

Consultative document

Changes in “Regulation on the Access of Banks to Borrowing and Deposit Facilities in Norges Bank etc.”

1. Background

During the financial crisis in 2008-09, the provision of reserves (liquidity) to banks was an important instrument for central banks. In several countries, this led, in practice, to a change in the systems for the management of banks’ reserves. This was not necessary in Norway. Subsequently, however, we have conducted a detailed review of the characteristics of our own system, which has revealed a number of weaknesses in the system we have today. We would, therefore, like to make a number of changes in the system.

The changes in the system for the management of banks’ reserves must be seen in relation to the unsatisfactory functioning of the money market in Norway. Risk premiums (money market rates less expected key policy rate over the same horizon) have generally been higher in Norway than in other countries, also in the post-crisis period. The changes in the system for the management of banks’ reserves must, therefore, be considered in the context of the measures being taken at the same time to improve NIBOR quoting.¹ The aim is to improve the functioning of the Norwegian money market.

2. Main features of the current system for the management of reserves in Norway²

The key policy rate in Norway is the sight deposit rate, which is the rate of interest that banks receive on their overnight deposits in Norges Bank. Banks’ aggregate deposits in Norges Bank are hereinafter referred to as banks’ reserves. The sight deposit rate normally forms a floor for very short-term money market rates, as banks will not normally want to lend money at a rate of interest that is lower than the rate they receive from the central bank. Similarly, Norges Bank’s overnight lending rate (for D-loans) forms a ceiling for very short-term money market rates, as banks will not normally borrow money at a rate of interest that is higher than the rate they have to pay the central bank. Sight deposits and D-loans are Norges Bank’s standing facilities. Standing facilities allow banks to deposit funds (at the sight deposit rate) or borrow funds (at the overnight lending rate) *at their own initiative*.

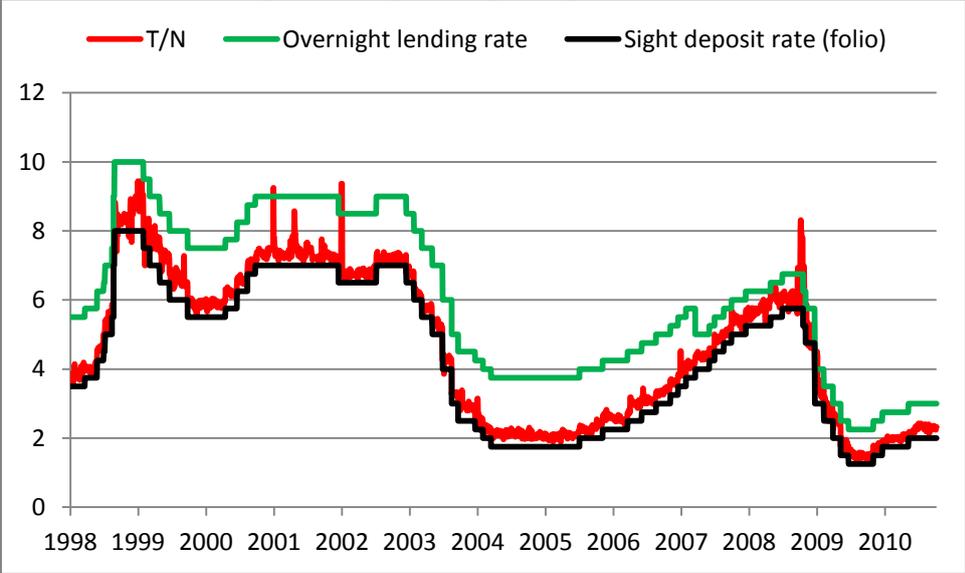
¹ See Norges Bank’s letter to Finance Norway (FNO) of 6 October 2010, “The quoting of interbank rates – NIBOR”, where a new regulation for NIBOR quoting is discussed. This letter has been published on Norges Bank’s website.

²The system for the management of banks’ reserves in Norway is discussed in more detail in A. Fidjestøl (2007): “The central bank’s liquidity policy in an oil economy”, *Economic Bulletin* 4/2007, www.norges-bank.no. Information can also be found on Norges Bank’s website under “Price Stability/Liquidity Management”.

