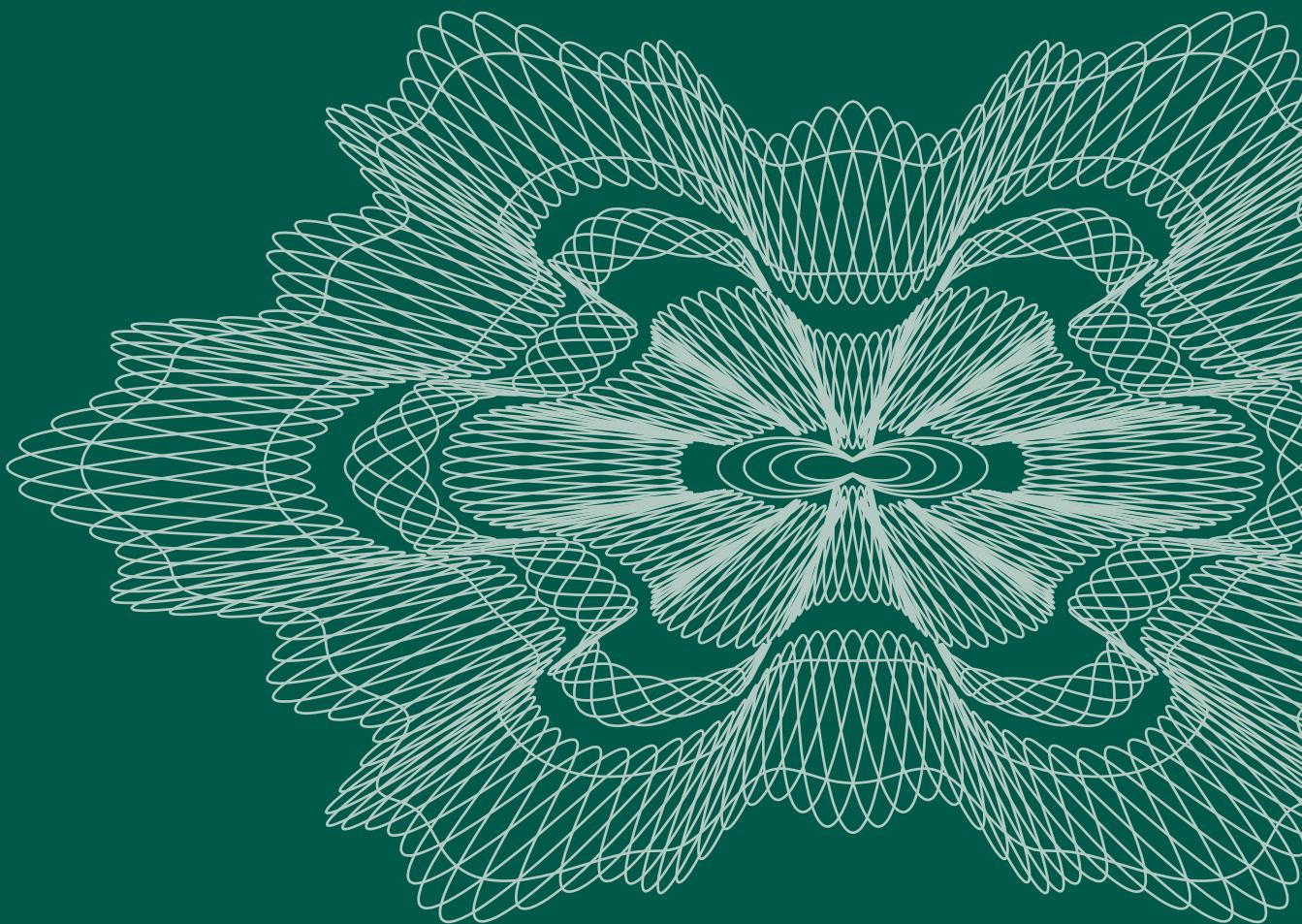




Economic Bulletin

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...	Data not yet available
-	Nil
0	Less than half the final digit shown
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Transparency and predictability in monetary policy¹

by Tom Bernhardsen and Arne Kloster, Monetary Policy Department

By being open about its policy response pattern, the central bank allows economic agents to understand the implementation of monetary policy. They will then be able to anticipate the central bank's interest rate decisions to a fairly large extent. Transparency and predictability can contribute to strengthening monetary policy credibility and enhance its effectiveness. This article assesses the predictability of Norges Bank's interest rate setting since 1999, and includes a comparison with a number of other countries. Changes in money market rates after the monetary policy meetings are used as an indication of whether the decisions surprised market participants. The study indicates that interest rate decisions in Norway have surprised market participants somewhat more than in other countries, particularly in 2001. This may be because the economic situation has been fairly different in Norway compared with other countries. In addition, the inflation target was introduced relatively recently in Norway. Over time, however, it is the actual inflation developments that are decisive for monetary policy credibility. Long-term indicators show that inflation expectations in Norway are close to the inflation target.

1 Introduction

Whereas monetary policy was previously formulated without any particular emphasis on public disclosure, most central banks now attach considerable importance to transparency and predictability. This is partly because monetary policy has been revised in many countries from rule-based regimes linked to the exchange rate or other intermediate targets to direct inflation targeting. Under a fixed exchange rate regime, for example, it is fairly clear what the central bank takes into account when setting interest rates, and the policy effect on the target variable can be rapidly observed. Direct inflation targeting may also imply a type of rule in that the inflation outlook will be the reference for interest rate setting. Nevertheless, operational implementation requires considerable discretion.

A high degree of discretion implies freedom of manoeuvre for the central bank. At the same time, the basis for the central bank's interest rate decisions may be less obvious for the public. Even though the central bank's mandate is formulated clearly and publicly known, it is not necessarily easy to discern how the central bank will proceed in practice to attain its objective. The central bank can diminish the source of uncertainty by being open about its judgement, which may in turn increase the predictability of monetary policy.

This article looks at the predictability of Norges Bank's interest rate setting over the past few years, and includes a comparison with a selection of other countries. Section 2 discusses in further detail why transparency and predictability are important. Section 3 describes how changes in money market rates may reflect the degree of predictability. In Section 4, we use money market rates to analyse the predictability of interest rate

setting in Norway since the beginning of 1999. In section 5, we do the same for a selection of other countries and compare the results with those of Norway. Section 6 discusses indicators of monetary policy credibility in Norway, and Section 7 provides a summary.

2 Why should central banks be concerned about transparency and predictability?

Norges Bank's task is to secure low and stable inflation over time. The inflation target is 2½%. This is what Norges Bank must be measured against. Why then are transparency and predictability of importance?²

Before we discuss this further, it may be useful to clarify four concepts:

By *transparency in monetary policy* we mean that the central bank communicates with clarity its policy response pattern and view of economic developments and the functioning of the economy to the public.³ Transparency also implies that the objective of monetary policy is understood.

Monetary policy is predictable if the central bank's decisions are generally expected by economic agents.

Monetary policy credibility means that economic agents believe that inflation will over time be in line with the inflation target.

Effectiveness in monetary policy implies that:

- inflation expectations are stable, equal to the inflation target. If inflation expectations vary widely, marked changes in nominal interest rates may be necessary to

¹ We are grateful to Farooq Akram, Kristin Gulbrandsen, Steinar Holden, Arild Lund, Øistein Røisland, Ingvild Svendsen and Pål Winje for their useful comments.

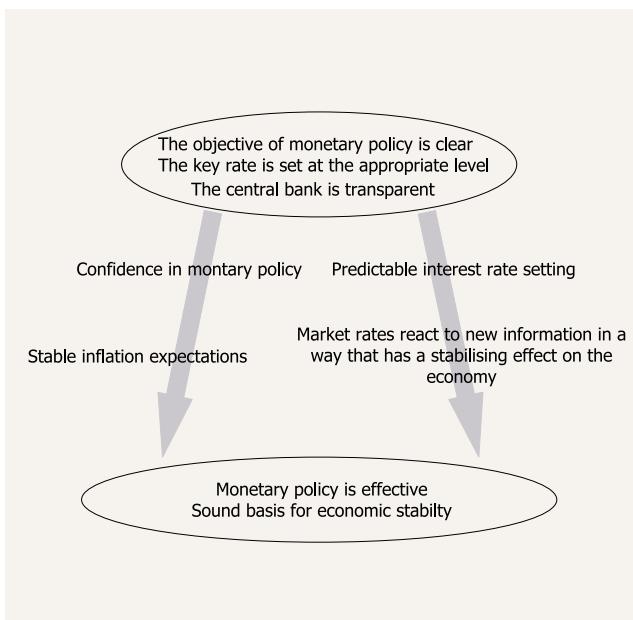
² See Blinder, Goodhart, Hildebrand, Lipton and Wyplosz (2001) for a more thorough discussion on this issue.

³ Transparency can be discussed in relation to a number of factors, such as the central bank's target function, response function, analyses, view of how interest rates influence inflation and its assessment of the inflation outlook and the balance of risks. See Gjedrem (2001) for a discussion of Norges Bank's communication in the light of these factors and a comparison with other countries.

attain the desired level of real interest rates. This reduces the effectiveness of monetary policy.

- market participants' expectations about future changes in the key rate are based on a correct understanding of the central bank's policy response pattern. Monetary policy has an effect on the economy via market interest rates. This means that monetary policy to a large extent operates through expectations. If expectations tend to be markedly different from the outcome, the effectiveness of monetary policy is limited.

On this basis, we can argue that transparency is important because it can contribute to enhancing the credibility and effectiveness of monetary policy. The chart below provides an illustration of these relationships. However, the relationships are based on the preconditions that the objective of monetary policy is understood and the central bank sets the interest rate at the appropriate level to reach its target. These two criteria are more important than transparency per se. When these two criteria are satisfied, transparency may have the effects described below.



The arrow to the left in the chart illustrates that transparency can contribute to strengthening monetary policy credibility. When the central bank is open about its policy response pattern, and perceived as acting logically in relation to its objective, the confidence of economic agents in low and stable inflation over time is strengthened. This provides the economy with a solid nominal anchor. The inflation expectations that are used as a basis for wage and price determination are the same as the central bank's inflation target. In a situation where the economy is exposed to a shock that causes inflation to deviate from the target, the costs of bringing inflation back to target are lower if inflation expectations remain stable.

The necessary adjustment of the nominal interest rate level is smaller when the impact on real interest rates is substantial. A high degree of confidence thereby enhances monetary policy effectiveness.

The arrow to the right in the chart illustrates the relationship between transparency, predictability and effectiveness in monetary policy. For monetary policy to have an impact on inflation, changes in Norges Bank's key rate, the deposit rate, must first have an effect on interest rates on corporate and household assets and liabilities. The deposit rate and market rates are largely linked through market expectations. Money market rates are influenced by expectations about future developments in Norges Bank's key rate. Market participants' understanding of the central bank's policy response pattern is an important basis for these expectations.

When market participants understand the central bank's policy response pattern, the foundation is then laid for predictable interest rate setting.⁴ Market rates can then react with a stabilising effect to new information about economic developments. Signs of growing pressures in the economy will generate expectations of higher key rates, with an attendant increase in market rates. Signs of receding pressures have the opposite effect. Such reactions in market rates normally occur rapidly. If market rates do not react, or reactions have a destabilising effect, more frequent and greater changes in the key rate could be necessary to attain the objective of low and stable inflation. In addition, uncertainty surrounding the policy response pattern would be a source of wider fluctuations in interest rates and other financial prices. Such fluctuations would also make it more demanding for the central bank to attain its inflation target.

Using our definition of the concepts, transparency is an "instrument" which the central bank can use to enhance the predictability and effectiveness of monetary policy. Moreover, transparency can increase the understanding of monetary policy, which can enhance credibility. The latter is probably of particular importance in a period when the central bank's mandate is new and it does not have a long and positive track record under the existing regime.

Transparency and predictability are not alone sufficient to secure monetary policy credibility. Over time, the central bank cannot secure credibility unless actual inflation is near target. Even if market participants react with some surprise to interest rate decisions, the implications will be relatively limited if the central bank sets the key rate at an appropriate level in relation to the inflation target. In the same vein, a predictable monetary policy is of little use if the results are unsatisfactory.

The degree of predictability in interest rate setting can still provide an indication of policy transparency and the effectiveness of communication. If market participants understand the central bank's policy response pattern, changes in the key rate will be widely expected and already priced into the market before the actual change in the key rate takes place.

⁴ Transparency does not guarantee predictability in interest rate setting. A study by Wadhwani (2001) indicates that the Bank of England's interest rate setting in the period 3 June 1997 - 18 April 2001 came as a greater surprise to the market than the interest rate changes made in continental Europe and the US in the same period. At the same time, one can argue that the Bank of England is a very open central bank, as it presents assessments of the economic outlook in its Inflation Report four times a year and publishes the minutes of its Monetary Policy Committee meetings fairly shortly after they take place. Wadhwani's study, however, indicated that the element of surprise diminished during the period studied.

3 Predictability and changes in money market rates

Money market rates reflect market participants' expectations about developments in Norges Bank's deposit rate (see box on interest rate expectations). If the central bank's policy response pattern is communicated with clarity, changes in money market rates should generally come as a reaction to new information about economic developments, for example when new economic data are published, and to a lesser degree when interest rate decisions are made. If there is a general tendency for market rates to react strongly in the wake of an interest rate decision, this indicates that market participants are often surprised by the central bank's decisions. This may be because they have not fully understood the central bank's policy response pattern. Alternatively, the central bank and market participants may have divergent perceptions of economic developments.

If market participants do not expect any changes in the key rate in the period to maturity of the money market interest rate, the money market rate will normally be somewhat higher than the key rate. The difference is due to premia that compensate for the differences in the loans' maturities and credit risk. If the market expects a cut in the key rate, the tendency will be towards lower money market rates, and they may be lower than the key rate. If the market expects an increase in the key rate, money market rates will tend to be higher than the key rate plus premia.

The interest rate meetings of Norges Bank's Executive Board are held every sixth week. Directly prior to an interest rate meeting, the one-month rate will provide an indication of the outcome expected in the market. As an illustration, we can assume that the one-month rate is normally 25 basis points⁵ higher than the key rate if the market does not expect an interest rate change. We also assume that the key rate is 6% and that all market participants expected an interest rate cut of 50 basis points at the first interest rate meeting. The one-month rate will then be at about 5.75% immediately before the interest rate meeting.

If the outcome of the interest rate meeting is in line with expectations, i.e. that the key rate is reduced by 50 basis points, the one-month rate will not change when the interest rate decision is published. However, if the central bank's decision is different from expectations, this will have an immediate impact on the one-month rate after the decision is known. If Norges Bank keeps the key rate unchanged, for example, the one-month rate will increase immediately after the decision by 50 basis points to a level of around 6.25%. If Norges Bank reduces the key rate by 25 basis points, the one-month rate will rise to around 6%. Changes in the one-month rate thus provide an indication of market participants' interest rate expectations ahead of interest rate meetings.⁶

While today's one-month rate only reflects expectations about the outcome of the next interest rate meeting, the three-month rate reflects expectations about decisions over the next three months, i.e. a period with more than one interest rate meeting. If the three-month rate is lower than the key rate, we can assume that market participants expect an interest rate cut at (at least) one of the next two interest rate meetings. If the key rate is left unchanged at the first interest rate meeting, there is still a possibility of a cut at the next meeting.

Surprising interest rate decisions will therefore tend to have a smaller impact on the three-month rate than on the one-month rate. However, there may be situations where the opposite is the case, that surprising interest rate decisions have greater impact on the three-month rate than on the one-month rate. This may be the case if Norges Bank not only makes a surprising interest rate decision but issues surprising signals about future interest rate developments.

In the next section we look at the reaction of money market rates to interest rate meetings in Norway and a selection of other countries since the beginning of 1999. Norges Bank has held regular scheduled interest rate meetings since summer 1999. In particular thereafter, market participants have had the possibility of anticipating Norges Bank's interest rate decisions and pricing expected outcomes into market rates before the interest rate decision takes place. Central banks in a number of other countries introduced the system of regular scheduled interest rate meetings earlier than Norges Bank. For these countries, it is natural to look at a longer period. We have chosen to include all the interest rate meetings from the beginning of 1999 for all countries in the analysis. This means that the period of currency turbulence in autumn 1998, when it was probably particularly difficult for market participants to predict outcomes, is not included. Our starting point also means that we are including the four interest rate meetings that Norges Bank held in the first half of 1999, which were not announced in advance.

In the section below we have chosen to use the reactions in money market rates (NIBOR) with a one-month and three-month maturity as a basis for evaluating predictability. As discussed above, our choice of maturities makes it possible to distinguish between expectations linked to one meeting from expectations over a somewhat longer period.

4 Have Norges Bank's interest rate decisions surprised market participants?

In this section we take a closer look at the extent to which Norges Bank's interest rate decisions have surprised market participants. Norges Bank's interest rate decisions may differ from market expectations. However, Norges Bank cannot allow itself to be steered

⁵ 100 basis points is equal to 1 percentage point.

