statistically significant effect of approximately 10 basis points is also seen at the end of other quarters, cf. Box 1. While the end of the year effect has been statistically significant for a long time, the effect at the end of other quarters, based on recursive estimations, began to become significant from 2010. Fairly similar results are obtained for estimations of the spread between the O/N rate and the rate of interest on certificates of deposit.

The effect at the end of a month that is not also the end of a quarter is estimated at approximately

Turn of month, quarter and year effect on the T/N rate

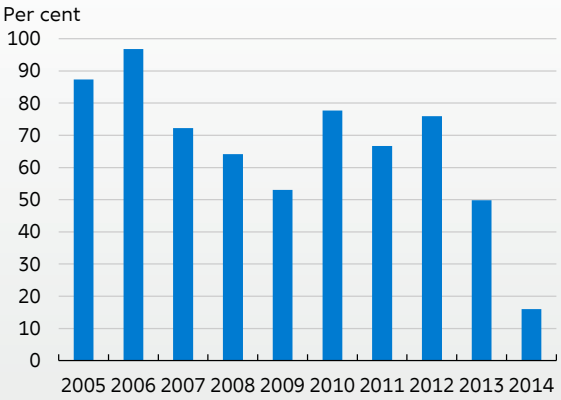
Chart 6



Note: Monthly effect is the effect at the end of a month, excluding months at the end of a quarter. Quarterly effect is the effect at the end of a quarter, excluding the last quarter of the year. Annual effect is the effect at the end of the year. The charts show residuals at the end of a month, quarter or year for estimation of a model for the T/N rate based on data since mid-2007 where dummy variables for the end of a month, quarter and year were excluded from the model in Box 1.
Source: Danmarks Nationalbank and own calculations.

2 basis points. The development in the difference between actual and model predictions of the T/N rate indicates that the monthly effect has increased, cf. Chart 6. Since mid-2011, the T/N rate has mainly been higher than the model prediction at the end of the month, while the picture was more mixed before that time. When the model is estimated on a shorter period since the beginning of 2009, the monthly effect becomes greater and statistically significant at the 1 per cent level.[7] Recursive estimation of the coefficients suggests that the monthly effect increases over the estimation period and only begins to become significant in the course of 2013.[8] At the end of the month, the turnover behind the T/N rate is substantially below the turnover on other days, and the difference has become more pronounced in recent years, cf. Chart 7.

End of month T/N turnover as a ratio of turnover for the rest of the days Chart 7



Note: Average turnover on days at the end of a month (including at the end of a quarter and year) as a ratio of turnover on days that are not end of period days. The most recent observations are from 25 November 2014.
Source: Danmarks Nationalbank.

Model for the overnight rate

Box 1 continues

It is possible to get a good description of the T/N rate in a simple regression model. The model explains the spread of the T/N rate to the current account rate by the theoretical pass-through from monetary policy interest rates ("pass-through") and three variables describing the liquidity conditions in the market, including the "internal spread", which is the spread between the rate of interest on certificates of deposit and the current account rate. The model and the "pass-through" and "internal spread" variables are described in further detail in Mindested et al. (2013). Compared to Mindested et al. (2013), two explanatory variables have been added to describe liquidity conditions, i.e. "deposits" and "distribution".

A large volume of the monetary policy counterparties' deposits with Danmarks Nationalbank in the form of current account deposits and holdings of certificates of deposit, "deposits", is expected to push down interest rates, as large deposits with Danmarks Nationalbank, all else equal, reduce the counterparties' need to borrow in the money market and boost their lending capacity. In the event of a negative rate of interest on certificates of deposit, the effect of increased "deposits" may be limited, if the counterparties have ample liquidity. "Deposits" are calculated in billion kroner at the start of the day. Hence, the coefficient on "deposits" in the estimations shows the increase in the T/N rate in percentage points when deposits increase by kr. 1 billion.