With the sight deposit rate as its key rate, Norges Bank must ensure that there is a surplus of reserves in the banking system. In other words, banks must always have deposits of a certain size in the central bank. When these deposits are sufficiently large, very short-term money market rates will be pushed down towards the sight deposit rate. The level of reserves required to achieve this depends on banks' demand and can vary over time. Norges Bank makes reserves available through market operations in the form of fixed-rate loans (F-loans) to banks. These loans are offered when, in Norges Bank's judgement, there is a need for more reserves in the system to keep the market rate close to the sight deposit rate. The interest rate on F-loans is normally just above the sight deposit rate.

Chart 1 shows Norges Bank's sight deposit and overnight lending rates together with the tomorrow-next (T/N) money market rate.³ The chart shows that this very short-term money market rate generally stays relatively close to the key rate, or floor. Hence, the system for the management of banks' reserves in Norway is known as a floor system. We have had this system since the second half of the 1990s. It dates from a period with a fixed exchange rate regime.

Chart 1. T/N, overnight lending and sight deposit rates 1998-2010. Per cent. Daily data



During normal periods, a floor system is very unusual internationally. The most common system has been for the key policy rate to be midway between the interest rates for the standing facilities, known as a corridor system. In a corridor system, the central bank makes reserves available through market operations at an interest rate close to the key rate. A corridor system can come with or without reserve requirements. The level of reserves in the banking system needs to be adjusted so that banks collectively neither need to borrow (at the equivalent of Norges Bank's overnight lending rate) nor to deposit (at the equivalent of

³ The T/N rate (the rate from tomorrow until the next business day) is the most liquid short-term interest rate in Norway.

Norges Bank's sight deposit rate). In a corridor system with no reserve requirements, the total amount of reserves in the banking system will be zero or marginally above zero.⁴

In a corridor system, it is expensive for banks to use the central bank's standing facilities. A bank that has acquired reserves at an interest rate close to the key rate will normally not want to deposit them in the central bank at a deposit rate that is 50 or 100 basis points lower. It will also want to avoid using the central bank's lending facility, as the interest rate for this is similarly much higher than the key rate. These potential costs give banks a much stronger incentive to redistribute reserves in the interbank market than is the case in a floor system. At the same time, a corridor system requires more fine-tuning of reserves in the banking system than a floor system.⁵

During the financial crisis, central banks in many countries had to inject large amounts of reserves into their banking systems. As a result, short-term market rates have moved down towards the deposit rate. In practice, therefore, many countries have come close to a floor system, but in most cases this is probably only temporary.

In Norway, the government has an account in Norges Bank. In- and outgoing payments are made by transferring reserves between the government's account in Norges Bank and banks' accounts in Norges Bank. Payments to the government drain reserves out of the banking system, while payments from the government have the reverse effect. Consequently, payments to and from the government result in substantial fluctuations in banks' total reserves in Norges Bank. Norges Bank counteracts this by offering F-loans. However, there is a considerable margin for error in forecasts of changes in the banking system's reserves as a result of government transactions. In principle, the market rate is affected less by forecasting errors of this kind in a floor system than in a corridor system. In a floor system, there will be sufficient reserves in the banking system for the market rate to remain close to the key policy rate even if the supply of reserves changes somewhat.

3. Weaknesses in the current system

During the financial crisis, risk premiums (money market rates less expected key policy rate over the same horizon) were generally higher in Norway than in other countries. They have also remained higher in Norway than in other countries in the post-crisis period (see Chart 2). Chart 3 shows movements in risk premiums for the NIBOR T/N and three-month NIBOR. Premiums have remained high and volatile over the past year and are above what can be assumed to be a normal level. High premiums are an indication that the money market in Norwegian kroner is functioning poorly.

⁴ The Bank of Canada operates a system of this kind. The standing facilities create a corridor of +/- 50 basis points around the key rate. Through daily fine-tuning operations, the central bank ensures that liquidity in the system at the end of each day is only marginally greater than zero.

⁵ See T. Bernhardsen and A. Kloster (2010): "Liquidity management system: Floor or corridor?", *Staff Memo* 4/2010, www.norges-bank.no, for a more detailed discussion of the characteristics of floor and corridor systems. How the two systems function in practice is presented briefly in Appendix 2.