⁶ In practice, market participants tend to have varying interest rate expectations. In some situations, some participants may expect a 0.5 percentage point cut, while others expect unchanged interest rates. The one-month rate then reflects the average of market expectations.

Theories of interest rate expectations¹

According to the expectations theory, investments in securities with different maturities generate the same expected rate of return. This implies that interest rates with longer maturities are a geometric mean of expected future interest rates with shorter maturities. For example, the 10-year rate today may be written as a geometric mean of the current one-year rate and expected one-year rates nine years ahead. This means that

$$(1+i_{10})^{10} = (1+i_1)(1+i_{1,1}^e)(1+i_{2,1}^e)(1+i_{3,1}^e) \dots (1+i_{4,1}^e) \dots (1+i_{9,1}^e),$$

where i_{10} and i_1 are the spot 10-year rate and the spot one-year rate today respectively, and $i_{t,1}^e$ is the future expected one-year rate at time t . Similarly, money market rates may be written as a geometric mean of the current key rate and expected key rates over the period to maturity of the money market rates.²

Using two interest rates with different maturities, we can calculate the implied interest rates, often called the implied forward rates or forward rates for short. For example, the one-year forward rate in nine years is calculated so that the return on a nine-year investment, when reinvested for one more year at the forward rate, gives the same return as a 10-year investment. Mathematically, the calculations are based on the equation

$$(1+i_{10})^{10} = (1+i_9)^9(1+i_{9,1}^e)$$

which is a variant of expectations theory. This gives

$$i_{9,1}^e = (1+i_{10})^{10}/(1+i_9)^9 - 1 = f,$$

where f symbolises the long-term forward rate. Given the expectations theory, forward rates may be interpreted as the market's expected interest rate level for the corresponding future date.

According to the Fisher equation, the nominal interest rate is equal to the real interest rate plus expected inflation. This means that

$$i = r + \pi^e,$$

where i , r and π^e are the nominal interest rate, the real

interest rate and expected inflation respectively. The Fisher equation implies that the nominal interest rate is equal to the sum of the real interest rate and expected inflation. Similarly, the long-term forward rate is the sum of the long-term real interest rate and long-term inflation expectations. An estimate of the long-term real interest rate will then give an estimate of long-term inflation expectations. Long-term inflation expectations provide an indication of confidence in monetary policy.

According to the Fisher equation, the interest rate differential against other countries reflects different real interest rates and/or inflation expectations:

$$i - i^* = (r - r^*) + (\pi^e - \pi^{e*}),$$

where * indicates the variables for some other country. Countries may have different real interest rates and thereby different nominal interest rates for given inflation expectations, depending on the general economic situation. Therefore, we can observe differences in international real interest rates in the short and medium term. In the long term, however, there is reason to believe that real interest rates are the same in different countries because capital will flow to the countries where the real interest rate is highest. The long-term forward rate differential will then reflect the difference in long-term inflation expectations:

$$f - f^* = \pi^e - \pi^{e*}$$

Given that the long-term real interest rate is the same in different countries and has been adjusted for any differences in the inflation target, the long-term forward rate differential provides a relative measure of confidence in monetary policy.

The derivations above assume that there are no risk premia. In practice, there will be maturity and liquidity premia and as a result the equations above will not hold completely. Consequently, the statement concerning confidence in monetary policy based on forward rates must be interpreted with caution. Following developments in forward rates over time may nevertheless provide information about confidence in monetary policy.

¹ For more information about the theories discussed in this box, refer to de Grauwe (1996) and Brooke et al. (2000).

² Even with unchanged interest rate expectations, money market rates are normally somewhat higher than key rates due to maturity and credit risk premia, cf. discussion in section 3. Simplifying, we disregard this when we consider how expectations about changes in the key rate affect money market rates.

by these expectations, and must at any time set the key rate at the level the Bank considers to be appropriate given the economic situation. See box for further discussion.

We have looked at the reaction of money market rates after interest rate meetings. Charts 1a and 1b show the

change in the key rate and the reaction of money market rates after the interest rate meetings that have been held since January 1999. The charts show the change in the one-month rate and the three-month rate between the day prior to the meeting and the day after the interest

Chart 1a. Norway: Change in 1-month rate following interest rate meetings

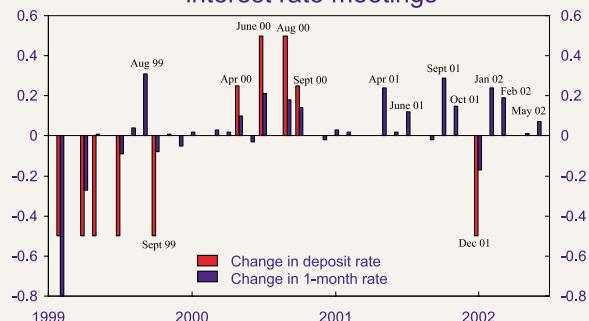
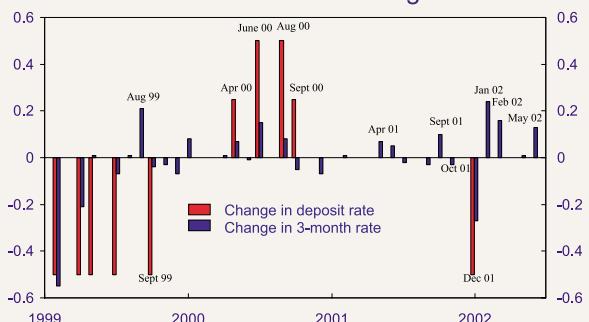


Chart 1b. Norway: Change in 3-month rate following interest rate meetings



rate decision was announced.⁷ At the meetings where the key rate was left unchanged, only the change in money market rates is shown. An increase in market rates after the interest rate decision indicates that the market expected a lower key rate than the outcome. A fall in market rates after the decision indicates that the market expected a higher key rate than the outcome.

In 1999, the key rate was reduced from 8% to 5.5%. The first four interest rate cuts of 50 basis points were made at unscheduled interest rate meetings. The interest rate cut on 27 January 1999 had a full impact on money market rates.⁸ At the next interest rate meeting on 3 March 1999, the impact was smaller, and at the interest rate meeting in April and June 1999, the interest rate

cuts were widely expected and had already been priced into money market rates. Market participants were gradually less surprised by the interest rate cuts in the first half of 1999, most probably because Norges Bank signalled in this period that interest rates would be lowered.⁹

Since June 1999 the dates of the interest rate meetings of Norges Bank's Executive Board have been announced in advance. After the scheduled meeting on 25 August 1999, money market rates rose by 20-30 basis points. This indicates that the market expected an interest rate cut. When the key rate was reduced by 50 basis points one month later, the impact on money market rates was marginal.

In 2000, the sight deposit rate was raised from 5.5% to 7%. Money market rates edged up after most meetings held in 2000. Following the interest rate meeting in June 2000, money market rates increased by about 20 basis points. After the three other interest rate meetings where the key rate was increased, the rise in money market rates was somewhat smaller. The impact on money market rates was small after the interest rate meetings where the key rate was left unchanged. This may indicate that there was greater uncertainty as to the magnitude of a change than whether a change would take place.

The impact on money market rates after the interest rate meeting on 21 September 2000 was somewhat different from the others. At that meeting the key rate was raised by 25 basis points. At the same time, the central bank's upside bias was changed to a neutral bias, i.e. with the same probability of an interest rate increase as an interest rate cut.¹⁰ The one-month rate increased by 14 basis points, which indicates that the market had priced in some chance of an unchanged key interest at that meeting. The three-month rate fell, however. This was the only case in the date sample where the three-month rate moved in the opposite direction of the key rate. This may suggest that market participants had envisaged a further increase in interest rates later in the autumn, and were therefore surprised when Norges Bank shifted to a neutral bias with the same probability of an interest rate increase as an interest rate cut.¹¹ This interpretation is supported by the movements in FRA rates. FRA rates maturing in March, June and September 2001, which can be interpreted as the market's expected three-month rates at these three times, fell by more than 20 basis points after the interest rate decision on 21 September 2000.

In 2001, the key rate was kept unchanged at 7% up to the interest rate meeting in December. After the interest rate meeting in April 2001, the one-month rate rose by 25 basis

⁷ This is a fairly rough measure and may capture other information that may also have influenced interest rate expectations. On the other hand, the relatively broad time interval ensures that market participants also receive information about the basis for the interest rate decision, which is provided at the press conference in the afternoon. It can be argued that by only looking at the impact immediately after the interest rate meeting, we exclude other information that central banks may provide at other times, for example in connection with speeches and editorials. If the central bank announces an unexpected interest rate change between interest rate meetings, the impact will occur at that time, and not when the central bank officially decides to change the key rate. In our analysis, it then appears as though interest rate decisions are predictable, while the central bank has in reality merely moved the element of surprise ahead in time.

⁸ After the interest rate meeting on 27 January 1999, the one-month rate fell from 8.5% to 7.75% so that the impact was considerably greater than the change in the key rate. A few days later, the one-month rate stabilised at a level just below 8%.

⁹ See Norges Bank website: publications from the first half of 1999.

¹⁰ From the interest rate meeting of 16 February 2000 to the meeting of 16 May 2001, the Bank expressed its "bias" by referring to whether the probability of an interest rate reduction was greater than the probability of an interest rate increase. As from the interest rate meeting of 20 June 2001, the Bank started to refer to the probability of attaining the inflation target with an unchanged interest rate (see leader in the June 2001 Inflation Report).

¹¹ In a survey conducted by Reuters among 12 economists in the Norwegian financial community, 8 expected unchanged interest rates, while 4 expected an interest rate increase of 25 basis points. All the economists surveyed expected a further increase in the key rate within the remaining period of 2001.

Norges Bank sets the interest rate independently of market participants' interest rate expectations

Norges Bank's analyses of economic developments as they are presented in the Inflation Report provide the basis for the Bank's interest rate setting. Developments in interest rates are important for market participants' decisions in the financial markets. Anticipating future interest rate changes and positioning a portfolio accordingly can result in large gains. On the basis of expectations concerning economic developments and analyses and statements from Norges Bank, the market forms expectations concerning future interest rates. These expectations are reflected in forward rate agreements (FRAs) and other future interest rates (see separate box on interest rate expectations).

Norges Bank monitors developments in market participants' interest rate expectations which provide information about how market participants interpret the Bank's policy response pattern. These developments are also important to evaluating the market's confidence in monetary policy. However, Norges Bank's interest rate setting cannot be ruled in any way by market participants' interest rate expectations. Norges Bank sets the interest rate at any given time in accordance with what the Bank considers to be appropriate given the economic situation. This point was clarified by the central bank governor in the leader to the Inflation Report 2/99.

"Norges Banks seeks to avoid undue uncertainty concerning interest rate determination by presenting its evaluations and projections in the Inflation Report and other documents. The Bank's analysis is based on assumptions concerning the exchange rate, fiscal policy, international developments, oil prices and a number of other variables. Any significant deviations from these assumptions will lead to developments that differ from our current projections. The same may apply if it should become clear that the historical relationships underlying the analysis have changed. In its conduct of monetary policy, Norges Bank must take into account the effects of any deviations from the assumptions. This may in turn lead to interest rate developments that are not in line with market expectations."

Market participants' expectations form the basis for their activity in money and foreign exchange markets. Norges Bank cannot be bound by market expectations, but must base monetary policy measures on its professional assessment of the outlook for the economy. In its analyses and statements, the Bank will seek to explain the background for its decisions."

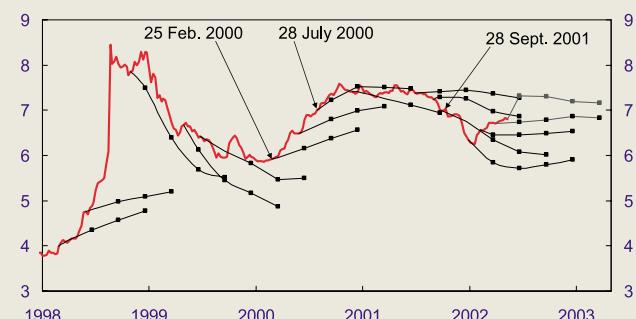
points, while the three-month rate reacted relatively mildly. The increase in the one-month rate was particularly strong after the interest rate meeting on 19 September 2001, a few days after the terrorist attacks in the US. The key rate was not changed at that meeting, and the central bank maintained its neutral bias, i.e. that the probability

The chart below shows a sample of the actual development in the three-month rate (red line) and a number of FRA rates observed at various points in time (black lines) since 1998. An example may help to explain the chart. On 25 February 2000, the three-month rate was a little less than 6.0 percent as indicated by an arrow. At the same time, market participants expected a rise in the three-month rate. The rates on FRAs maturing in June, September and December 2000, which may be interpreted as market participants' expected three-month rates at these times, were 6.15, 6.4 and 6.6 percent respectively. Norges Bank increased the key rate in 2000 and the three-month rate rose considerably more than market participants expected in February 2000.

The chart shows that actual interest rate developments may deviate considerably from the market's interest rate expectations. This may be because economic developments differ from expectations. At end July 2000, the market's interest rate expectations were closely in line with actual interest rate developments. Considering the period 1998–2000 as a whole, however, market participants have tended to expect interest rates to be lower than was the case. Market expectations prior to the terrorist attacks in the US in September 2001 represent an exception. Following these events, three-month rates fell substantially below the level expected by market participants one month earlier.

It should be said, however, that it is of course easier to have an opinion about what interest rate is appropriate today than about what will be appropriate one year ahead. Therefore, the chart should not be seen as criticism of market participants' interest rate analyses, but rather a reminder of how difficult it is to predict future interest rates.

Three-month interest rates and FRA rates



Source: Norges Bank

that inflation two years ahead would be higher than 2.5% was the same as the probability that it would lower.

At the interest rate meeting on 31 October 2001, the key rate was left unchanged, but the Bank stated that it was more probable that inflation two years ahead with unchanged interest rates would be lower than 2.5% than

that it would be higher. The one-month rate increased by a little less than 20 basis points, while the three-month rate remained virtually unchanged. At the interest rate meeting in December 2001, the key rate was cut by 50 basis points at the same time that the Bank maintained its downside bias for inflation. The one-month rate fell by close to 20 basis points, while the three-month rate fell by around 25 basis points.

At the interest rate meeting in January 2002, the key rate was left unchanged, and the Bank maintained its downside bias for inflation. Money market rates increased by about 20 basis points. At the interest rate meeting in February 2002, the Bank also kept the key rate unchanged, but switched to a neutral inflation bias, i.e. the probability that inflation two years ahead would be higher than 2.5% was the same as the probability that it would be lower. Money market rates moved up by a little less than 20 basis points. At the interest rate meeting in April 2002, the key rate was left unchanged, with little change in money market rates.

At the interest rate meeting in May 2002, the key rate was also left unchanged. The balance of risks to inflation was changed to an upside risk, i.e. the probability that inflation two years ahead would be higher than 2.5% was greater than the probability that it would lower. According to a Reuter's survey among 15 financial analysts, all 15 expected the key rate to be left unchanged. Thirteen of the analysts expected the Bank to maintain a neutral bias, while three expected a shift to an upside risk to inflation. The three-month rate increased by 13 basis points, while the impact on the one-month rate was small.¹²

The impact on money market rates after the interest rate meetings in 2001 were on occasion fairly substantial, which indicated that the market was surprised by some of the interest rate decisions. After April 2001, the impact was largely positive, which indicated that many market participants had expected interest rate cuts through 2001. The reason may be that market participants had a different view of the economic outlook than Norges Bank. The world economy was marked by a slowdown and rate cuts. However, the Norwegian economy was experiencing labour shortages and pressures on economic resources. Wage growth had been markedly higher in Norway than in other countries for several years. Domestic developments underlined the need for maintaining interest rates at a relatively high level.¹³ At the same time, it was uncertain how weak global growth would affect the Norwegian economy. The market may have assessed the impact of international developments on the Norwegian economy to be greater than that implied by Norges Bank's projections.

¹² At quotation close the day before the interest rate meeting, the three-month rate was 6.82%. During the next day up to the announcement of the interest rate decision at 2 pm, it rose to 6.88%. Between 2 pm and 3 pm, it rose to 6.90%. At 10 am on the day after the interest rate meeting, the three-month rate had risen to 6.95%, or to about the same level as at quotation close that day. FRA rates with maturity in September and December 2002 rose by a little more than 10 basis points in the hours following the announcement of the interest rate decision. In the morning hours of 23 May, these rates had risen by a further 10 basis points.

¹³ The justification for keeping the key rate unchanged up to December 2001 is provided in Norges Bank's press releases (introduction to press conference) on the Bank's website: www.norges-bank.no.

Analysts' interest rate expectations

Money market rates reflect the average expectations of traders in the market. These may deviate from the expectations of analysts in banks and brokerage firms. Since April 2000, Reuters has conducted a survey among analysts before each interest rate meeting at Norges Bank. The analysts are asked, among other things, about their interest rate expectations prior to the interest rate meeting at Norges Bank.