The effect of uneven distribution of deposits, "distribution", on the interest rate cannot be determined a priori. If a few market participants account for a large part of the deposits, this may push up interest rates. On the other hand, the large volume of deposits means that market participants with large deposits have an incentive to lend liquidity. If the rate of interest on certificates of deposit is negative, the effect of the distribution is expected to be smaller, as participants with a relatively large volume of liquidity tend to be more willing to lend at a low rate of interest to avoid placements at a negative rate of interest on certificates of deposit. If the counterparties generally have ample liquidity, the effect will also be limited. The degree of inequality in terms of deposit distribution is measured by the Gini coefficient on the current T/N reporting banks' deposits with Danmarks Nationalbank, cf. Akram and Christophersen (2010). The coefficient ranges from 0 to 1. If distribution is completely equal, i.e. all T/N reporting banks have the same volume of deposits, the Gini coefficient is 0, while it is 1 when one T/N reporting bank alone accounts for the T/N reporting banks' total deposits. The coefficient on "distribution" in the estimations shows the increase in the T/N rate when distribution changes from complete equality to complete inequality. Alternatively, distribution could be estimated as the share of total deposits with Danmarks Nationalbank of the T/N reporting bank with the largest deposit at Danmarks Nationalbank, cf. Syrstad (2012).

The effect of the explanatory variables is permitted to differ when the rate of interest on certificates of deposit is positive or negative, respectively, by means of a dummy variable (D_N) assuming the value of 1 on days when the rate of interest on certificates of deposit is negative and otherwise 0.

7 The average annual effect is reduced, as a large increase in the T/N rate in connection with the turn of the year 2008-09 is excluded from the estimation period.

8 At 5 per cent level.

Continued Box 1

The end of period effect is estimated by means of dummy variables at the times when the T/N loan spans the turn of the year, quarter or month, respectively. The turn of the year dummy variable (D_Y) has the value of 1 on the last day of the year and otherwise 0. The turn of the quarter dummy variable (D_Q) has the value of 1 on the last trading day of each quarter, except the 4th quarter (the last day of the year), and otherwise the value of 0. The turn of the month dummy variable for (D_M) has the value of 1 on the last day of the month, except when that is the last day of the quarter, and otherwise 0. The coefficient on the dummy variables shows the increase in the T/N rate in percentage points at the end of the year, quarter and month, respectively.

The model can be summarised in the following equation, which is estimated on daily data in the period from July 2007 to October 2014:

$$T/N\_rate - current\ account\ rate = \beta_0 + \beta_1(pass-through)(+1) + \beta_2(internal\ spread) + \beta_3(deposits)(-1) + \beta_4(distribution)(-1) + \beta_{D\ N,0}\ D\_N + \beta_{D\ N,1}\ D\_N(pass-through)(+1) + \beta_{D\ N,2}\ D\_N(internal\ spread) + \beta_{D\ N,3}\ D\_N(deposits)(-1) + \beta_{D\ N,4}\ D\_N(distribution)(-1) + \beta_5\ D\_Y(+1) + \beta_6\ D\_Q(+1) + \beta_7\ D\_M(+1)$$

Estimation results for the effect on the spread between the T/N rate and the current account rate

	Estimation based on data since mid-2007		Estimation based on data since the beginning of 2009	
	Positive interest rate	Negative interest rate	Positive interest rate	Negative interest rate
Constant	0.06610	0.04802*	0.05372*	0.04588*
Internal spread	0.66271***	0.30091***	0.42140***	0.30517***
Pass-through	0.53671***	0.72813***	0.42665***	0.72947***
Deposits	-0.00100***	-0.00015**	-0.00063***	-0.00012*
Distribution	0.10301*	0.04454	0.09134**	0.03998
	Whole period		Whole period	
Annual effect	0.34939**		0.14396***	
Quarterly effect	0.11421***		0.13394***	
Monthly effect	0.02204*		0.03625***	
Adjusted R^2	0.85		0.79	

Note: *, **, *** denote levels of significance of 10, 5 and 1 per cent, respectively, based on Newey-West standard errors. "Positive interest rate" indicates coefficients on the explanatory variables that are permitted to differ when the rate of interest on certificates of deposit is positive or negative, respectively. "Negative interest rate" indicates the sum of the coefficients on the above-mentioned explanatory variables and on the terms where D_N is multiplied by the respective explanatory variables. "Whole period" indicates the coefficients on the explanatory variables that are not permitted to differ when the rate of interest on certificates of deposit is positive or negative, respectively.