Chart 2. Risk premiums (three-month rates) in various countries

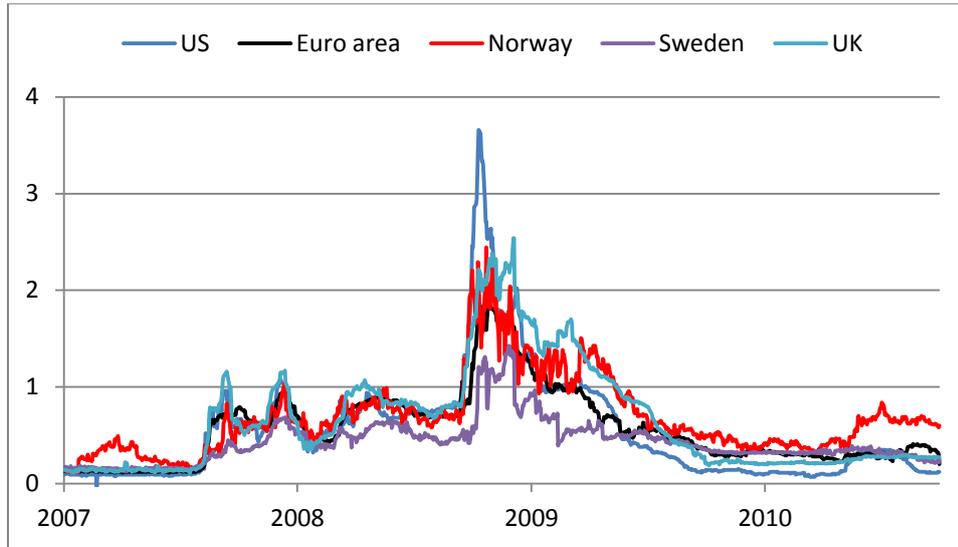
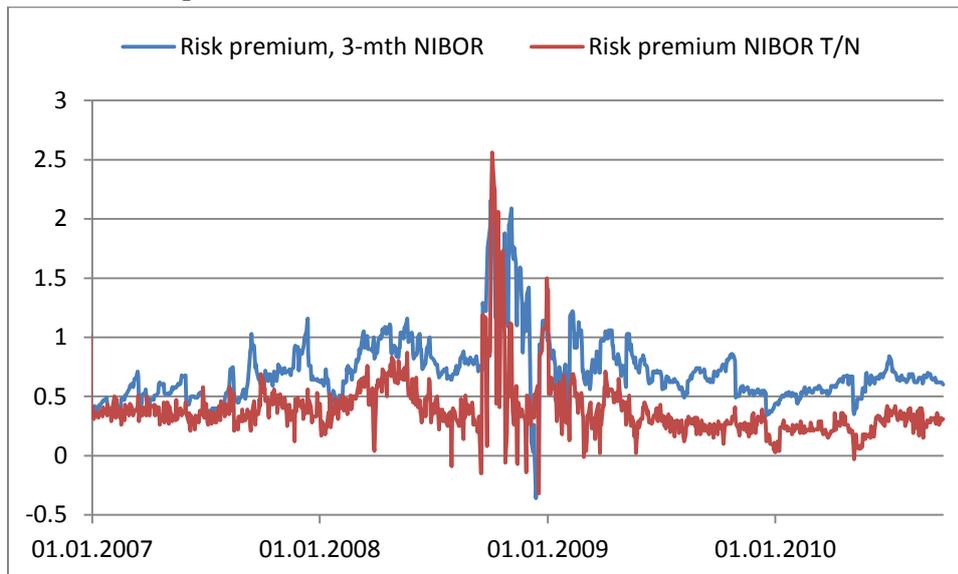


Chart 3. Risk premiums for NIBOR T/N and three-month NIBOR



The quoting of interbank rates in Norway is not a formally organised system, and interest rate formation can be difficult to understand for third parties. There is no adequate quoting of interbank rates directly in Norwegian kroner, either for overnight loans or for longer maturities. At present, NIBOR T/N is the most widely used short-term market rate in Norway. This is what is known as a swap rate and is derived from the rate on a similar loan in US dollars plus the interest rate differential between Norwegian kroner and US dollars reflected in the forward premium. Banks on the NIBOR panel quote T/N rates on Reuters, but with such large bid-ask spreads that they provide little information about the actual level of prices for short-term loans. To monitor the situation, Norges Bank calculates a T/N rate itself based on completed trades in the forward exchange market.