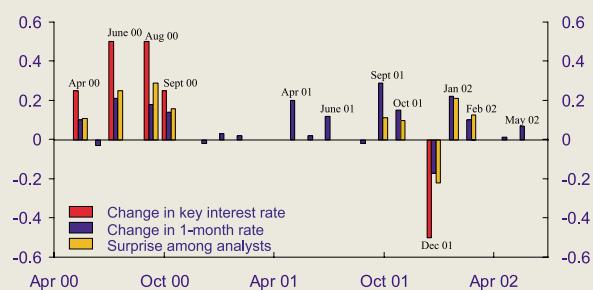
The chart below is an extension of Chart 1a and shows the change in the key rate (red) and the one-month rate (blue) after the interest rate meetings. The yellow bars show the degree of surprise among analysts and may be compared with the change in the one-month rate.¹ If the yellow bars are higher than the blue, the analysts on average were more surprised by the interest rate decision than the traders in the market.

In connection with the four interest rate increases in 2000, the degree of surprise among analysts was in line with the degree of surprise among operators trading in the market. The analysts appear to have been somewhat more surprised by the interest rate increase in August 2000.

After the interest rate increase in September 2000, the interest rate was left unchanged until the interest rate meeting in December 2001. In this period, it appears that the analysts were largely able to predict Norges Bank's interest rate decisions, although on average the analysts expected an increase of about 10 basis points at the meetings in both September and October 2001. Traders in the market expected a more substantial decrease in interest rates, so that the gap between their expectations and Norges Bank's interest rate decisions was wider than for the analysts.

The degree of surprise was roughly the same for the two groups in connection with the interest rate meetings in December 2001 and at the meetings in January, February, April and May 2002.

Degree of surprise among analysts and traders in the market



¹ The analysts' expected interest rate change at a given meeting is calculated as the empirical average in the survey. The degree of surprise is calculated as the change in the key rate minus the expected change in the key rate. Assume, for example, that the analysts expect on average an interest rate increase of 30 basis points. If the key rate rises by 50 basis points, the degree of surprise is 20 basis points. If the key rate is left unchanged, the degree of surprise is -30 basis points. This method of calculation makes it easier to compare the degree of surprise among analysts and traders in the market. For both groups the figures represent averages. Some analysts may of course have anticipated Norges Bank's interest rate decision even if analysts on average missed the mark.

After the interest rate meeting on 12 December 2001, when the key rate was reduced by 50 basis points, the impact on the three-month rate was particularly strong. According to a survey conducted by Reuters among 15 macroeconomists in the Norwegian financial community, all 15 expected an interest rate cut at that meeting, but none expected an interest rate cut of 50 basis points with a continued downside bias for inflation.¹⁴ On 13 December 2001, in the daily financial newspaper *Finansavisen*, some market participants claimed they were surprised by this interest rate decision, and that it did not contribute to Norges Bank's predictability. They pointed to the fact that Norges Bank did not cut the key rate or change its bias after the terrorist attacks in the US on 11 September. Nor did the Bank find it necessary to cut the key rate when interest rates were reduced internationally and substantial interest rate cuts were priced into the Norwegian FRA market. A possible interpretation of this is that market participants were surprised by the interest rate decision on 12 December because it was not perceived as being consistent with the policy response pattern through the autumn of 2001.

In addition, the significance of Norges Bank's assessment of the balance of risks to inflation may have been unclear to the market. In the October 2001 Inflation Report, published on 31 October, inflation was projected at 2.5% two years ahead. This may have been interpreted to mean that there was little need for an interest rate cut. However, at the same time the Bank stated that the probability that inflation would lower than 2.5% was greater than the probability that it would be higher. In a speech in Gausdal on 25 January 2002, the Deputy Governor of Norges Bank provided clarification: "Norges Bank's inflation projection is our judgement of the most probable outcome for the rise in the CPI two years ahead. In setting the interest rate, however, we also place emphasis on the probability distribution - or the balance of risks - surrounding the projection. In order to reduce the possibility of substantial deviations from the inflation target, Norges Bank takes the balance of risks into account when assessing the interest rate."¹⁵

The market reaction in December 2001 may indicate that some market participants had not understood this. Forsbak writes in *Dagens Næringsliv* of 27 December 2001: "To say that the projection was 2.5%, but expectations lower, was not clear information."¹⁶ Dørum (2002) discusses the lack of clarity in the interpretation of the probability distribution for inflation that Norges Bank presents in its Inflation Report. In particular, he underlines the "duality in communication"¹⁷ when the

expected level of inflation is different from the most probable outcome.

Around the first two interest rate meetings in 2002, there were again considerable reactions in money market rates, particularly in January. In *Dagens Næringsliv* of 17 January 2002, market analysts discuss the implications for interest rate setting when Norges Bank assesses the balance of risks to the inflation projection of 2.5% as asymmetrical. The discussion focuses on whether the key rate will be changed at the next meeting when the Bank has an asymmetrical probability distribution around the inflation projection. One analyst "interprets a downward bias as a signal of what they do at the next meeting."¹⁸ The analyst concerned justified his expectations of an interest rate cut in January on this basis. Since Norges Bank maintained the asymmetrical balance of risks at the meeting in January, this may also have influenced market expectations about the decision at the interest rate meeting in February. However, Norges Bank had also presented an asymmetrical balance of risks earlier without changing the key rate at the next interest rate meeting.¹⁹

Money market rates reflect the expectations of operators that trade in a market. An alternative is to compare the Bank's interest rate decisions with the expectations of central bank watchers in the Norwegian financial community (see box).

5 Comparison with other countries

In this section, we will consider how changes in key rates have affected money market rates in other countries and compare these findings with the results in Norway.²⁰ Economic developments in the US have a substantial impact on developments in a number of other countries. At its meeting in May 1999, the Federal Open Market Committee of the central bank in the US (the Fed) did not change the interest rate but expressed concern about imbalances in the economy that could lead to inflationary pressures. From June 1999 to May 2000, the interest rate was increased six times, from 4.75 to 6.5%. In this period, changes in money market rates were generally small after the FOMC meetings (see Charts 2a and 2b).

After the interest rate increases in the first half of 2000, the FOMC continued to express concern about inflationary pressures in the economy up to and including the interest rate meeting in November 2000.²¹ However, the interest rate remained unchanged, with little impact on money market rates.

¹⁴ See *Dagens Næringsliv* 10 December and *Finansavisen* 13 December 2001.

¹⁵ See Norges Bank's website, www.norges-bank.no.

¹⁶ Quote from *Dagens Næringsliv*, page 3, 27 January 2001

¹⁷ Quote from *Dagens Næringsliv*, page 33, 31 January 2002

¹⁸ Quote from *Dagens Næringsliv* page 32, 17 January 2002

¹⁹ At the interest rate meeting on 12 April 2000, Norges Bank indicated that it was more probable that the next interest rate change would be an increase than a decrease. The Bank kept the key rate unchanged at the next interest rate meeting on 10 May 2000.

²⁰ Data has been gathered from EcoWin for all countries.

²¹ A standard formulation from the FOMC's press releases is "...the Committee believes the risks continue to be weighted mainly toward conditions that may generate heightened inflation pressure in the foreseeable future".

Chart 2a. US: Change in 1-month rate following interest rate meetings

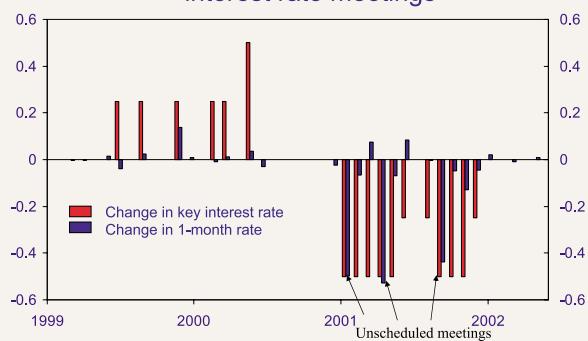


Chart 2b. US: Change in 3-month rate following interest rate meetings

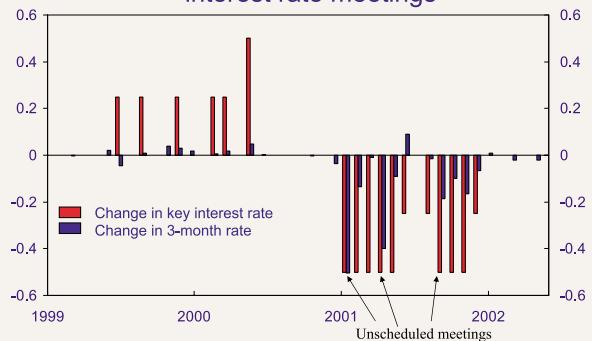


Chart 3a. ECB: Change in 1-month rate following interest rate meetings

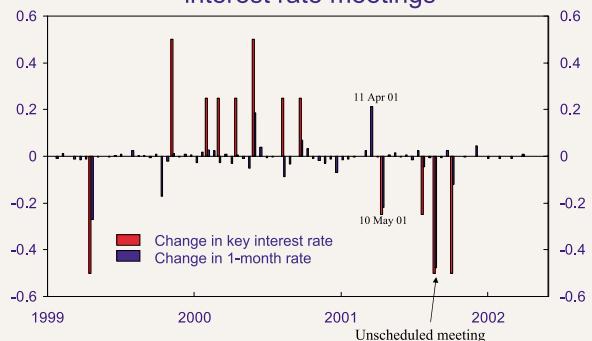


Chart 3b. ECB: Change in 3-month rate following interest rate meetings

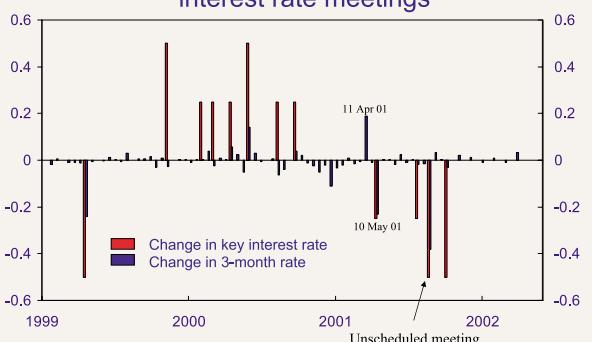


Chart 4a. UK: Change in 1-month rate following interest rate meetings

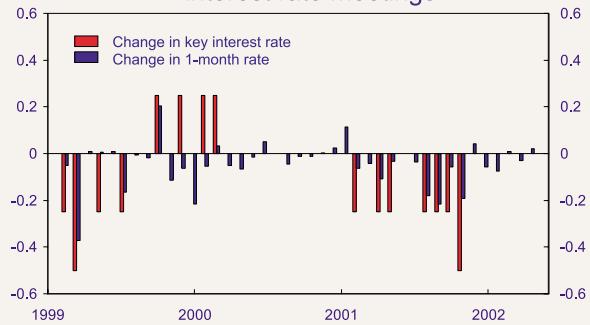


Chart 4b. UK: Change in 3-month rate following interest rate meetings

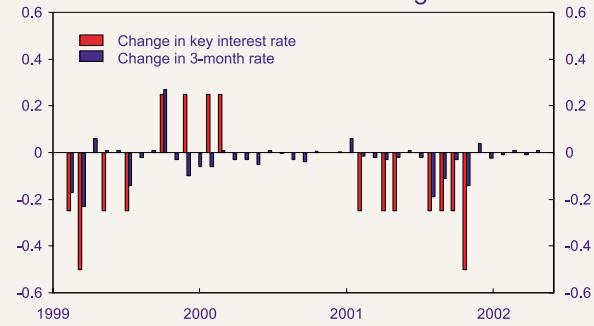


Chart 5a. Australia: Change in 1-month rate following interest rate meetings

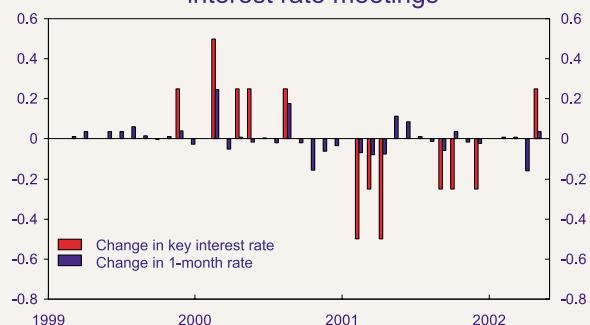


Chart 5b. Australia: Change in 3-month rate following interest rate meetings

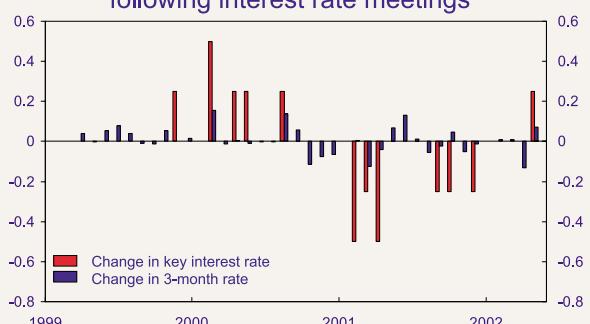


Chart 5a. Australia: Change in 1-month rate following interest rate meetings

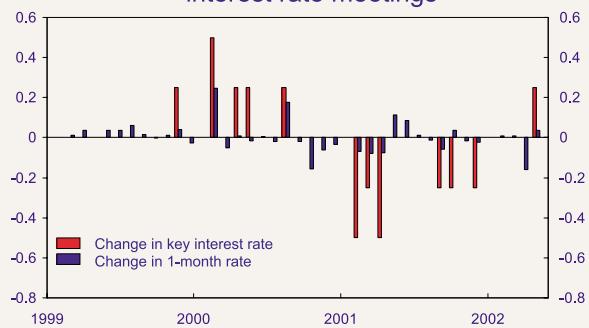


Chart 5b. Australia: Change in 3-month rate following interest rate meetings

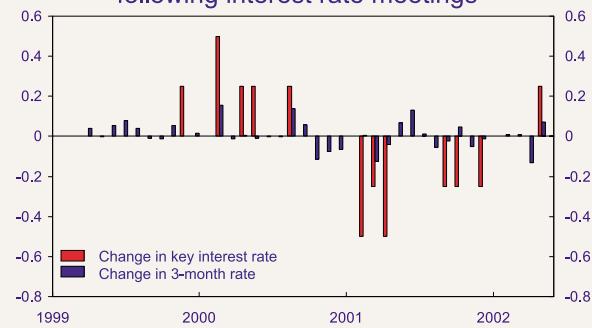


Chart 6a. New Zealand: Change in 1-month rate following interest rate meetings

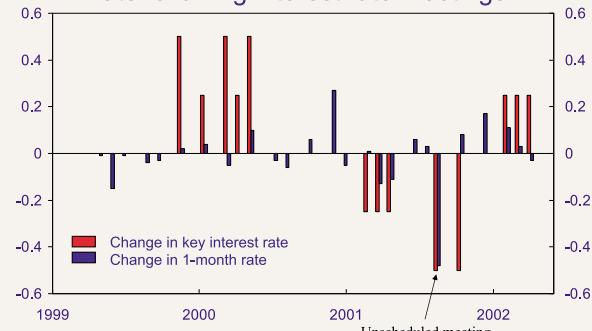
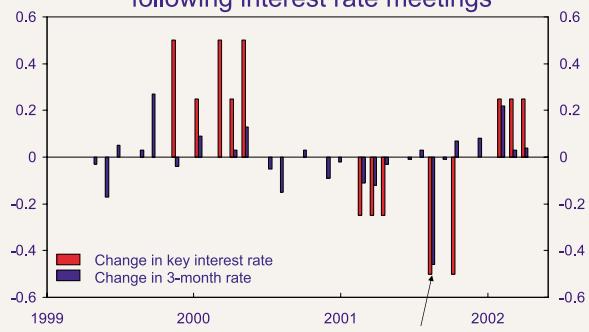


Chart 6b: New Zealand: Change in 3-month rate following interest rate meetings



At the meeting in December 2000, the FOMC presented a picture that suggested weaker economic growth in the US.²² In 2001, the interest rate was reduced 11 times, from 6.0 to 1.75%. Three of the interest rate reductions were decided at unscheduled FOMC meetings: 3 January, 18 April and 17 September. Following the meetings in January and April, both one-month and three-month rates fell substantially. After the extraordinary FOMC meeting on 17 September, the one-month rate fell markedly, while the impact on the three-month rate was limited.

If we disregard the unscheduled FOMC meetings, the Fed's interest rate decisions have had little impact on money market rates. This was particularly true in the period 1999-2000, but the impact was also small in 2001. This suggests that the Fed has been predictable in its conduct of monetary policy, even in a period marked by substantial changes in the federal funds rate. Nevertheless, the Fed has felt compelled to arrange extraordinary meetings of the FOMC.