The market participants also point out that the turn of the month effect has become more evident in recent years. One of the underlying factors is that regulatory initiatives give banks an incentive to present lean balance sheets. Regulatory requirements apply not only at the time of calculation, but must be met on an ongoing basis.

LIQUIDITY REGULATION[9]

As from 1 October 2015, European credit institutions will be subject to new liquidity regulation, the LCR, cf. Box 2. In the future, a measure of stable long-term funding, the Net Stable Funding

9 See Danmarks Nationalbank (2014a and b).

Liquidity Coverage Ratio, money market and monetary policy instruments

Box 2

According to the LCR liquidity requirement, credit institutions must have adequate high-quality liquid assets to cover the net outflow of liquidity in a 30-days stress scenario. The LCR is defined as:

$$\text{LCR} = \frac{\text{Liquid assets (liquidity buffer)}}{\text{Net liquidity outflow over the coming 30 days in liquidity stress scenario}} \geq 100 \text{ per cent}$$

Liquid assets in terms of the LCR (numerator) are divided into level 1 and level 2 assets, where level 1 assets are the most liquid assets. Level 1 assets, which must account for minimum 60 per cent of total liquid assets, consist of cash, deposits at central banks (current account deposits at Danmarks Nationalbank and certificates of deposit), government securities, etc. Mortgage bonds are divided into level 1 and level 2 assets based on series size and credit rating and cannot exceed 70 per cent of total liquid assets. The institutions may not include their own (affiliated) mortgage bond issues as LCR liquid assets. Net liquidity outflow is liquidity outflow less liquidity inflow. Inflow must not exceed 75 per cent of outflow. For a more detailed description of the LCR, see Danmarks Nationalbank (2014b).

The effect on the LCR from loans in the money market depends on whether the loan is uncollateralised or collateralised and on the maturity of the loan.[1]

Uncollateralised loans

Uncollateralised loans with a remaining time to maturity of less than 30 days increase liquidity outflow (denominator) by 100 per cent of the loan. The volume of liquid assets (numerator) increases correspondingly, i.e. the numerator and the denominator increase by the same amount. If the LCR is 100 per cent as a starting point, the LCR will be unchanged for an uncollateralised deposit with a remaining time to maturity of less than 30 days. If the LCR is more than 100 per cent as a starting point, a deposit will marginally reduce the LCR due to the "fraction effect". This effect reflects that a fraction larger than 1 is reduced when the numerator and the denominator increase by the same amount in absolute terms, as the numerator is thereby increased by a smaller percentage than the denominator.

Similarly, uncollateralised loans with a remaining time to maturity of less than 30 days reduce the numerator and the denominator of the LCR by the same amount, so an LCR of 100 per cent as a starting point remains unchanged. If the LCR is more than 100 per cent, it will increase marginally due to the fraction effect.

Uncollateralised deposits with a remaining time to maturity of more than 30 days increase the numerator of the LCR, while the denominator remains unchanged, as liquidity outflow is unaffected for loans with a remaining time to maturity of more than 30 days. This means that the LCR increases for an uncollateralised deposit with a remaining time to maturity of more than 30 days.

Collateralised loans[2]

The effect of collateralised loans on the LCR depends on a number of factors, including the nature of the collateral, haircuts and the institution's portfolio of level 1 and level 2 assets. For example, loans against Danish government securities as collateral would mean that liquid assets are both given and received in the numerator. Net liquidity outflow (the denominator) for loans against Danish government securities as collateral is 0 per cent as a starting point.

Collateralised deposits with a remaining time to maturity of more than 30 days, where illiquid assets are pledged as collateral, increases the numerator of the LCR as a starting point, while the denominator remains unchanged, as liquidity outflow is unaffected in this case.