There are reasons to believe that there is a connection between the system for the management of banks' reserves and banks' practice in quoting interbank rates. Greater activity and more accurate pricing in the overnight market could lead to more stable interest rate formation and lower risk premiums, also for money market rates with longer maturities. It is therefore necessary to establish a deeper, more stable and more transparent overnight market for Norwegian kroner.

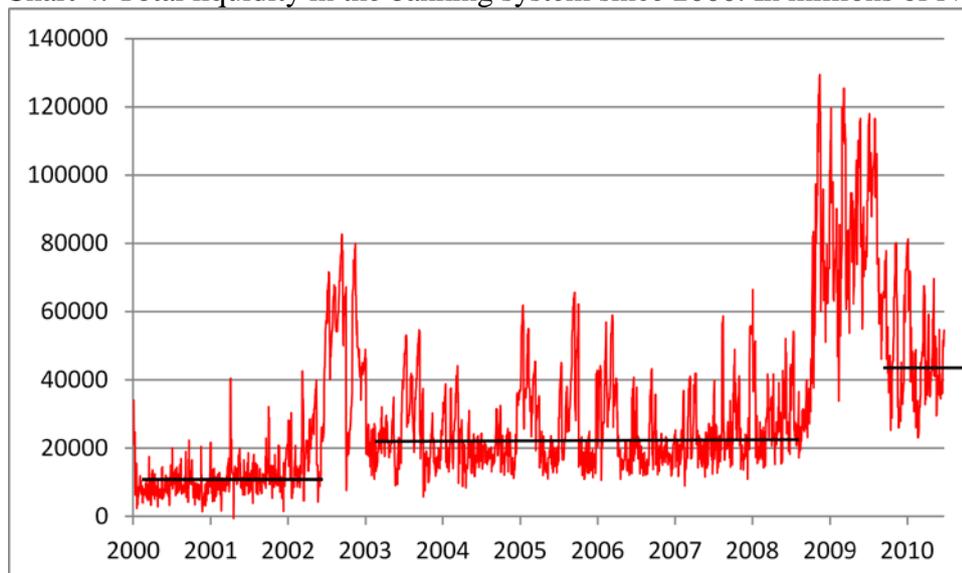
One key feature of our system is that banks have ample access to central bank reserves, and that it costs relatively little for banks to borrow reserves from Norges Bank against collateral in the form of securities. Other things being equal, a lower price implies that banks want to keep a larger share of their liquid assets in the form of central bank reserves. In general, demand for central bank reserves at F-loan auctions is high, and higher than needed by banks to complete their payments in Norges Bank's settlement system.

The low cost of holding reserves on overnight deposit also seems to affect banks' behaviour in the interbank market. By and large, the redistribution of reserves in the interbank market is functioning poorly. Because the cost of sight deposits is low, it would seem to take very little for banks to become reluctant to lend to one another. The short-term money market rate needs to be bid up considerably before a lender will enter the market. In such situations, Norges Bank has to supply more reserves to stop the short-term money market rate from rising. How high total reserves need to be to keep the premium in the shortest money market rate down depends, therefore, on banks' willingness to lend to one another. If the willingness to lend decreases, more reserves will be needed to keep the short-term market rate close to the key rate.

Chart 4 shows total reserves in the banking system since 2000. Following a period of high reserves, levels have tended to remain at a higher level. The level of total reserves was relatively stable in the range NOK 5-10 billion in the period 2000-2002. After a year of high reserves in 2003, total reserves remained somewhat higher, in the range NOK 15-20 billion from the beginning of 2004 until the financial turmoil erupted in late summer 2007. During the financial crisis starting in autumn 2008, substantial loans were issued and total reserves exceeded NOK 100 billion at times. They have come down since then, but are still relatively high compared with previous periods, at more than NOK 40 billion. We are now seeing a tendency for the short-term market rate to rise when total reserves dip towards NOK 30 billion.⁶ When Norges Bank keeps reserves relatively high for a period, it appears that banks gradually adjust to this level. The incentive to lend is already weak and appears to be further undermined if banks do not need to borrow for a period to meet their needs.