Charts 3a and 3b show the impact on money market rates in the euro area following interest rate meetings of the Governing Council of the European Central Bank, the ECB. On the whole, the effects are small. However, the ECB's interest rate decisions on 11 April and 10 May 2001 seem to have surprised the market. At the meeting on 11 April 2001, the ECB left the key rate unchanged. Money market rates rose by about 20 basis points, indicating that market participants expected a reduction in interest rates at this meeting. The key rate was reduced by 25 basis points a month later, and there was an almost equally large reaction in money market rates. This may indicate that market participants revised their perception of the ECB's policy response pattern after the meeting on 11 April and were surprised by the interest rate reduction on 10 May. The interest rate meeting on 17 September 2001 following the terrorist attacks in the US was unscheduled. The interest rate cut of 50 basis points led to an almost equally large change in money market rates.

In the UK, decisions taken at meetings of the Bank of England's Monetary Policy Committee (MPC) had a substantial effect on money market rates on several occasions, especially in 1999, but also in 2001 and in particular for one-month rates. On the other hand, in 2000, the MPC meetings had little impact on money market rates.

In Australia, New Zealand, Canada and Sweden (Charts 5-8, see box), changes in money market rates in connection with interest rate meetings are rather small if we disregard the unscheduled interest rate meetings held in September 2001. The impact is small, especially in Australia and Sweden. New Zealand experienced a considerable increase in the three-month rate in September 1999 and in the one-month rate in December 2000. New Zealand's key rate was left unchanged at both interest

²² The FOMC wrote in the press release "...the Committee consequently believes that the risks are weighted mainly toward conditions that may generate economic weakness in the foreseeable future".

Table 1 Impact on money market rates in connection with interest rate meetings after July 1999. Percentage points

	Change in 1-month rates	Change in 3-month rates	10 largest 1-month	10 largest 3-month
Norway	0.10	0.07	0.21	0.14
Sweden	0.04	0.04	0.09	0.08
UK	0.06	0.04	0.13	0.10
Euro area	0.03	0.03	0.12	0.10
Australia	0.06	0.05	0.11	0.10
New Zealand	0.06	0.07	0.11	0.13
Canada	0.06	0.07	0.08	0.09
US	0.08	0.08	0.17	0.17

rate meetings. In Canada, money market rates changed by about 20 basis points on some occasions.

In order to compare country results more systematically, we have calculated different measures of the impact of interest rate meetings on money market rates (see Table 1). We have used data from July 1999 when Norges Bank introduced regular, scheduled monetary policy meetings.

Unscheduled interest rate meetings after the terrorist attacks in the US in September 2001 are excluded for all countries.

The first two columns in Table 1 show the average absolute change in one-month and three-month rates respectively following all interest rate meetings since 1 July 1999. In Norway, the change in the one-month rate is 0.10 percentage point. This is somewhat larger than in other countries. The change in the US is 0.08 percentage point, while the change in the UK, Australia, New Zealand and Canada is 0.06 percentage point. The change in Sweden and the euro area is somewhat smaller, 0.03-0.04 percentage point. The change in the three-month rate is largest in the US, with 0.08 percentage point. The change in the three-month rate in Norway, 0.07 percentage point, is the same as in New Zealand and Canada. The change in Sweden, the euro area and the UK is smaller, 0.03-0.04 percentage point.

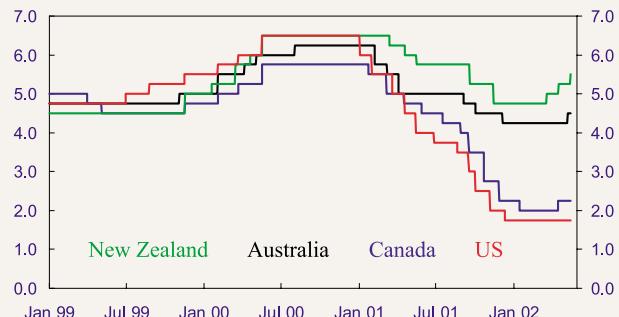
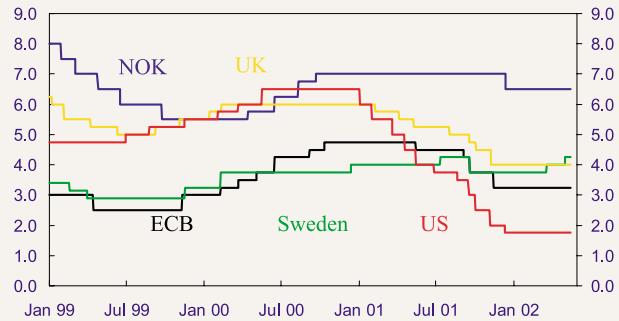
It appears, however, that the change in market rates tends to be smaller following meetings where the key rate was left unchanged. This may result in a lower average change in countries with frequent interest rate meetings, since there are relatively more meetings involving no change in the key rate. Therefore, columns three and four in Table 1 show the average of the ten largest changes in money market rates following interest rate meetings.

Measured in this way, the change in one-month rates is largest in Norway and the US, at 0.21 and 0.17 percentage point respectively. In the UK and the euro area, the changes are 0.13 and 0.12 percentage point respectively, while the change in Australia and New Zealand is somewhat smaller, at 0.11 percentage point. The change in Sweden is smallest, at 0.09 percentage point. The change in the three-month rate is largest in the US, at 0.17 percentage point, whereas in Norway it is somewhat smaller, at 0.14 percentage point. For the other

countries in the survey, the changes are less pronounced.

All in all, the results show that changes in money market rates in connection with interest rate meetings have been somewhat more substantial in Norway and the US than in other countries. One factor that may help explain this for Norway is that interest rate developments the last couple of years have differed from developments in other countries. It may be easier for market participants to foresee changes in the key rate if interest rate developments in the country concerned follow international developments.

Charts 9 and 10 show the key interest rates in different countries from the beginning of 1999. Chart 9 shows

Chart 9. Key interest rates in different countries**Chart 10.** Key interest rates in different countries

that key rates in Canada, Australia and New Zealand have largely followed interest rate developments in the US. Canada has closely followed interest rate developments in the US, while Australia and New Zealand cut their key rates somewhat less than the US in 2001. Chart 10 shows that developments in the key rates in the UK and the euro area are also similar to developments in the key rate in the US. The correlation is not as pronounced, but interest rates in both the UK and the euro area tend to move in the same direction as interest rates in the US.

However, interest rate developments in Norway have been different. This was most obvious in 2001, when interest rates were sharply reduced in the US and other countries, while in Norway they were left unchanged until December. Gradually, as the federal funds rate was reduced in the US, market participants may have expected interest rate cuts in Canada, Australia, New Zealand, the UK and the euro area as well. Market participants did not have a similar basis for interest rate expectations in Norway. There was considerable pressure in the Norwegian economy, and uncertainty about the impact of the international downturn on the domestic economy was probably greater in Norway than in many of the other countries. Therefore, it may have been more difficult to assess interest rate developments in Norway.

The same line of reasoning may also explain the relatively large changes in the US. Interest rates were reduced more and at an earlier stage in the US than in other countries in 2001. Therefore, it may have been more difficult for market participants to anticipate interest rate changes in the US than in countries that reduced interest rates at a later time.

Another explanation for the somewhat more pronounced changes in Norway may be that the monetary policy regime is relatively new. Inflation targeting was introduced in Norway in March 2001 and replaced a regime that focused on exchange rate stability. Although the new guidelines do not involve a significant change in the conduct of monetary policy, it may take time for market participants to gain insight into the Bank's policy response pattern and communication under the new regime.

6 Is there confidence in monetary policy in Norway?

Although some interest rate decisions seem to have surprised the market, this does not necessarily mean that the central bank has communicated its policy response pattern inadequately. There will always be some uncertainty as to the timing and magnitude of an interest rate change. The primary concern is that the Bank sets the key rate in such a way that inflation over time is close to the target.

The degree of predictability, as measured by the reaction of money market rates after the interest rate meetings, is by no means a perfect measure of monetary policy credi-

bility. Situations may arise where market participants have confidence in low and stable inflation expectations over time, even though they are not able to predict each interest rate decision. In the same vein, it is of little use to have a predictable monetary policy if the objective of low and stable inflation is not achieved.

Monetary policy credibility can be measured in several ways. Chart 11 shows the development in the long-term implied forward rate for Norway from November 2000. This rate can be interpreted as the expected three-month rate 10 years ahead and should to a large extent be independent of cyclical fluctuations.²³ According to the Fisher equation, the long-term forward rate is the sum of the long-term real interest rate, inflation expectations and any risk premia (see box on interest rate expectations theories). The inflation target of 2.5% was introduced in March 2001. Since that time, the long-term forward rate has varied around a level of 6.5%. Both the long-term real interest rate and the risk premium are difficult to quantify and are shrouded with considerable uncertainty. Inflation expectations of 2.5% are consistent with a long-term real interest rate of 3.5% and a risk premium of 0.5%. These estimates may be reasonable.²⁴

Chart 12 shows the long-term forward interest rate differential against Germany. After the inflation target was introduced in March 2001, it widened and has subse-

Chart 11. Long-term forward rates in Norway November 2000 - May 2002



Chart 12. Difference between Norwegian and German forward rates 10 years ahead



²³ See Kloster (2000) for a further description of how forward rates are estimated and interpreted.

²⁴ Although 3.5% may be a reasonable estimate of the long-term real interest rate, it is difficult to provide an exact quantification. Hammerstrøm and Lønning (2000) discuss the neutral real interest rate further. In addition, the risk premium is not directly observable and will probably vary over time.

quently varied around 1 percentage point. This difference is consistent with a risk premium of around 0.5 percentage point and a difference in the inflation target of a little more than 0.5 percentage point. Roughly speaking, forward rates do not indicate that inflation expectations deviate significantly from 2.5%. Forward rates are shrouded with uncertainty, however, both in terms of technical calculations and interpretation.

Another measure of inflation expectations can be found in Consensus Forecasts, a monthly survey conducted by Consensus Economics Inc. where analysts are asked about their inflation expectations. According to Consensus Forecasts for October 2001, the market expected the annual rate of inflation to be 2.4% up to 2005 and 2.5% in the period 2005-2011. In Consensus Forecasts for April 2002, the market maintained its expectations of an inflation rate of 2.5% up to 2012.²⁵

Even though the results may indicate that Norges Bank's interest rate decisions have to some extent surprised the market, we do not find any signs of a lack of confidence in monetary policy in Norway. Long-term forward rates, the forward rate differential against other countries and surveys among analysts in the financial market indicate that inflation expectations ahead in time are close to the inflation target.

7 Summary

Transparency can enhance the predictability of monetary policy so that the central bank's interest rate decisions are less surprising to the market. Predictability can enhance the effectiveness of monetary policy. When market participants understand the central bank's policy response pattern, there is a greater possibility that market rates react "correctly" to new information about economic developments. Through expectations, interest rate developments can thus contribute to stabilising economic developments.

Transparency can contribute to strengthening confidence in monetary policy. When monetary policy is credible, economic agents are confident that the central bank will attain the inflation target. Inflation expectations are thereby anchored in the inflation target. This establishes a nominal anchor for wage setting and price formation.

Transparency can be looked upon as an instrument available to the central bank for achieving a more predictable and effective monetary policy, which may enhance the long-term credibility of monetary policy. However, communication and predictability are not alone sufficient to achieve monetary policy credibility. Over time, the central bank cannot achieve credibility unless actual inflation is near the inflation target. Communication and a predictable monetary policy are of little use if the results are inadequate.

The reaction of money market rates to interest rate meetings can provide an indication of whether monetary policy is predictable. If the central bank's policy response pattern is understood, changes in money market rates should mainly come in response to new information about

economic developments and to a lesser extent in response to interest rate decisions. A tendency for money market rates systematically to react strongly after interest rate decisions indicates that the market is often surprised by the central bank's decisions.

Our findings indicate that interest rate decisions in Norway have surprised market participants somewhat more than in other countries. The explanation may be inadequacies in communication or that Norges Bank and market participants have had divergent assessments of economic developments. Interest rates have moved on a different path in Norway compared with other countries in recent years. In 2001, developments in the Norwegian economy and the outlook were particularly different from the situation prevailing in many trading partner countries. It may be easier for market participants to anticipate changes in the key rate if economic developments follow an international trend. Moreover, the current monetary policy regime was introduced relatively recently. It may take some time for market participants to gain insight into Norges Bank's policy response pattern and communication under the new regime.

Even though the results may indicate that Norges Bank's interest rate decisions have surprised the market to some extent, we do not find any signs of a lack of confidence in monetary policy in Norway. Long-term implied forward rates, the forward rate differential against other countries and surveys among analysts in the financial market indicate that inflation expectations are close to the inflation target.

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²⁵ Consensus Economics publishes long-term inflation expectations biannually in April and October.

Change in the organisation of the supply of notes and coins – establishment of the limited company Norsk Kontantservice AS (NOKAS)

Trond Eklund, director, and Leif Veggum, assistant director, Chief Cashier's Department

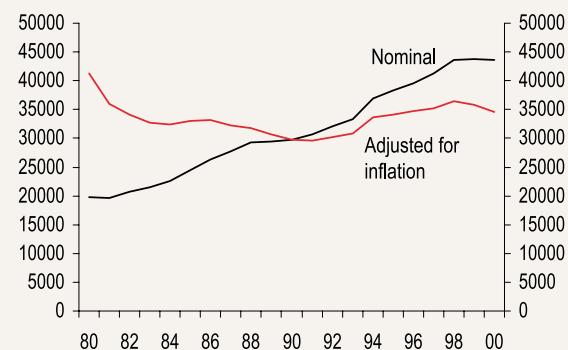
During the past two years, major changes have been made in the organisation of the supply of notes and coins in Norway. The changes are a result of developments in the distribution network since the late 1980s, which have included modifications in the transport system and new delivery procedures. As a result, Norges Bank was increasingly performing commercial services for banks in connection with activities relating to Norges Bank's responsibility for issuing notes and coins. At the same time, the activities of the Bank's regional branches increasingly concentrated on the distribution and processing of notes and coins. In due course, it proved necessary to distinguish more clearly between central bank tasks ensuing from Norges Bank's statutory responsibility for issuing notes and coins, and operations of a more commercial nature. As a result, a separate company was established in the summer of 2001 – Norsk Kontantservice AS (NOKAS), with Norges Bank and private banks as owners. This company performs both central bank tasks for Norges Bank and other cash processing services for private banks. This article provides a more detailed description of the changes and the reasons for these changes.

The use of cash in Norway

The use of notes and coins in payment transactions in Norway is steadily diminishing. Norwegians are among the world's most fervent users of payment cards. According to Norges Bank's *Annual Report on Payment Systems* for 2000, payments using deposit money more than doubled from 1991 to 2000, measured both by number of transactions and amounts. The value of notes and coins in circulation accounts for an increasingly smaller share of the value of money held by the public (M1) and has fallen from about 18% in 1995 to 12% in 2000. Notes and coins have also been declining in the last 20 years measured in relation to mainland GDP and to household consumption (see Chart 1).

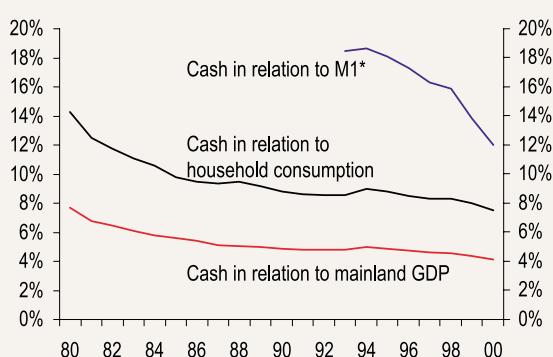
Nevertheless, the volume of notes and coins in circulation increased steadily in the 1980s and 1990s, finally

Chart 2. Nominal value of notes and coins in circulation and value adjusted for inflation. Annual average. In constant 1990 prices. In millions of NOK



Source: Norges Bank

Chart 1. Cash measured in relation to M1, household consumption and mainland GDP. Per cent.



*According to new definition of M1. Figures according to the new definition are not available for the whole period

Sources: Statistics Norway and Norges Bank

levelling off in 1998 and then showing a slight decline in 2000. If stock figures are adjusted for inflation, the figures for 2000 are approximately in line with the figures for 1982 (see Chart 2).

Cash will continue to play an important part in the Norwegian payment system for many years to come. This is because cash is legal tender, which means that in a normal consumer situation, all parties are generally obliged to receive or pay cash if the counterparty requires it. Surveys (Larsen and Skagemo, 1997) also show that cash can be a cost-effective means of payment for small transactions and in a given payment and withdrawal pattern. For example, when cash is used there are no direct costs associated with the actual payment transaction, since the payment transfer requires no infrastructure, unlike other means of payment. Gresvik and Kaloudis (2002) provide a more detailed account of how cash is used.