Monetary policy instruments

Liquidity outflow on monetary policy loans is set at 0 per cent, thus allowing the institutions to increase their LCR by pledging assets that are illiquid in the LCR as collateral to Danmarks Nationalbank. This increases the numerator of the LCR, i.e. the volume of liquid assets, by the deposit at Danmarks Nationalbank, while the denominator remains unchanged. The cost involved is the interest rate spread between Danmarks Nationalbank's lending rate and the rate of interest on certificates of deposit.

1. The following assumes that liquidity inflow is less than 75 per cent of outflow and that revenue from a loan is placed at Danmarks Nationalbank. Similarly, a loan is financed by drawing on deposits at Danmarks Nationalbank.
2. The treatment of collateralised loans when estimating the LCR is not yet fully in place.

Ratio, NSFR, is also expected to become part of the European liquidity regulation.

The aim of the liquidity regulation is to reduce the risk of liquidity problems for the institutions. LCR increases the transparency of the liquidity situation of the individual institutions, thereby strengthening the functionality of the money market and reducing the liquidity premium in the money market, all other things being equal. While the LCR aims to ensure that the institutions have adequate high-quality liquid assets to cover the net outflow of liquidity in a 30-day intensive liquidity stress scenario, the purpose of the NSFR is to ensure that the institutions have sufficient long-term and medium-term funding.

An LCR of 60 per cent must be met by 1 October 2015, rising to 100 per cent in 2018. Danish systemic institutions are expected to be required to meet an LCR of 100 per cent by 1 October 2015. In Danmarks Nationalbank's assessment, the

systemic institutions already comply with the LCR requirement of 100 per cent, or they will be able to make the necessary adjustments in the period up to October 2015, cf. Danmarks Nationalbank (2014b).

Uncollateralised overnight loans do not affect the LCR to any considerable extent,[10] and the LCR is not the reason for the end of period effects in the overnight market, but they may impact the money market in other ways.

The LCR means that banks are given a greater incentive to obtain funding via deposits from customers rather than via the money market, as the liquidity outflow for deposits from customers is less than for short-term uncollateralised money market deposits. At the same time, the LCR encourages banks to replace short-term funding, e.g. short-term uncollateralised money market loans, by longer-term loans.[11] Viewed in isolation, this may result in a higher rate of interest on longer-term loans relative to short-term loans in the money market.

LIQUIDITY REGULATION AND MONETARY POLICY INSTRUMENTS[12]

Liquidity regulation may provide the institutions with an incentive to comply with LCR requirements by borrowing and placing funds at Danmarks Nationalbank, e.g. if Danmarks Nationalbank's collateral basis is broader than the LCR definition of liquid assets, and if the related costs are lower than if the institutions acquire LCR liquid assets in the market. In this way, the regulation may give the institutions an incentive to manage their liquidity via the central bank rather than the money market.

In this context, the BIS Group of Governors and Heads of Supervision stated: "The aim of the Liquidity Coverage Ratio is to ensure that banks, in normal times, have a sound funding structure and hold sufficient liquid assets such that central banks are asked to perform only as lenders of last resort and not as lenders of first resort", cf. BIS (2012).[13]

Danmarks Nationalbank shares this view. The aim of the LCR is for the institutions to hold sufficient liquid assets and thus, in normal times, to manage their liquidity via the market rather than via Danmarks Nationalbank. The assets that may be used to comply with the LCR requirement are close to Danmarks Nationalbank's collateral basis. This reduces the banks' scope for using monetary policy instruments to increase their LCR, and there are no signs of such use prior to the implementation of the LCR requirement.

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10 Cf. Box 2.

11 The liquidity outflow for longer-term loans (more than 30 days) is set at 0 per cent, cf. Box 2. In this connection, the banks have introduced new products aimed at compliance with the LCR, e.g. deposits with agreed maturity, from customers with 31 days' notice.

12 See also ECB (2013) and Bech and Keister (2012) for an analysis of the interaction between the LCR and the monetary policy instruments.

13 The ECB has pointed out that inappropriate use of the monetary policy instruments in connection with the LCR may be countered e.g. by narrowing the collateral basis, introducing limits to the banks' funding via the central bank or limits to the use of certain types of assets as collateral, cf. ECB (2013).

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