⁶ Norges Bank issued a two-year F-loan in autumn 2008 and a three-year F-loan in spring 2009. Both were aimed at small banks and are still outstanding in the banking system. However, Norges Bank's statistics suggest that the reserves supplied through these loans were relatively quickly put into circulation in the banking system. These long F-loans do not, therefore, seem to be the reason why it is now proving difficult to bring total reserves down towards previous levels without pushing up the market rate.

Chart 4. Total liquidity in the banking system since 2000. In millions of NOK. Daily data



With ever increasing reserves in the banking system, there is a risk that Norges Bank assumes functions that should be left to the market. It is not Norges Bank's role to provide funding for banks. It is the market's role to transform savings into loans. The reserves made available by Norges Bank are, first and foremost, to ensure that interbank payment settlement functions satisfactorily. If a bank has a deficit of reserves towards the end of the day, banks must be able to deal with this by trading in the interbank market.

4. New system for management of banks' reserves

In principle, the banking system can function without any overnight deposits from banks, i.e. with zero total reserves in the banking system. The intraday redistribution of reserves that takes place through interbank payments can be reversed through interbank lending at the end of the day, as is the case in a corridor system. However, this places considerable demands on the interbank market. Realistically, some margin of surplus reserves is probably necessary in the banking system in Norway. Banks can then hold a buffer of capital they can draw on to cover unanticipated payments before they have to borrow from other banks in the market. Banks may also need reserves above zero due to the uncertainty related to the forecast for developments in total banking system reserves.

Norges Bank aims to introduce a middle solution between a floor system and a corridor system. The new system is similar to the current system, but with one difference: In the new system, only a certain portion of a bank's deposits in the central bank (a quota) will bear interest at the key rate. Deposits in excess of the quota will bear interest at a lower rate, the reserve rate. A similar system has been successfully established in New Zealand.⁷

⁷ For more details on the system in New Zealand, see I. Nield (2008) "Evolution of the Reserve Bank's liquidity facilities" Reserve Bank of New Zealand Bulletin, vol. 74, No. 4, Dec. 2008.

The new system will provide banks with a financial incentive to redistribute reserves in the interbank market while retaining much of the flexibility of the current system. Today, the cost to a bank of holding large deposits in sight deposit accounts is very low. This cost will increase under the new system. A bank with deposits in excess of the quota will therefore have an incentive to offer the excess in the interbank market. Banks needing to borrow reserves overnight will find a counterparty more easily than under the current system.

Banks with deposits in the central bank below the quota level will also find it more profitable to borrow reserves at a rate lower than the key rate and deposit the borrowed reserves with Norges Bank at the key rate. How far the interest rate will be bid down will depend on the competition among banks. Norges Bank will, as under the current system, ensure that the liquidity supply to banks is sufficient to keep the overnight interest rate close to the key rate. However, in contrast to today, the overnight rate may not only rise above, but may also in periods fall below the key rate by a few points. This could in itself reduce money market premiums, even on loans with longer maturities.

Norges Bank will determine the sum of the quotas. Normally, Norges Bank will not offer more reserves to the banking system than the sum of the quotas, as this would push down short-term market rates considerably below the key rate. If quotas are very generous, the system will function approximately as it does today, but distribution will be somewhat improved when reserves are unevenly distributed among banks. If quotas are set low, the system will be more akin to a corridor system. Norges Bank intends to start with fairly generous quotas to provide for a gradual transition to the new system.

More specifically, the new system might be set up as follows:

- As previously, banks will be able to borrow reserves in Norges Bank overnight against collateral at an interest rate above the key rate (D-loans).
- As previously, banks will be able to borrow unlimited reserves during the day against collateral without paying interest.
- As previously, Norges Bank will supply reserves by issuing F-loans.
- As previously, Norges Bank will if necessary drain reserves through F-deposits.
- Each bank will be assigned a quota for deposits that will bear interest at the Norges Bank key rate, the sight deposit rate. Sight deposits in excess of the quota will bear interest at a lower rate, the reserve rate.
- The new system for management of banks' reserves will apply to all banks in Norges Bank's settlement system (NBO).
- The banks in NBO are divided into three groups, A1, A2 and B.⁸ In principle, the same groups will apply when quotas are set:
 - Group 1. Banks in NBO group A1.
 - Group 2. Banks in NBO group A2.