Division of responsibilities between Norges Bank and banks

Pursuant to the Norges Bank Act, Norges Bank is required to issue banknotes and coins and to promote an efficient payment system. Its responsibility as issuer of cash involves among other things ensuring both the production and availability of a sufficient quantity of notes and coins to meet demand. Norges Bank also offers accounts to banks, functioning as the "banks' bank." Banks requisition cash and deliver their surplus stocks to Norges Bank. These transactions are charged and credited to the banks' accounts. Similarly, the general public requests notes and coins and delivers surplus cash to banks. Norges Bank thus supplies banks with cash, and the banks are responsible for further distribution to the public.

Chart 3 shows the cash flow cycle. The small cash flow cycle (above) between Norges Bank and banks comprises the system for producing, replacing and supplying cash. The large cash flow cycle (below) comprises the system of banknotes and coins that are in use and circulating between banks, enterprises and households/individuals.

Cash is not interest-bearing. This provides an incentive for the general public, commercial entities and banks to place their surplus cash in interest-bearing accounts. For the same reason, banks want to bring their surplus cash to Norges Bank as quickly as possible. Therefore, a large share of note and coin stocks is constantly flowing into Norges Bank before being redistributed.

An efficient cash system

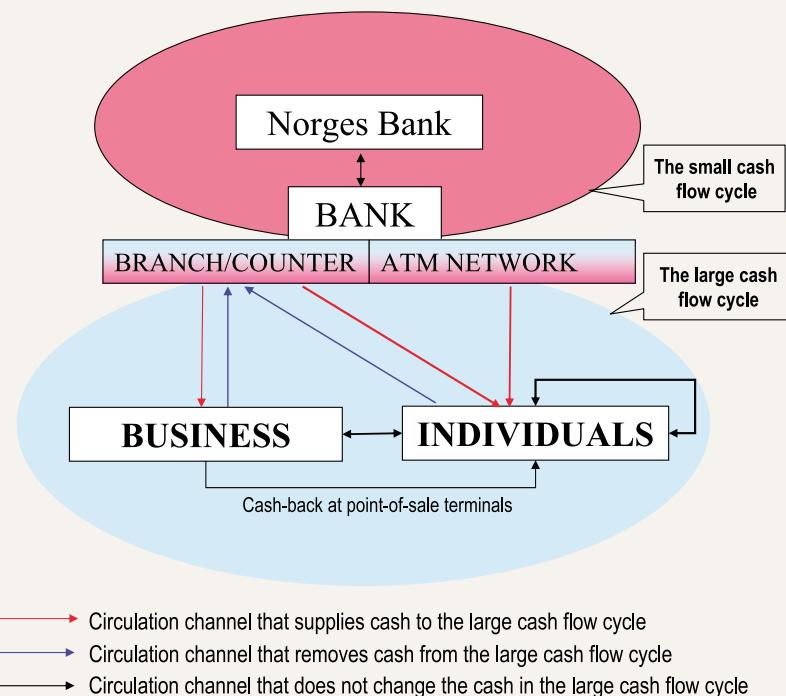
In order for cash to function as an effective means of payment, it is necessary that:

- market participants have confidence in cash
- notes and coins have properties that are adapted to needs
- notes and coins are available
- all processing is efficient

Confidence means that users of cash are confident that cash represents claims on the central bank, i.e. that it is genuine central bank money. Norges Bank's responsibility lies in designing notes and coins that are difficult to counterfeit. This is particularly important for notes because of their value, and various features have been incorporated to make it easy to distinguish genuine notes from counterfeits. It is also important to convey information about these features to users, not least to the general public, which does not normally have access to verification equipment. Banks and other commercial entities, on the other hand, are in a position to protect themselves against counterfeits. Technological advances make it necessary to enhance the security features in the notes in order to prevent an increase in counterfeiting.

Properties refer to the denominations assigned, design and durability. In particular, it is important that the properties are adapted to use in various types of coin- and note-operated machines.

Chart 3. Circulation of cash in the economy



Availability means that the general public and commercial entities must be able to obtain cash without undue effort. This means that notes and coins must be produced in the right quantities, at the right time, and in the right places. Norges Bank makes cash available to banks in the small cash flow cycle, and banks make it available to the general public and commercial entities in the large cash-flow cycle. In recent years, the circulation pattern has changed as businesses increasingly play a part in the distribution of cash by making it available to the general public through cash-back in connection with payment card transactions.

Processing *efficiency* is contingent upon an efficient distribution of responsibilities between Norges Bank and others who process cash. This means that services that can also be performed by others should be priced in line with the prices charged by other agents.

Availability and efficient processing have been the most important considerations in connection with the organisational changes that have been implemented.

Developments in cash circulation and supply prior to the establishment of NOKAS

Until the late 1980s, Norges Bank had 20 regional branches in addition to the head office. They had been established at a time when the banking system was not very sophisticated, and transport and communication conditions were quite different from the present situation. Until the early 1990s, the regional branches had considerable responsibilities in addition to activities associated with notes and coins. These responsibilities were related to the implementation of banking and credit policy and regional policy, and the branches also performed various banking services, for example for the central government. As a result of changes in the banking structure, regulations on the credit market, regional and business policy and payment and securities services for the central government, activities at the regional branches increasingly concentrated on the distribution and processing of notes and coins. This prompted Norges Bank to make a number of changes in the regional branch structure, and in the period 1988-91 seven regional branches were closed down.

The pattern of transport between banks and Norges Bank also changed in this period, with increasing coordination of transport. Transporters with secured vehicles travelled regular routes to deliver the cash which individual banks ordered from Norges Bank, and to collect surplus cash to be delivered to Norges Bank.

At the same time, distribution between banks and the general public was changing. The banks modified their branch networks, and banknotes were increasingly supplied to the public by way of automated teller machines. In 1982, there were 330 ATMs. In 1990, the number had risen to 1 775, and by 2000 the figure was at 2 119. Deliveries to banks were increasingly made by dropping

off cash in night safes. This development gave rise to new tasks and provided the basis for new, commercial cash-processing services. Money that was delivered via night safes had to be checked and counted, and banks had to distribute and pack money for the various branches and ATMs. Supplying money by way of ATMs placed particular demands on the quality of the notes, so that quality sorting was increasingly necessary. Notes were also packed into ATM cassettes. There were potential economies of scale and scope if Norges Bank conducted this quality sorting, as the Bank already had the equipment for mechanical quality sorting – primarily for sorting out notes for destruction, but also suitable for graded quality sorting. As a result, when banks placed orders for notes from Norges Bank, they increasingly asked for notes of ATM quality. In 1988, Norges Bank began charging for notes of ATM quality. In the same year, the regional branches were allowed to offer "agreed services" on commercial terms. These were tasks that banks had traditionally carried out themselves, like checking and counting of night safe deposits and packing of notes and coins for the various bank branches and ATMs.

As a result of this development, the scope of agreed services involving cash expanded in Norges Bank. These agreed services bordered on Norges Bank's traditional basic activities, which include the receipt of surplus cash and delivery of cash to meet demand for notes and coins, and the sorting out of worn and invalid notes for destruction. The services could thus be regarded as pre-processing and after-treatment in relation to the basic activities. Regional branch activities were increasingly commercial, and these commercial services were in principle performed in competition with other operators. Norges Bank's market share was high for some services.

Background for establishing NOKAS

As a result of these developments, Norges Bank felt the need to distinguish between central bank tasks ensuing from the Bank's statutory responsibility as issuer of notes and coins and activities of a more commercial nature. On the one hand, Norges Bank is responsible for ensuring that central bank tasks are performed in the most appropriate, cost-effective manner possible. On the other hand, it was considered important to encourage the "right" scale of demand for other cash-related services and to ensure that these services were performed by the operators that used the least resources. This had to be seen in the light of the pricing of other payment media and payment instruments. The conclusion was that pricing of these services should be based on the costs incurred. Appropriate pricing of the various services would contribute to more efficient operations, to efficient division of labour between the various operators processing cash, and to an efficient distribution of functions between cash and other means of payment. Such pricing would also eliminate the risk of landing in an unfortunate grey zone in relation to legislation on competition.

To achieve appropriate pricing, it was necessary to distinguish clearly between central bank responsibilities and services for others, and the costs had to be distributed between these two categories on the basis of commercial principles. However, it was not desirable to distinguish between central bank tasks and commercial services in such a way that it became impossible to utilise the economies of scale and scope inherent in these activities. Economies of scale may be achieved when notes are collected and processed by high-speed machines. Machine processing that includes counting, sorting by quality, authenticity verification of notes that can be recycled and notes that are to be destroyed, and destruction also provides considerable economies of scope. At the same time, it was considered important that factors owing to Norges Bank's special role (interest-bearing accounts for banks, special tax rules) should not give Norges Bank a competitive advantage in performing the commercial services.

In an operation that is intended to offer services to a market in competition with other agents, efficiency and market adaptation requires a flexible, adaptable organisation as well as management attention. It must be assumed that the organisation which is best qualified to do a good job will be the one that has cash-handling as a core activity.

Consequently, it was desirable to look for solutions that retained the coordination of activities but entailed a different organisational framework. With regard to adapting the services to the market, it would be an advantage to have private banks participating as owners. Talks were therefore initiated with private banks, and all parties agreed to initiate a project aimed at reorganising the activity. The result was the establishment of the limited company Norsk Kontantservice AS (NOKAS) on 1 July 2001. Norges Bank currently owns 33.5% of the company, and the remainder is owned by private banks (Den norske Bank, Union Bank of Norway, Focus Bank, Nordlandsbanken, Sparebank 1 Gruppen and Terra Gruppen).

Current division of labour in the supply of cash

The responsibility of issuer entails the following obligations for Norges Bank:

- *Obligation to supply notes and coins.* This involves issuing notes and coins to the extent required and ensuring that notes and coins are sufficiently available.
- *Obligation to renew notes and coins.* This relates to the quality of notes and coins in circulation and implies an obligation to receive worn and damaged notes and coins for destruction and supply notes and coins of circulation quality to replace them.
- *Obligation to redeem notes and coins* for a period of 10 years after they have been taken out of circulation
- *Obligation to receive deposits from banks.*

Among the responsibilities imposed by the law, there is one task that Norges Bank alone can perform. This is the actual issuing of notes and coins, i.e. functioning as the debtor for issued notes and coins. The other tasks can be performed by others, but Norges Bank must ensure that these tasks are performed and in a manner that complies with the central bank's requirements. Norges Bank must also cover the costs of some services, irrespective of who performs them. These services include the production of notes and coins and the redemption of notes and coins that are defective or invalid. Whether Norges Bank shall cover additional costs or perform services itself must be determined on the basis of considerations about what promotes an efficient payment system. The legislation on competition will also provide relevant guidelines.

Against this backdrop, Norges Bank decided to purchase services from NOKAS in connection with storage (central bank depots), handling deposits and withdrawals, the replacement of worn, defective and invalid notes and coins and the destruction of notes.

The central bank's need for depots and operation sites (number and location) is assessed in terms of the objective of achieving an efficient cash supply system. The conclusion was that there was a need for operations at Norges Bank's regional branches in Tromsø, Trondheim, Bergen, Stavanger, Kristiansand, Larvik, Lillehammer and Oslo. These branches were closed down as branches of Norges Bank, and re-established as NOKAS departments, which in addition to performing services for private banks also carry out central bank tasks related to the issuing of cash. Norges Bank closed down its other branches, i.e. in Vardø, Hammerfest, Bodø, Ålesund and Fredrikstad, and the cashier's division in Haugesund. However, it was regarded as necessary for the time being to maintain central bank depots in Vardø, Hammerfest and Bodø. The services associated with the operation of these depots have been purchased by private banks or by NOKAS.

Responsibilities in connection with cash distribution are as follows:

- Norges Bank produces new notes and coins and delivers them to the depots.
- The general public go to their banks to withdraw or deposit cash. Banks are not obliged to accept notes and coins from old series (i.e. if more than a year has passed since Norges Bank announced withdrawal). If banks will not accept these notes and coins, the public may go directly to Norges Bank.
- Banks obtain cash through NOKAS or the other depots when they make withdrawals from Norges Bank.
- Similarly, they must deliver notes and coins to NOKAS or the other depots for their own account when delivering surplus cash to Norges Bank or when they want other central bank or cash processing services.
- NOKAS (or other depot managers) places the cash that is delivered, sorted and packed according to Norges

Bank's rules, in Norges Bank's depots following an input control. If cash is delivered in other ways (night safe bags etc.) to NOKAS, NOKAS must sort and pack the cash in accordance with Norges Bank's rules before the cash can be entered in Norges Bank's stocks.

- NOKAS performs other cash processing services for banks and central bank services for Norges Bank in a partially integrated process. Norges Bank defines the quality threshold for destruction, and other destruction routines.
- Norges Bank itself destroys notes that do not fulfil the requirements for mechanical destruction by NOKAS. These include old banknote series. Norges Bank also destroys coins that are damaged or invalid.

The destruction of banknotes is subject to special security and control requirements. Therefore, the issue of whether this task could be entrusted to an external company was considered thoroughly. It was decided that destruction should be included in the services Norges Bank can purchase from NOKAS, but the implementation of special control measures was found to be necessary. NOKAS is only allowed to destroy notes in machines when sensors have checked that the notes are genuine, and then notes are destroyed automatically. This solution was made contingent on the development of a monitoring system that ensures that Norges Bank can conduct remote monitoring of destruction activities. This ensures satisfactory control and security in connection with the destruction process.

Norges Bank covers the following costs:

- Production of notes and coins and transport to depots
- Operations associated with banks' delivery of notes and coins to be destroyed and the supply of good quality notes and coins in exchange
- The destruction of worn, defective or invalid notes and coins, including authenticity verification
- Storage of Norges Bank's stocks of notes and coins, which are packed in standard units
- At depots with no processing activities, Norges Bank covers all costs, as well as transport between the depots and the nearest NOKAS department for processing notes and coins.

Banks cover the costs associated with:

- Services in connection with ordinary deposits and withdrawals, and with notes and coins of good quality that are to be processed
- Any processing and storage prior to the transfer of cash to Norges Bank's stocks, and after it has been withdrawn from Norges Bank's stocks
- Processing (counting, authenticity verification and quality control, packing) of notes and coins that are of such good quality that they can remain in circulation

Conclusion

The establishment of NOKAS involves a substantial restructuring of activities associated with notes and coins, although it had no immediate, significant consequences for those using the services. The establishment of NOKAS is a consequence of changes in the cash circulation pattern in the 1980s and 1990s, and the development of new services and processing methods in this area. During this period, Norges Bank developed an activity that utilised economies of scale and scope but also created problems because the boundaries between central bank tasks and services for others became unclear. As a result, there was uncertainty as to whether the appropriate resources were being used on the various services, and whether there was a risk of subsidising services that were exposed to competition. Roles and division of responsibility are more clearly defined with the new organisation. This enables the various operators to focus more clearly on their own interests, without reducing the possibilities of benefiting from economies of scale and scope in cash processing activities. We must assume that this will enhance efficiency in the supply of cash and in the payment system overall.

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Norges Bank publishes more detailed statistics on its website, under www.norges-bank.no. The Bank's statistics calendar, which shows future publication dates, is only published on this website.