⁸ See Circular no. 13/30 October 2009 "Prices in Norges Bank's settlement system (NBO) for 2010" for more details about this division.

- Group 3. Banks in NBO group B.
- A bank that quotes money market rates (i.e. a bank on the NIBOR panel) and that in principle belongs to group A2 in NBO will be moved to group 1 when the bank's quota is to be set. This is because banks on the NIBOR panel are most active in the money market and are therefore in the best position to trade reserves overnight. Banks other than the current NIBOR banks should also have the opportunity to join the NIBOR panel.⁹
- Norges Bank determines the sum of all the quotas in all the groups (the total quota).
- The share of the total quota for each group will equal the group's share of the aggregate total assets of the NBO banks.
- All the banks in a group will be assigned the same quota.
- Norges Bank will normally assess the size of the total quota twice a year. In the initial phase and during periods of financial market turbulence, these assessments may be made more often.
- Norges Bank will hold F-loan and F-deposit auctions as necessary to maintain total reserves close to the desired level at all times. Norges Bank will normally not offer reserves in excess of the total quota.
- The new system is planned to be in operation as from the second half of 2011. Norges Bank will provide more information on the start date after this consultation round.
- The initial framework conditions at start-up will be:
 - The reserve rate will be set 100 basis points lower than the key rate (sight deposit rate)
 - The D-loan rate will be set 100 basis points higher than the key rate (as previously)

Table 1 in Appendix 1 provides a list of the banks in each of the three groups as of September 2010, each bank's total assets as of June 2010 and how the total quota on the basis of these data is distributed among the three groups.

5. More about the background for the assignment of quotas

Alternative ways of assigning quotas could be considered. One possible starting point would be to make each bank's individual quota proportional to its total assets or the size of its payments in the settlement system.¹⁰

Deposits in Norges Bank vary considerably over time, particularly for large banks. At times, deposits are close to zero, even for the largest banks. This raises the issue of what is the true driver behind the need to have deposits in the central bank.

With the largest banks, there is not necessarily a clear relationship between the size of a bank (as measured by total assets) and its deposits in Norges Bank. Although banks in group 1,

⁹ This is discussed in more detail in Norges Bank's letter to Finance Norway (FNO) on 6 October 2010, "The quoting of interbank rates – NIBOR", cf. footnote 1.

¹⁰ The data for individual banks are confidential. We refer here only to general conclusions.

which are by far the largest banks in terms of assets, have substantially larger deposits in Norges Bank than the smaller banks in groups 2 and 3, there is no clear relationship between the size of banks and their deposits in Norges Bank within group 1. Thus, a bank's size is not an indication of its need for deposits in Norges Bank. Assigning quotas in proportion to the size of each individual bank is therefore not a suitable solution.

Alternatively, the possibility of a relationship between the size of the transactions banks execute in the settlement system and their need for deposits in Norges Bank might be considered. If transactions were large, a bank might be exposed to large outgoing payments during the course of the day. If, at the same time, receipts were limited, and the bank did not obtain cover in the market at the end of the day, it would need to have large deposits in the central bank to be able to cover payments to other banks (or take out an overnight loan from the central bank). However, data show that there is again no clear relationship between the size of a bank's transactions and its deposits in Norges Bank.

Banks have unlimited access to interest-free loans against collateral from Norges Bank during the day. These intraday loans ensure that payment settlement functions satisfactorily, which is the primary role of the management system for banks' reserves. This access to interest-free intraday loans reduces banks' need for deposits in the central bank. Without intraday loans, banks would need to have larger deposits in the central bank to cover transactions in the banking system during the course of the day. With intraday loans, banks need only settle their net transactions with one another at the end of the day. The greater the symmetry between a bank's receipts and payments during the day, the smaller the need for deposits at the central bank. This means that the more predictable banks' receipts and payments are, and the better their short-term liquidity management, the less they will need deposits in the central bank.

The aim of the changes in the management system is to enhance the functioning of the money market. The criteria for assigning quotas have therefore been designed primarily to stimulate money market activity on the basis of banks' capacity to redistribute reserves in the interbank market.