Financial institution balance sheets

Table 1. Norges Bank. Balance sheet. In millions of NOK

	31.12.2000	31.12.2001	31.03.2002	30.04.2002	31.05.2002
FINANCIAL ASSETS					
Foreign assets	646 120	837 262	854 000	843 756	833 648
International reserves ^{1) 2)}	245 863	211 537	217 013	203 528	196 249
Investment of Government Petroleum Fund	386 126	613 317	624 941	628 761	626 023
Other foreign assets	14 131	12 408	12 046	11 467	11 376
Claims on Norwegian financial institutions	22 194	15 242	743	598	8 104
Loans to private banks	21 158	15 140	4	5	8 002
Other assets in the form of deposits, securities, loans and overdrafts	1 036	102	739	593	102
Claims on central government	13 909	11 813	12 219	11 961	13 759
Bearer bonds	10 743	9 073	8 882	8 837	10 299
Other securities	2 776	2 451	3 049	2 780	3 245
Other claims	390	289	288	344	215
Claims on other Norwegian sectors	1 306	1 327	1 020	1 146	1 077
Securities and loans	576	603	612	611	616
Other claims	730	724	408	535	461
Stock, production units	26	27	19	22	20
Fixed assets	1 939	1 832	1 804	1 791	1 794
Valuation adjustments ³⁾	0	0	24 968	52 790	78 779
Expenses	0	0	3 220	4 281	5 426
Total assets	685 494	867 503	897 993	916 345	942 607
LIABILITIES AND CAPITAL					
Foreign liabilities	74 998	56 211	54 661	55 360	53 669
IMF debt in NOK	14 107	12 383	12 022	11 442	11 351
Other foreign liabilities	60 891	43 828	42 639	43 918	42 318
Notes and coins in circulation	46 952	46 633	42 002	40 746	40 784
Domestic deposits	505 837	719 980	732 914	725 400	732 384
Treasury	96 083	83 503	55 815	77 225	96 712
Government Petroleum Fund	386 126	613 317	624 941	628 761	626 023
Other public administration (excl.municipalities)	293	45	136	108	116
Private banks	21 647	21 614	50 799	18 045	8 428
Other financial institutions	1 591	1 406	1 134	1 183	1 027
Other Norwegian sectors	97	95	89	78	78
Accrued interest to the Treasury	0	0	582	842	1 118
Other domestic debt	10 955	2 697	3 372	4 853	3 335
Calculated value of SDRs in the IMF	1 934	1 898	1 842	1 788	1 725
Capital	44 818	40 084	40 084	40 084	40 084
Valuation adjustments	0	0	0	0	0
Revenues ⁴⁾	0	0	22 536	47 272	69 508
Total liabilities and capital	685 494	867 503	897 993	916 345	942 607
Off balance-sheet items:					
Foreign currency sold forward	32 595	11 541	19 530	22 247	24 000
Foreign currency purchased forward	25 699	13 311	21 058	23 433	25 175
Derivatives sold	77 743	121 116	134 877	106 140	114 931
Derivatives purchased	83 094	145 597	150 514	109 792	112 884
Allotted, unpaid shares in the BIS	314	324	324	324	324

¹⁾ International reserves include bonds subject to repurchase agreements

²⁾ Securities and gold are valued at fair value

³⁾ Valuation adjustments consist mainly of unrealised loss on securities

⁴⁾ Part of the unrealised loss on securities mentioned in footnote 3 is offset by a reduction in the NOK deposits for the Government Petroleum Fund

This appears in the accounts as income for Norges Bank

Table 2. Norges Bank. Specification of international reserves¹⁾. In million of NOK

	31.12.2000	31.12.2001	28.02.2002	31.03.2002	30.04.2002
Gold	2 275	2 346	2 502	2 518	2 449
Special drawing rights in the IMF	2 713	3 192	3 161	3 133	2 664
Reserve position in the IMF	5 166	6 533	6 390	6 338	6 374
Loans to the IMF	1 269	1 165	1 130	1 105	1 064
Bank deposits abroad	73 397	55 447	60 027	56 674	52 623
Foreign Treasury bills	-	-	-	26	467
Foreign bearer bonds ²⁾	157 893	117 275	117 628	122 473	114 492
Foreign shares	-	22 952	21 768	21 887	20 605
Accrued interest	3 190	2 628	2 384	2 859	2 789
Short-term assets	-40	-	-	-	-
Total	245 863	211 538	214 990	217 013	203 527

¹⁾ Securities are valued at fair value as from December 1999²⁾ Includes bonds subject to repurchase agreements

Source: Norges Bank

Table 3. State lending institutions. Balance sheet. In million of NOK

	31.03.2001	30.06.2001	30.09.2001	31.12.2001	31.03.2002
Cash holdings and bank deposits	3 000	2 697	2 817	2 890	2 457
Total loans	173 625	175 530	176 942	178 621	182 931
Of which:					
To the general public ¹⁾	171 582	173 514	174 919	176 494	180 654
Claims on the	-	-	-	-	-
Other assets	8 658	7 660	8 778	8 495	10 131
Total assets	185 283	185 887	188 537	190 006	195 519
Bearer bond issues	55	51	49	45	44
Of which:					
In Norwegian kroner	55	51	49	45	44
In foreign currency	-	-	-	-	-
Other loans	173 288	175 272	176 604	177 806	182 622
Of which:					
From the	173 288	175 272	176 604	177 806	182 622
Other liabilities, etc.	6 337	4 939	6 139	5 173	5 968
Share capital, reserves	5 603	5 625	5 745	6 982	6 885
Total liabilities and capital	185 283	185 887	188 537	190 006	195 519

¹⁾ Includes local government administration, non-financial enterprises and households

Source: Statistics Norway and Norges Bank

Table 4. Commercial and savings banks¹⁾. Balance sheet. In millions of NOK

	31.03.2001	30.06.2001	30.09.2001	31.12.2001	31.03.2002
Cash	4 183	5 058	4 735	5 290	4 599
Deposits with Norges Bank	11 061	12 736	32 773	23 953	50 756
Deposits with commercial and savings banks	23 892	22 892	18 262	16 633	16 750
Deposits with foreign banks	52 540	64 199	54 652	42 099	48 820
Treasury bills	6 548	5 637	5 040	4 679	3 709
Other short-term paper	20 081	17 049	20 493	16 643	13 099
Government bonds etc. ¹⁾	9 189	6 331	5 179	4 696	5 856
Other bearer bonds	76 818	85 735	85 937	84 034	84 617
Loans to foreign countries	54 268	50 715	54 502	51 632	51 208
Loans to the general public	962 580	987 543	1 007 913	1 030 694	1 046 075
Of which:					
In foreign currency	79 024	83 854	85 183	87 459	88 531
Loans to mortgage and finance cos., insurance etc. ²⁾	71 693	76 772	76 531	79 543	84 110
Loans to central government and social security admin.	47 120	17 453	44 642	25 835	47 021
Other assets ³⁾	96 738	96 531	95 182	95 185	98 600
Total assets	1 436 711	1 448 651	1 505 841	1 480 916	1 555 220
Deposits from the general public	657 324	683 358	679 493	703 250	714 284
Of which:					
In foreign currency	26 479	26 641	25 764	25 887	22 759
Deposits from commercial and savings banks	26 635	26 168	27 143	22 566	25 938
Deposits from mortagage and fin.cos., and inst.etc. ²⁾	35 160	39 852	37 634	39 012	40 506
Deposits from	52 163	21 596	49 774	34 105	55 091
Fund from CDs	86 926	84 991	87 612	78 651	67 251
Loans and deposits from Norges Bank	4 494	16 640	2	15 793	487
Loans and deposits from abroad	170 876	11 425	10 990	15 605	17 029
Other liabilities	303 273	460 412	507 756	463 376	530 814
Share capital/primary capital	25 339	25 401	25 182	25 322	25 328
Allocations, reserves etc.	71 660	71 656	71 390	72 363	75 719
Net income	2 861	7 152	8 865	10 873	2 773
Total liabilities and capital	1 436 711	1 448 651	1 505 841	1 480 916	1 555 220
Specifications:					
Foreign assets	153 235	164 494	155 570	137 213	146 576
Foreign debt	352 621	340 298	380 364	358 119	394 665

¹⁾ Includes government bonds and bonds issued by lending institutions.²⁾ Includes mortgage companies, finance companies, life and non-life insurance companies and other financial institutions.³⁾ Includes unspecified loss provisions (negative figures) and loans and other claims not specified above.

Source: Statistics Norway and Norges Bank

Table 5. Commercial and savings banks. Loans and deposits by sector¹⁾. In millions of NOK

	31.03.2001	30.06.2001	30.09.2001	31.12.2001	31.03.2002
Loans to:					
Local government (incl. municipal enterprises)	12 514	12 482	12 533	11 945	10 632
Non-financial enterprises ²⁾	346 454	351 578	355 565	358 796	365 974
Households ³⁾	603 612	623 483	639 815	659 954	669 469
Total loans to the general public	962 580	987 543	1 007 913	1 030 694	1 046 075
Deposits from:					
Local government (incl.municipal enterprises)	38 893	46 109	42 455	46 002	47 519
Non-financial enterprises ²⁾	206 068	202 920	209 155	219 277	207 455
Households ³⁾	412 363	434 329	427 883	437 971	459 310
Total deposits from the private sector and municipalities	657 324	683 358	679 494	703 250	714 284

¹⁾ Includes local government administration, non-financial enterprises and households.²⁾ Includes private enterprises with limited liability etc., and state enterprises.³⁾ Includes sole proprietorships, unincorporated enterprises and wage earners, etc.

Source: Statistics Norway and Norges Bank

Table 6. Mortgage companies. Balance sheet. In millions of NOK

	31.03.2001	30.06.2001	30.09.2001	31.12.2001	31.03.2002
Cash and bank deposits	3 927	6 083	6 573	4 568	5 011
Notes and certificates	14 236	12 730	13 730	802	1 683
Government bonds ¹⁾	1 566	932	904	1 238	908
Other bearer bonds	38 673	48 305	43 032	41 220	51 023
Loans to:					
Financial enterprises	19 858	19 797	21 369	24 886	23 874
The general public ²⁾	144 543	149 450	154 006	167 697	163 948
Other sectors	13 028	13 786	12 775	11 659	11 106
Others assets ³⁾	-2 594	-2 161	-803	-655	-1 980
Total assets	233 237	248 922	251 586	251 415	255 573
Notes and certificates	42 397	38 497	37 006	23 166	31 607
Bearer bonds issues in NOK ⁴⁾	60 042	60 292	60 173	61 067	59 446
Bearer bond issues in foreign currency ⁴⁾	65 081	79 624	79 946	84 857	81 688
Other funding	50 505	54 449	58 448	65 734	67 331
Equity capital	11 554	11 841	12 199	11 881	11 705
Other liabilities	3 658	4 219	3 814	4 710	3 796
Total liabilities and capital	233 237	248 922	251 586	251 415	255 573

¹⁾ Includes government bonds and bonds issued by state lending institutions.²⁾ Includes local government administration, non-financial enterprises and households.³⁾ Foreign exchange differences in connection with swaps are entered net in this item. This may result in negative figures for some periods.⁴⁾ Purchase of own bearer bonds deducted.

Source: Statistics Norway and Norges Bank

Table 7. Finance companies. Balance sheet. In millions of NOK

	31.03.2001	30.06.2001	30.09.2001	31.12.2001	31.03.2002
Cash and bank deposits	1 762	2 271	1 535	2 226	2 021
Notes and certificates	97	99	99	134	105
Bearer bonds	54	39	40	20	20
Loans ¹⁾ (gross) to:	75 531	80 491	82 425	83 640	85 594
The General public ²⁾ (net)	72 059	75 348	78 092	79 473	81 506
Other sectors (net)	3 335	4 964	4 091	3 951	3 877
Other assets ³⁾	2 633	2 704	2 382	2 803	2 336
Total assets	80 077	85 604	86 481	88 823	90 076
Notes and certificates	425	575	500	575	550
Bearer bonds	115	115	115	115	115
Loans from non-banks	9 935	9 617	9 875	10 471	10 010
Loans from banks	57 518	63 004	63 180	60 180	61 852
Other liabilities	5 376	5 073	5 311	10 004	10 097
Capital, reserves	6 708	7 220	7 500	7 478	7 452
Total liabilities and capital	80 077	85 604	86 481	88 823	90 076

¹⁾ Includes subordinated loan capital and leasing finance.²⁾ Includes local government administration, non-financial enterprises and households.³⁾ Includes specified and unspecified loan loss provisions (negative figures)

Source: Norges Bank

Table 8. Life insurance companies. Main assets. In millions of NOK

	31.03.2001	31.03.2001	30.06.2001	30.09.2001	31.12.2001
Cash and bank deposits	9 841	13 800	11 425	11 167	13 467
Norwegian notes and certificates	13 952	16 707	19 780	27 871	29 699
Foreign Treasury bills and notes	200	195	2 168	933	1 189
Norwegian bearer bonds	86 433	97 921	99 000	100 305	101 819
Foreign bearer bonds	74 702	77 827	81 680	83 383	83 147
Norwegian shares, units, primary capital certificates and interests	49 742	49 218	48 363	44 636	47 506
Foreign shares, units, primary capital certificates and interests	80 994	73 729	73 098	49 352	57 243
Loans to the general public ¹⁾	23 048	24 658	24 405	24 360	24 482
Loans to other sectors	867	1 035	1 038	1 012	935
Other specified assets	41 714	44 172	44 484	53 959	53 214
Total assets	381 493	399 262	405 441	396 978	412 701

¹⁾ Includes local government administration, non-financial enterprises and households

Source: Statistics Norway

Table 9. Non-life insurance companies. Main assets. In millions of NOK

	31.03.2001	31.03.2001	30.06.2001	30.09.2001	31.12.2001
Cash and bank deposits	6 136	6 107	6 126	5 761	6 454
Norwegian notes and certificates	3 878	3 866	3 945	4 492	3 663
Foreign notes and certificates	421	200	131	92	249
Norwegian bearer bonds	13 402	13 428	12 471	12 854	13 082
Foreign bearer bonds	14 072	13 579	12 411	12 851	13 005
Norwegian shares, units, primary capital certificates, interests	10 839	10 574	11 301	10 226	10 781
Foreign shares, units, primary capital certificates, interests	11 809	10 909	12 719	10 471	11 702
Loans to the general public ¹⁾	1 649	1 643	1 644	1 243	934
Loans to other sectors	102	98	114	89	148
Other specified sectors	33 193	35 861	39 186	36 000	40 409
Total assets	95 501	96 265	100 048	94 079	100 427

¹⁾ Includes local government administration, non-financial enterprises and households.

Source: Statistics Norway

Table 10a. Securities funds' assets. Market value. In millions of NOK

	31.12.2000	31.03.2001	30.06.2001	30.09.2001	31.12.2001
Bank deposits	4 274	4 251	4 925	4 384	3 857
Treasury bills, etc. ¹⁾	1 716	2 286	1 576	1 661	867
Other Norwegian short-term paper	15 456	18 574	18 525	19 768	19 003
Foreign short-term paper	187	56	63	55	55
Government bonds, etc. ²⁾	4 098	3 771	2 919	3 077	3 959
Other Norwegian bonds	22 798	20 662	22 030	24 920	24 788
Foreign bonds	1 928	1 555	1 738	1 538	1 516
Norwegian equities	37 785	35 546	35 902	27 337	30 301
Foreign equities	53 430	49 349	52 126	40 009	47 140
Other assets	2 121	1 935	1 981	1 746	1 958
Total assets	143 792	137 986	141 785	124 494	133 444

¹⁾ Comprises Treasury bills and other certificates issued by state lending institutions.²⁾ Comprises government bonds and bonds issued by state lending institutions.

Sources: Norwegian Central Securities Depository and Norges Bank

Table 10b. Securities funds' assets under management by holding sector. Market value. In millions of NOK

	31.12.2000	31.03.2001	30.06.2001	30.09.2001	31.12.2001
Central government and social security administration	334	393	341	341	320
Commercial and savings banks	3 599	3 511	3 675	3 793	3 508
Other financial corporations	19 100	17 188	16 859	14 718	15 524
Local government corporations and municipal enterprises	5 750	6 126	6 778	7 259	7 840
Other corporations	27 999	25 477	26 381	23 688	24 691
Households	82 032	80 504	82 806	70 320	76 777
Rest of the world	3 471	3 288	3 446	2 877	3 284
Mutual funds shares in total	142 286	136 488	140 287	122 996	131 946

Sources: Norges Bank and the Norwegian Central Securities Depository

Securities statistics

Table 11. Shareholdings registered with the Norwegian Central Securities Depository (VPS) by holding sector. Market value. In millions of NOK

Holding sector	31.12.2000	31.03.2001	30.06.2001	30.09.2001	31.12.2001
Central government and social security administration	144 983	141 244	260 012	223 630	249 604
Norges Bank	0	0	0	0	0
State lending institutions	17	25	29	10	4
Savings banks	3 404	3 339	3 515	3 152	3 232
Commercial banks	8 869	10 942	10 268	8 979	9 283
Insurance companies	47 616	42 836	41 267	32 562	36 556
Mortgage companies	167	183	175	162	174
Finance companies	6	6	6	4	4
Mutual funds	43 782	40 815	41 184	30 713	34 477
Other financial enterprises	20 489	30 009	36 575	30 210	32 059
Local government administration and municipal enterprises	2 944	3 043	2 775	2 452	2 755
State enterprises	29 111	9 114	9 998	7 371	9 412
Other private enterprises	159 808	169 242	184 572	172 690	143 658
Wage-earning households	58 390	57 073	70 781	52 235	50 497
Other households	3 371	3 521	3 905	3 412	2 678
Rest of the world	259 156	252 512	307 045	248 369	242 456
Unspecified sector	1 832	1 760	1 570	1 762	1 925
Total	783 947	765 663	973 678	817 716	818 774

Sources: Norwegian Central Securities Depository and Norges Bank

Table 12. Share capital and primary capital certificates registered with the Norwegian Central Securities Depository by issuing sector. Nominal value. In millions of NOK

	31.12.2000	31.03.2001	30.06.2001	30.09.2001	31.12.2001
Savings banks	8 986	8 986	8 986	8 991	9 126
Commercial banks	15 229	15 292	15 562	15 702	15 712
Insurance companies	1 018	886	886	1 123	1 124
Mortgage companies	1 955	1 955	1 955	2 194	2 194
Finance companies	64	64	64	64	5
Other financial enterprises	11 980	12 048	12 131	12 156	11 389
Local government administration and municipal enterprises	2	2	2	2	2
State enterprises	18 279	12 947	18 421	18 421	18 425
Other private enterprises	44 142	47 285	47 462	47 019	46 027
Rest of the world	6 210	6 668	7 685	7 023	7 194
Unspecified sector	2	0	0	0	0
Total	107 867	106 133	113 154	112 695	111 198

Sources: Norwegian Central Securities Depository and Norges Bank

Table 13. Net purchases and net sales (-) in the primary and secondary markets of shares registered with the Norwegian Central Securities Depository, by purchasing, selling and issuing sector¹⁾.
Estimated market value. In millions of NOK

Issuing sector	Purchasing/ selling sector																	Total ²⁾
	Cent. govt and social security	Norges Bank	State lending inst.	Sav. banks	Comm. banks	Insur. comp.	Mort. comp.	Fin. comp.	Secur. funds	Other financ. enterpr.	Local govt & munic. enterpr.	Other private enterpr.	State enterpr.	Wage- earning house- holds	Other house- holds	Rest of the world	Unsp. sector	
Comm. banks	1	0	0	29	-79	38	4	-1	-121	208	1	0	186	-78	7	150	1	347
Insurance comp.	0	0	0	0	4	26	0	0	5	-128	2	0	30	7	1	46	6	0
Mortgage comp.	239	0	0	94	-93	0	0	0	0	0	0	0	0	0	0	-1	0	239
Finance comp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other financial enterpr.	-4 486	0	-17	110	1 332	-313	3	0	-242	422	38	18	815	59	-13	2 443	16	-659
Local govt. admin. and municipal enterprises	0	0	0	0	0	0	0	0	0	31	0	0	-29	0	0	-3	0	0
State enterprises	-15 932	0	0	34	18	1 298	-1	0	1 264	155	44	-7	251	1 416	25	24 608	25	13 198
Other private enterprises	2 442	0	0	91	7 686	-2 775	21	0	-1 754	-6 422	243	-1 929	16 881	-8 897	-893	5 871	696	11 263
Rest of the world	915	0	0	-55	15 352	-1 740	-6	0	-2 180	-2 163	5	-15	-983	-1 333	-49	-6 865	-25	856
Unspecified sector	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-16 821	0	-17	302	24 221	-3 465	22	-1	-3 028	-8 773	365	-1 934	17 180	-8 853	-923	26 253	717	25 244

¹⁾ Issues at issue price + purchases at market value – sales at market value – redemption value.