6. Draft changes in "Regulation on the Access of Banks to Borrowing and Deposit Facilities in Norges Bank etc."

The new system for the management of banks' reserves will require an amendment to the "Regulation on the Access of Banks to Borrowing and Deposit Facilities in Norges Bank etc."¹¹

The wording of Sections 1-3 and 5-12 will be as before. The interest rates on sight deposits and D-loans are discussed in Section 4, which currently reads as follows:

Section 4. Interest rate and calculation of interest on sight deposits and D-loans

¹¹ See http://www.norges-bank.no/templates/article_73817.aspx.

Norges Bank sets the interest rate on sight deposits and D-loans.

The rate of interest on sight deposits and D-loans is calculated daily in arrears. Interest is calculated on the basis of calendar days. Interest is calculated for 365 days per year.

The interest on D-loans is charged to the bank's account on the first settlement day after the loan is raised. If the first day and any subsequent days in a month is/are not (a) banking day(s), the interest for the said day(s) will be charged on the second settlement day in the new month.

Interest on deposits is credited to the bank's account on the first settlement day after the deposit is placed with Norges Bank. If the first day and any subsequent days in a month is/are not (a) banking day(s), the interest for the said day(s) will be paid out on the second banking day in this month.

New wording of Section 4 (change in italics):

Norges Bank sets the interest rate on sight deposits and D-loans. *The rate of interest on sight deposits may be varied in accordance with the terms and procedures established by Norges Bank.*

The rate of interest on sight deposits and D-loans is calculated daily in arrears. Interest is calculated on the basis of calendar days. Interest is calculated for 365 days per year.

The interest on D-loans is charged to the bank's account on the first settlement day after the loan is raised. If the first day and any subsequent days in a month is/are not (a) banking day(s), the interest for the said day(s) will be charged on the second settlement day in the new month.

Interest on deposits is credited to the bank's account on the first settlement day after the deposit is placed with Norges Bank. If the first day and any subsequent days in a month is/are not (a) banking day(s), the interest for the said day(s) will be paid out on the second banking day in this month.

Appendix 1. Grouping of banks in the new quota system

Table 1 provides an overview of which banks fall into the three groups as at September 2010, the total assets of each bank as at June 2010, and how the total quota based on these data is distributed between the three groups. Under the proposal, 66 per cent of the total quota will be assigned to group 1, 19 per cent to group 2, and 15 per cent to group 3. The quota for each individual bank will depend on the size of the total quota. The data in Table 1 and the grouping of banks are subject to change over time.

Table 1. Grouping of banks (as at September 2010)

Group 1: All A1 banks in NBO plus Swedbank Norge (total assets in billions of NOK in brackets*)	Group 2: All A2 banks in NBO less Swedbank Norge (total assets in billions of NOK in brackets*)	Group 3: All B banks in NBO (total assets in billions of NOK in brackets*)
DnB NOR Bank (NIBOR-bank, 1523)	Sparebank 1 SR Bank (128)	Remaining 120 banks (577)
Nordea Bank Norge (NIBOR-bank, 520)	Sparebanken Vest (99)	
Fokus Bank (NIBOR-bank, 214)	Sparebank 1 SMN (92)	
Handelsbanken (NIBOR-bank, 149)	Sparebank 1 Nord-Norge (65)	
SEB (NIBOR-bank, 83)	Sparebanken Hedmark (43)	
Swedbank Norge (NIBOR-bank, 48)	Sparebanken Møre (43)	
	Storebrand Bank (38)	
	Sparebanken Sør (37)	
	Sparebanken Pluss (36)	
	BNP Paribas (35)	
	BNBank (32)	
	Skandiabanken (31)	
	Bank1 Oslo (26)	
	Sparebanken Øst (23)	
	Citibank International (0,8)	
Total assets in group 1: 2537	Total assets in group 2: 729	Total assets in group 3: 577
Share of total assets (group 1's share of total quota) $2537/3843 = 0.66$	Share of total assets (group 2's share of total quota) $729/3843 = 0.19$	Share of total assets (group 3's share of total quota) $577/3843 = 0.15$
Quota per bank in group 1**: $(T*0.66)/6$	Quota per bank in group 2**: $(T*0.19)/15$	Quota per bank in group 3**: $(T*0.15)/120$

*Total assets as at June 2010.