²⁾ Total shows net issues in the primary market. Purchases and sales in the secondary market result in redistribution between owner sectors, but add up to 0.

Sources: Norwegian Central Securities Depository and Norges Bank

Table 14. Bondholdings in NOK registered with the Norwegian Central Securities Depository by holding sector. Market value. In millions of NOK

	31.12.2000	31.03.2001	30.06.2001	30.09.2001	31.12.2001
Central government and social security administration	29 283	28 274	28 601	28 004	27 682
Norges Bank	8 297	10 148	7 625	6 986	6 531
State lending institutions	266	257	241	232	219
Savings banks	24 987	26 602	24 741	25 114	26 733
Commercial banks	37 758	39 327	39 737	39 768	35 598
Insurance companies	150 773	153 860	153 099	154 734	160 077
Mortgage companies	15 276	15 831	14 311	13 415	12 880
Finance companies	5	5	7	33	23
Mutual funds	22 262	24 899	25 460	28 517	29 428
Other financial enterprises	1 347	1 711	1 462	1 685	3 353
Local government administration and municipal enterprises	10 668	10 556	10 441	10 642	10 694
State enterprises	2 923	3 098	3 150	3 457	3 166
Other private enterprises	22 663	23 418	21 870	21 966	24 049
Wage-earning households	12 831	11 092	12 841	13 286	14 972
Other households	4 246	4 270	4 567	4 651	4 882
Rest of the world	69 674	69 936	62 187	60 872	61 131
Unspecified sector	957	762	795	825	948
Total	414 216	424 048	411 135	414 185	422 367

Sources: Norwegian Central Securities Depository and Norges Bank

Table 15. Bondholdings in NOK registered with the Norwegian Central Securities Depository by issuing sector. Nominal value. In millions of NOK

	31.12.2000	31.03.2001	30.06.2001	30.09.2001	31.12.2001
Central government and social security administration	144 163	148 052	126 354	127 776	129 762
State lending institutions	326	316	295	284	263
Savings banks	48 319	51 964	55 399	58 484	60 263
Commercial banks	57 105	56 147	62 005	61 675	58 601
Insurance companies	819	819	994	994	994
Mortgage companies	67 847	67 686	67 141	66 510	66 988
Finance companies	93	75	75	50	50
Other financial enterprises	2 300	2 300	2 300	2 300	2 300
Local government administration and municipal enterprises	47 225	49 211	50 404	47 198	46 466
State enterprises	18 509	14 904	15 496	12 685	14 854
Other private enterprises	22 507	29 471	30 893	32 908	35 488
Households	27	27	27	27	23
Rest of the world	6 892	6 931	7 586	8 086	9 698
Unspecified sector	0	0	0	0	0
Total	416 132	427 901	418 968	418 977	425 750

Sources: Norwegian Central Securities Depository and Norges Bank

Table 16. Net purchases and net sales (-) in the primary and secondary markets for NOK-denominated bonds registered with the Norwegian Central Securities Depository by purchasing, selling and issuing sector.¹⁾ Estimated market value. In millions of NOK

Issuing sector	Purchasing/ selling sector																	Total ²⁾
	Cent. govt and social security	Norges Bank	State lending inst.	Sav. banks	Comm. banks	Insur. comp.	Mort. comp.	Fin. comp.	Secur. funds	Other financ. enterpr.	Local govt & munic. enterpr.	State enterpr.	Other private enterpr.	Wage-earning households	Other households	Rest of the world	Unsp. sector	
Central government and social security admin.	-1 246	-1 709	0	-2 030	-3 332	2 890	-227	6	223	768	-48	1	142	-31	152	-9 958	15	-14 386
State lending institutions	0	0	-52	-16	-4	8	0	0	0	0	0	0	0	0	0	0	0	-64
Savings banks	381	0	0	1 093	2 480	1 222	-889	15	3 629	520	695	19	398	1 530	249	647	121	12 110
Commercial banks	-872	0	0	-747	-2 134	-207	-121	0	1 024	157	123	36	584	3 683	140	185	233	2 083
Insurance comp.	10	0	0	15	0	30	3	0	-18	-4	5	10	84	0	26	11	2	173
Mortgage comp.	143	0	0	277	-442	415	-1 438	-3	448	186	10	69	47	2	61	-624	11	-837
Finance comp.	0	0	0	0	-5	0	0	0	-9	0	0	0	0	0	0	-4	0	-18
Other financial enterprises	0	0	0	8	-7	-50	0	0	9	1	-1	0	41	0	0	0	0	0
Loc. govt. adm.+ mun. ent.	250	0	0	-338	484	475	267	0	98	181	-875	-162	60	-48	66	1 228	2	1 689
State enterprises	62	0	0	206	201	1 529	-44	0	-163	54	-97	346	-91	-5	54	-109	1	1 944
Other private enterprises	-71	0	0	2 053	664	656	45	0	2 173	210	222	212	1 167	93	115	661	53	8 253
Households	0	0	0	0	5	0	-7	0	0	0	0	0	0	0	0	0	0	-2
Rest of the world	0	0	0	99	123	2 405	0	0	407	5	11	0	-14	39	16	-324	7	2 772
Unspecified sector	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-1 342	-1 709	-52	619	-1 967	9 373	-2 411	18	7 820	2 078	46	531	2 417	5 263	877	-8 288	445	13 718

¹⁾ Issues at issue price + purchases at market value – sales at market value – redemption value.

²⁾ Total shows net issues in the primary market. Purchases and sales in the secondary market result in redistribution between owner sectors, but add up to 0.

Sources: Norwegian Central Securities Depository and Norges Bank

Table 17. NOK-denominated short-term papir registered with the Norwegian Central Securities Depository by holding sector. Market value. In millions of NOK

	31.12.2000	31.03.2001	30.06.2001	30.09.2001	31.12.2001
Central government and social security administration	7 354	8 465	8 248	7 889	5 680
Norges Bank	2 816	3 010	1 687	2 478	2 451
State lending institutions	0	0	0	0	0
Savings banks	6 716	7 821	8 340	6 847	4 088
Commercial banks	16 662	23 814	17 177	21 024	17 629
Insurance companies	24 261	23 341	30 290	36 746	38 829
Mortgage companies	1 816	1 667	789	1 128	454
Finance companies	91	92	98	73	61
Mutual funds	21 157	21 482	20 841	22 169	20 690
Other financial enterprises	281	1 702	1 508	1 214	2 025
Local government administration and municipal enterprises	3 665	6 340	4 501	4 360	3 244
State enterprises	4 596	2 585	4 978	6 381	4 006
Other private enterprises	9 565	20 112	10 282	10 734	7 225
Wage-earning households	415	385	292	363	180
Other households	526	409	484	521	1 354
Rest of the world	7 632	10 147	11 084	10 947	9 995
Unspecified sector	233	865	458	429	488
Total	107 786	132 236	121 057	133 303	118 398

Sources: Norwegian Central Securities Depository and Norges Bank

Table 18. Outstanding short-term paper by issuing sector.¹⁾ Nominal value. In millions of NOK

Issuing sector	31.03.2001	30.06.2001	30.09.2001	31.12.2001	31.03.2002
Central government and social security administration	35 500	32 500	35 500	36 000	36 500
Counties	883	1 064	2 389	2 172	1 163
Municipalities	4 481	3 155	3 267	3 208	3 280
State lending institutions	0	0	0	0	0
Commercial banks	18 568	17 905	19 724	13 466	20 637
Savings banks	38 613	35 339	38 090	37 815	34 171
Mortgage companies	8 747	7 082	9 177	5 525	4 330
Finance companies	525	575	500	575	550
Other financial enterprises	0	0	0	0	0
State enterprises	1 940	1 800	3 900	2 780	4 530
Municipal enterprises	9 841	10 264	10 953	9 234	11 194
Private enterprises	10 761	11 610	11 530	7 538	11 520
Rest of the world	1 230	2 540	2 040	1 885	2 400
Total	131 089	123 834	137 070	120 198	130 275

¹⁾ Comprises short-term paper issued in Norway in NOK by domestic sectors and foreigners and paper in foreign currency issued by domestic sectors.

Source: Norges Bank

Credit and liquidity trends

Table 19. Credit indicator and money supply

	Volume figures at end of period			Percentage growth				
	NOKbn			Over past 12 months			Over past 3 months	
	C2 ¹⁾	C3 ²⁾	M2 ³⁾	C2 ¹⁾	C3 ²⁾	M2 ³⁾	Annualised rate	M2 ³⁾
December 1993	877.7	1 074.1	477.6	-1.8	-1.7	-0.9	0.1	2.0
December 1994	893.5	1 075.8	501.9	2.3	1.3	5.1	2.8	2.5
December 1995	936.0	1 123.6	530.3	4.9	5.2	5.6	5.4	2.2
December 1996	992.7	1 213.6	564.4	6.0	5.2	6.4	7.8	5.2
December 1997	1 099.4	1 361.0	578.5	10.2	10.0	2.5	10.0	3.6
December 1998	1 193.3	1 519.6	605.3	8.3	12.2	4.6	6.5	6.0
December 1999	1 295.3	1 695.0	670.1	8.3	7.9	10.7	9.7	9.2
December 2000	1 461.5	1 907.3	731.8	12.4	10.7	9.2	12.2	8.3
January 2001	1 475.2	1 907.3	749.7	12.2	9.9	10.9	11.2	8.4
February 2001	1 490.6	1 922.9	755.9	12.4	10.3	10.7	11.0	11.4
March 2001	1 503.4	1 933.8	752.3	12.1	9.5	10.1	10.3	8.3
April 2001	1 519.5	1 967.6	740.7	11.6	10.0	8.6	9.6	7.6
May 2001	1 529.7	1 990.8	756.6	11.4	10.7	10.0	9.0	6.2
June 2001	1 542.1	2 003.0	775.7	11.1	10.3	8.6	8.6	8.4
July 2001	1 547.9	1 999.5	773.5	10.7	9.2	8.6	9.4	7.4
August 2001	1 557.1	1 989.5	772.1	10.6	6.7	8.1	9.9	7.1
September 2001	1 572.5	1 999.9	775.8	10.1	5.7	6.5	10.1	5.8
October 2001	1 583.0	2 025.8	781.7	10.2	6.2	8.4	9.8	6.9
November 2001	1 601.0	2 058.1	773.9	9.7	7.1	7.7	9.4	8.4
December 2001	1 608.9	2 059.6	795.1	9.7	7.9	8.6	9.2	12.0
January 2002	1 615.0	2 067.0	821.0	9.3	8.1	9.5	8.4	12.6
February 2002	1 621.9	2 072.0	812.4	8.9	8.1	7.5	7.7	12.1
March 2002	1 633.1		813.1	8.9		8.1	7.7	5.2
April 2002	1 648.5		800.1	9.0		8.0		

1) C2 = Credit indicator. Credit from domestic sources; seasonally adjusted figures.

2) C3 = Total credit from domestic and foreign sources; actual figures.

3) M2 = Money supply; seasonally adjusted figures.

Source: Norges Bank

Table 20. Domestic credit supply to the general public¹⁾, by source. In millions of NOK. 12-month growth as a percentage

	31.12.1999		31.12.2000		31.12.2001		30.04.2002	
	Amount	%	Amount	%	Amount	%	Amount	%
Private banks	819 535	9.5	938 076	13.8	1 030 694	9.6	1 056 504	9.0
State lending institutions	189 651	5.3	167 921	3.9	176 494	5.1	181 376	5.4
Norges Bank	566	6.4	575	1.6	603	4.9	611	5.5
Mortgage companies	93 270	-2.5	144 846	20.4	167 699	15.6	164 534	13.9
Finance companies	58 806	28.4	66 809	12.1	79 474	14.6	82 046	13.0
Life insurance companies	25 062	-11.3	23 047	-8.0	24 482	0.2	22 904	-6.8
Pension funds	4 993	8.2	4 659	-6.7	3 263	0.0	3 263	0.0
Non-life insurance companies	1 321	-59.6	1 649	24.8	934	-43.4	930	-43.3
Bond debt ²⁾	75 538	2.8	82 838	9.7	89 671	8.2	90 522	3.9
Certificate debt	19 335	82.8	25 059	29.6	24 932	-0.5	33 927	14.0
Other sources	7 175	51.7	6 038	27.4	10 624	76.0	11 841	57.0
Total domestic credit (C2) ³⁾	1 295 252	8.3	1 461 517	12.4	1 608 870	9.7	1 648 459	9.0

1) Comprises local government administration, non-financial enterprises and households.

2) Adjusted for non-resident holdings of Norwegian private and municipal bonds in Norway.

3) Corresponds to Norges Bank's credit indicator (C2).

Source: Norges Bank

Table 21. Composition of money supply. In millions of NOK

Actual figures at end of period	Notes and coins	Transaction account deposits	M1 ¹⁾	Other deposits ²⁾	CDs	M2 ³⁾	Change last 12 months in total M2
December 1993	38 003	151 128	186 869	288 448	2 260	477 577	-4 223
December 1994	40 454	172 639	210 595	286 228	5 116	501 939	24 352
December 1995	42 069	178 690	217 766	296 778	15 731	530 275	28 363
December 1996	43 324	208 072	247 937	294 741	21 686	564 364	34 113
December 1997	46 014	227 382	269 599	278 741	30 200	578 540	14 387
December 1998	46 070	237 046	279 188	292 820	33 321	605 329	26 792
December 1999	48 020	300 131	343 496	295 822	30 803	670 121	65 981
December 2000	46 952	328 816	371 340	326 351	34 152	731 843	60 528
January 2001	43 153	336 194	375 593	340 759	33 354	749 706	73 821
February 2001	42 381	339 800	378 489	343 531	33 920	755 940	72 973
March 2001	42 034	334 396	372 720	339 894	39 661	752 275	68 738
April 2001	42 107	328 323	366 756	339 957	33 957	740 670	58 523
May 2001	42 350	339 233	377 740	344 153	34 742	756 635	68 562
June 2001	43 608	340 669	379 824	358 067	37 801	775 692	61 143
July 2001	42 839	325 299	363 721	375 651	34 095	773 467	61 093
August 2001	42 026	311 390	349 126	386 447	36 510	772 083	58 018
September 2001	41 591	333 317	370 697	363 275	41 868	775 840	47 616
October 2001	40 969	331 294	368 173	376 933	36 572	781 678	60 430
November 2001	42 084	327 191	365 086	374 039	34 819	773 944	55 292
December 2001	46 633	343 842	385 880	370 214	38 991	795 085	63 242
January 2002	42 613	350 854	389 293	393 987	37 746	821 026	71 320
February 2002	41 510	346 813	384 287	390 769	37 342	812 398	56 458
March 2002	42 002	346 918	384 789	385 152	43 124	813 065	60 790
April 2002	40 746	337 329	374 096	381 891	44 145	800 132	59 462

¹⁾ The narrow money concept M1 constitutes the money-holding sector's stock of Norwegian notes and coins plus the sector's transaction account deposits in Norges Bank, commercial banks and savings banks (in NOK and foreign currency).