**T is the sum of all the quotas – the total quota set by Norges Bank.

Appendix 2. More about the floor and corridor systems

In a floor system, the central bank ensures that there are ample reserves in the banking system. The system in Norway works as follows:

- When the day begins, banks have deposits (reserves) in Norges Bank of a certain size.
- During the day, banks' customers transfer money to one another. Unless these customers have accounts at the same bank, this means that different banks transfer money to one another. This is done using Norges Bank's settlement system. When bank A transfers money to bank B, bank A's deposits in Norges Bank are reduced, and bank B's deposits are increased by the same amount. This settlement process takes place three times daily in Norges Bank's settlement system.
- In Norway, banks have unlimited access to interest-free loans during the day (against collateral). If a bank needs to transfer more to other banks during the day than it has on deposit in Norges Bank, it can borrow the necessary amount from Norges Bank (intraday loan).
- At the end of the day, banks' deposits in Norges Bank will have changed in line with the sum of the net transactions that have gone through the settlement system.
- Banks that have a deficit of reserves at the end of the day, and have therefore had to take out intraday loans, must pay these back to Norges Bank. This can be done in two ways. One is to borrow the necessary amount from other banks in the interbank market and use this to repay the intraday loan from Norges Bank. The other is to take out an overnight loan (D-loan) from Norges Bank at a higher rate of interest. This happens automatically if the bank is in a deficit position and does not redeem its intraday loan by the end of the day.
- The larger their deposits in Norges Bank, the less likely it is that banks will need to borrow reserves from other banks, and the less likely it is that banks will need to take out D-loans.
- The idea behind a floor system is that interbank settlement is largely conducted through adjustments to banks' deposit accounts in the central bank.
- As a result, the higher the deposits in the central bank, the less need there is for banks to redistribute reserves in the interbank market, and so the lower the level of activity in this market.

In a corridor system, the total amount of reserves (over and above any minimum reserve requirement) is zero.¹² Settlement between banks is achieved by banks borrowing reserves from one another. The system is organised as follows:

- At the beginning of the day, banks have a zero balance on their accounts in the central bank.

¹² This means that the central bank needs to counteract autonomous changes in total reserves so that the amount of reserves is equal to zero. For example, if the government has an account in the central bank, and payments into the government's account reduce the amount of reserves in the system, the central bank must inject sufficient reserves that the total amount is equal to zero once the payments into the government account have taken place.

- During the day, interbank transactions take place. As with a floor system, this is done by adjusting banks' deposits in the central bank. Banks that need to transfer funds to other banks, and do not have sufficient deposits in the central bank, will need to borrow intraday from the central bank.¹³
- At the end of the day, all intraday loans must be paid back to the central bank. Once these have been repaid, some banks will have a deficit of reserves, while others will have a surplus. The sum of these surpluses is equal to the sum of the deficits, as total reserves are equal to zero.
- Banks with deficits borrow from banks with surpluses. If a bank with a deficit does not borrow from other banks, it will have to take out an overnight loan from the central bank at a rate that is normally higher than the market rate, which is the rate that banks pay when redistributing reserves between themselves. Banks with surpluses will endeavour to lend their reserves to other banks at the market rate, as the alternative is to deposit the surplus reserves in the central bank at a lower rate.
- In this way, the corridor system gives banks an incentive to redistribute reserves in the interbank market and contributes to increased activity in this market.

One key aspect of reserves is that banks cannot themselves influence the total amount in the system.¹⁴ At the end of the day, banks collectively must always hold on deposit at the central bank the level of reserves that the central bank has put into the banking system. The individual bank may want to reduce its deposits in the central bank and increase its lending to households and businesses or buy various types of securities. The bank's deposits in the central bank will then fall, but other banks' deposits in the central bank will rise accordingly. The distribution of banks' deposits in the central bank can change during the day, but the total amount of reserves in the banking system is the same and is governed by the total amount of reserves supplied by the central bank.

¹³ At the beginning of the day, no banks have anything in their accounts in the central bank. This means that the first transaction must be covered by an intraday loan. Later in the day, banks that have received reserves can draw directly on these by transferring funds to other banks.

¹⁴ The total amount of reserves is reduced if banks purchase notes and coins or take out overnight loans, but this is not a significant factor when it comes to understanding the systems for the management of banks' reserves.