²⁾ Excluding restricted bank deposits (BSU, IPA, withholding tax accounts, etc).

³⁾ The broad money concept M2 constitutes the sum of M1 and the money-holding sector's other bank deposits (in NOK and foreign currency) excluding restricted bank deposits (BSU, IPA, withholding tax accounts, etc) and CDs.

Source: Norges Bank

Table 22. Household financial balance. Financial investments and holdings, by financial instrument. In billions of NOK

	Financial investments				Holdings			
	Year				Year			
	1998	1999	2000	2001	1998	1999	2000	2001
Bank deposits, etc. ¹⁾	22.5	33.5	32.7	37.6	372.0	405.5	438.3	475.9
Bonds, etc. ²⁾	0.5	2.2	7.8	6.7	8.4	10.9	18.2	21.5
Shares, etc. ³⁾	20.3	2.9	14.1	14.7	142.6	166.9	184.6	190.8
Units in securities funds	-0.2	7.0	11.9	2.6	50.0	77.9	85.7	82.9
Insurance claims	20.7	20.6	28.5	32.4	369.2	428.0	455.1	470.6
Loans and other assets ⁴⁾	10.0	5.4	6.1	3.3	95.5	100.9	107.0	110.3
Total assets	74.9	71.5	101.4	98.6	1 039.4	1 192.1	1 291.1	1 355.7
Loans from commercial and savings banks	34.2	49.9	66.5	68.0	475.2	525.3	591.9	659.9
Loans from state banks and Norges Bank	6.6	6.0	7.7	8.5	128.7	134.3	141.4	149.1
Loans from private mortgage companies	9.6	0.4	6.2	14.3	46.7	47.1	53.5	67.9
Loans from insurance companies	-5.5	-3.9	-2.4	-0.6	23.1	19.2	16.7	16.1
Other liabilities ⁵⁾	9.2	4.6	-3.0	4.8	76.7	80.8	77.4	81.7
Total liabilities	54.2	57.3	75.0	95.0	750.7	806.7	881.0	974.7
Net	20.8	14.2	26.4	3.7	288.7	385.4	410.0	381.0

¹⁾ Notes and coins and bank deposits.

²⁾ Bearer bonds, savings bonds, premium bonds, notes and short-term Treasury notes.

³⁾ VPS-registered (registered with the Norwegian Central Securities Depository), non - registered shares and primary capital certificates.

⁴⁾ Loans, accrued interest, holiday pay claims and tax claims.

⁵⁾ Other loans, bonds and notes, tax liabilities, and accrued interest.

Sources: Norges Bank and Statistics Norway

Table 23. Money market liquidity. Liquidity effect from 1 January to end period. In millions of NOK

Supply+/withdrawal–	1.1 - 31.12		1.1 - 31.5	
	2000	2001	2001	2002
Central govt. and other public accounts				
(excl. paper issued by state lending inst. and govt.)	-50 855	-115 094	-71 062	-24 849
Paper issued by state lending inst. and govt.	-11 103	8 514	16 022	-8 501
Purchase of foreign exchange for Govt Petroleum Fund	53 010	120 300	40 570	21 435
Other foreign exchange transactions	368	91	30	-
Holdings of banknotes and coins ¹⁾ (estimate)	775	424	3 772	5 859
Overnight loans	245	-126	-62	-
Fixed-rate loans	-4 425	-6 011	3 849	-7 140
Other central bank financing	340	-8 135	-8 135	15
Total reserves	-11 645	-37	-15 016	-13 181
Of which:				
Sight deposits with Norges Bank	-11 645	-37	-15 016	-13 181
Treasury bills	0	0	0	0
Other reserves (estimate)	0	0	0	0

¹⁾ The figures are based mainly on Norges Bank's accounts. Discrepancies may arise between the bank's own statements and banking statistics due to different accruals.

Source: Norges Bank

Interest rate statistics

Table 24. Nominal interest rates for NOK. Averages. Per cent per annum

	1 month		3 month		12 month		Interest rate on banks' overnight loans in Norges Bank	Interest rate on banks' sight deposits with Norges Bank
	NIDR	NIBOR	NIDR	NIBOR	NIDR	NIBOR		
January 2001	7.5	7.4	7.6	7.4	7.4	7.2	9.0	7.0
February 2001	7.4	7.2	7.5	7.3	7.4	7.2	9.0	7.0
March 2001	7.5	7.3	7.5	7.4	7.5	7.4	9.0	7.0
April 2001	7.6	7.5	7.6	7.5	7.5	7.4	9.0	7.0
May 2001	7.6	7.4	7.6	7.4	7.6	7.5	9.0	7.0
June 2001	7.4	7.3	7.6	7.4	7.7	7.6	9.0	7.0
July 2001	7.4	7.3	7.5	7.4	7.6	7.5	9.0	7.0
August 2001	7.4	7.2	7.5	7.3	7.5	7.3	9.0	7.0
September 2001	7.3	7.1	7.3	7.1	7.2	7.0	9.0	7.0
October 2001	7.2	7.1	7.1	6.9	6.8	6.6	9.0	7.0
November 2001	7.2	7.1	7.1	6.9	6.6	6.4	9.0	7.0
December 2001	7.0	6.9	6.8	6.6	6.4	6.2	8.7	6.7
January 2002	6.7	6.5	6.5	6.3	6.4	6.2	8.5	6.5
February 2002	6.7	6.6	6.7	6.6	6.8	6.7	8.5	6.5
March 2002	6.8	6.7	6.9	6.7	7.0	6.9	8.5	6.5
April 2002	6.9	6.7	6.9	6.8	7.2	7.0	8.5	6.5
May 2002	6.9	6.7	7.1	6.9	7.5	7.3	8.5	6.5

Note: NIDR = Norwegian Interbank Deposit Rate, a pure krone interest rate

NIBOR = Norwegian Interbank Offered Rate, constructed on the basis of currency swaps

Source: Norges Bank

Table 25. Short-term interest rates¹⁾ for key currencies in the Euro-market. Per cent per annum

	DKK	GBP	JPY	SEK	USD	EURO	Interest rate differential NOK/EURO
January 2001	5.3	5.7	0.5	4.1	5.7	4.7	2.6
February 2001	5.2	5.7	0.4	4.0	5.3	4.7	2.5
March 2001	5.1	5.5	0.2	4.0	4.9	4.7	2.6
April 2001	5.0	5.3	0.1	4.0	4.6	4.7	2.7
May 2001	5.0	5.2	0.1	4.0	4.0	4.6	2.7
June 2001	4.9	5.2	0.1	4.3	3.8	4.4	2.9
July 2001	4.8	5.2	0.1	4.4	3.7	4.5	2.8
August 2001	4.7	4.9	0.1	4.3	3.5	4.3	2.9
September 2001	4.3	4.6	0.1	4.1	3.0	4.0	3.1
October 2001	3.9	4.4	0.1	3.8	2.4	3.6	3.3
November 2001	3.6	3.9	0.1	3.8	2.1	3.4	3.4
December 2001	3.5	4.0	0.1	3.8	1.9	3.3	3.2
January 2002	3.6	4.0	0.1	3.8	1.8	3.3	2.9
February 2002	3.5	4.0	0.1	3.9	1.9	3.3	3.1
March 2002	3.6	4.1	0.1	4.1	2.0	3.4	3.2
April 2002	3.6	4.1	0.1	4.3	1.9	3.4	3.3
May 2002	3.7	4.1	0.0	4.4	1.9	3.4	3.3

¹⁾ Three-month rates, monthly average of daily quotations.

Sources: OECD and Norges Bank

Table 26. Yields on Norwegian bonds¹⁾. Per cent per annum

	3 year		5 year		10 year	
	Govt.	Private	Govt.	Private	Govt.	Private
January 2001	6.4	6.9	6.1	6.9	5.9	6.9
February 2001	6.4	7.0	6.2	6.9	6.0	7.0
March 2001	6.6	7.1	6.3	7.0	6.0	7.0
April 2001	6.7	7.1	6.4	7.1	6.2	7.1
May 2001	6.8	7.3	6.6	7.3	6.5	7.3
June 2001	6.9	7.5	6.8	7.4	6.6	7.4
July 2001	6.9	7.4	6.7	7.4	6.6	7.4
August 2001	6.7	7.2	6.5	7.1	6.5	7.2
September 2001	6.4	7.0	6.4	7.0	6.4	7.1
October 2001	6.0	6.6	6.0	6.7	6.1	6.8
November 2001	5.8	6.5	5.8	6.5	5.9	6.6
December 2001	5.8	6.5	6.0	6.6	6.2	6.8
January 2002	6.0	6.6	6.1	6.7	6.2	6.9
February 2002	6.3	6.9	6.4	6.9	6.4	7.0
March 2002	6.6	7.0	6.5	7.1	6.6	7.1
April 2002	6.6	7.2	6.6	7.1	6.7	7.2
May 2002	6.9	7.3	6.8	7.3	6.8	7.3

¹⁾ Whole-year interest rate paid in arrears. Monthly average. As of 1 January 1993 based on the interest rate on the representative bonds weighted by residual maturity.

Source: Norges Bank

Table 27. Yields on government bonds¹⁾ in key currencies. Per cent per annum

	DEM	DKK	FIM	FFR	GBP	JPY	SEK	USD	Interest rate differential NOK/DEM ²⁾
January 2001	4.9	5.1	5.1	4.9	4.9	1.4	4.9	5.6	1.1
February 2001	4.8	5.0	5.0	4.8	4.8	1.2	4.8	5.2	1.3
March 2001	4.9	5.2	5.2	5.0	4.9	1.4	5.0	5.2	1.3
April 2001	5.1	5.4	5.4	5.2	5.1	1.3	5.3	5.4	1.4
May 2001	5.1	5.4	5.3	5.1	5.2	1.2	5.5	5.3	1.5
June 2001	5.1	5.4	5.3	5.1	5.1	1.3	5.5	5.2	1.6
July 2001	4.9	5.2	5.1	5.0	4.9	1.4	5.2	5.1	1.5
August 2001	4.9	5.2	5.1	4.9	4.9	1.4	5.3	4.9	1.5
September 2001	4.7	4.9	4.9	4.7	4.8	1.4	5.2	4.6	1.4
October 2001	4.5	4.7	4.8	4.6	4.6	1.3	5.0	4.7	1.3
November 2001	4.8	5.0	5.0	4.8	4.8	1.4	5.3	5.1	1.4
December 2001	4.9	5.2	5.1	5.0	4.9	1.4	5.3	5.2	1.3
January 2002	5.0	5.2	5.2	5.0	4.9	1.5	5.4	5.0	1.4
February 2002	5.2	5.5	5.4	5.2	5.2	1.5		5.4	1.4
March 2002	5.2	5.5	5.4	5.3	5.2	1.4		5.3	1.5
April 2002	5.2	5.5	5.5	5.3	5.3	1.4		5.2	1.5
May 2002									

¹⁾ Government bonds with 10 years to maturity. Monthly average of daily quotations.²⁾ Differential between yields on Norwegian and German government bonds with 10 years to maturity.

Source: Norges Bank

Table 28. Commercial and savings banks. Average interest rates and commissions on utilised loans in NOK to the general public at end of quarter. Per cent per annum

	All loans				Loans, excl. non-accrual loans ¹⁾			
	Credit lines		Repayment loans		Credit lines		Repayment loans	
	Overdrafts and building loans	Housing loans	Other loans	Total loans	Overdrafts and building loans	Housing loans	Other loans	Total loans
2001 Q1								
Commercial banks	10.42	8.35	8.53	8.68	10.46	8.35	8.61	8.71
Savings banks	11.68	8.62	9.33	9.08	11.87	8.62	9.39	9.11
All banks	10.93	8.50	8.89	8.88	11.03	8.51	8.96	8.92
2001 Q2								
Commercial banks	10.68	8.38	8.52	8.72	10.73	8.39	8.62	8.76
Savings banks	11.71	8.59	9.32	9.06	11.92	8.60	9.38	9.09
All banks	11.10	8.50	8.88	8.89	11.21	8.51	8.96	8.93
2001 Q3								
Commercial banks	10.65	8.39	8.43	8.68	10.77	8.40	8.49	8.72
Savings banks	11.56	8.59	9.27	9.03	11.75	8.59	9.34	9.06
All banks	11.03	8.50	8.81	8.86	11.18	8.51	8.87	8.90
2001 Q4²⁾								
Commercial banks	10.17	8.25	8.03	8.38	10.31	8.27	8.20	8.46
Savings banks	10.84	8.53	8.80	8.80	11.18	8.56	9.06	8.91
All banks	10.47	8.41	8.37	8.59	10.69	8.43	8.58	8.69
2002 Q1								
Commercial banks	9.71	7.88	7.78	8.05	9.85	7.90	7.89	8.12
Savings banks	10.55	8.09	8.58	8.43	10.88	8.12	8.75	8.51
All banks	10.07	8.00	8.14	8.25	10.29	8.02	8.27	8.32

¹⁾ Up to and including 2001 Q3, non-accrual loans consist only of loans included in calculations of average interest rates with an interest rate of 0% and commission as they are non-performing and the bank has therefore stopped recording interest, commissions and fees from them. From 2001 Q4 non-accrual loans include loans with an interest rate of 0%.²⁾ From 2001 Q4 loss provisions are included in "Total loans".

Source: Norges Bank

Table 29. Commercial and savings banks. Average interest rates on deposits in NOK from the general public at end of quarter. Per cent per annum

	Ordinary terms	Special terms	Total deposits	Sight deposits	Time deposits	Deposits on transaction accounts	Other deposits
2001 Q1							
Commercial banks	5.65	6.91	5.88	5.59	6.86		
Savings banks	5.47	6.92	5.82	5.36	6.73		
All banks	5.56	6.92	5.85	5.48	6.77		
2001 Q2 ¹⁾							
Commercial banks	...	...	5.81	...	...	5.11	6.56
Savings banks	...	...	5.74	...	...	4.55	6.50
All banks	...	...	5.78	...	...	4.87	6.52
2001 Q3							
Commercial banks	...	...	5.89	...	...	5.25	6.54
Savings banks	...	...	5.79	...	...	4.63	6.47
All banks	...	...	5.84	...	...	4.99	6.50
2001 Q4							
Commercial banks	...	...	5.76	...	...	5.10	6.45
Savings banks	...	...	5.72	...	...	4.51	6.42
All banks	...	...	5.74	...	...	4.85	6.43
2002 Q1							
Commercial banks	...	...	5.44	...	...	4.77	6.13
Savings banks	...	...	5.41	...	...	4.26	6.09
All banks	...	...	5.42	...	...	4.56	6.11

¹⁾ From 2001 Q2 the manner of collecting data on deposit rates was changed.

This may have influenced deposit rate data from this quarter.

Source: Norges Bank

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Table 30. Life insurance companies. Average interest rates by type of loan at end of quarter. Per cent per annum

	Housing loans	Other loans	Total loans
2001 Q1	8.1	7.0	7.6
Q2	8.1	7.2	7.6
Q3	8.1	7.2	7.6
Q4	7.8	6.9	7.4
2002 Q1	7.7	6.8	7.3

Source: Norges Bank

Table 31. Mortgage companies. Average interest rates, incl. commissions on loans to private sector at end of quarter. Per cent per annum

	Housing loans	Loans to private enterprises	Total loans
2001 Q1	7.5	7.7	7.3
Q2	7.6	7.7	7.4
Q3	7.6	7.7	7.4
Q4	7.4	7.5	7.3
2002 Q1	7.4	7.5	7.1

Source: Norges Bank

Profit/loss and capital adequacy data

Table 32. Profit/loss and capital adequacy: commercial banks¹⁾. Percentage of average total assets

	2000 ³⁾	2001	Q1	
			2001	2002
Interest income	7.4	7.5	7.9	7.0
Interest expenses	5.5	5.8	6.1	5.2
Net interest income	1.8	1.8	1.8	1.8
Total other operating income	1.3	1.2	1.2	0.9
Other operating expenses	1.9	1.9	1.9	1.7
Operating profit before losses	1.2	1.1	1.1	0.9
Recorded losses on loans and guarantees	0.1	0.3	0.1	0.1
Ordinary operating profit before taxes	1.1	0.7	1.1	0.9
Capital adequacy ratio ²⁾	11.0	11.7	10.9	11.8
Of which:				
Core capital	7.8	8.7	7.8	8.8

¹⁾ Parent banks (excluding branches abroad) including Postbanken and foreign-owned branches. Excluding Gjensidige Bank from 1 January 1999.

²⁾ As a percentage of the basis of measurement for capital adequacy.

³⁾ New accounting rules from 1 January 1999.

Source: Norges Bank

Table 33. Profit/loss and capital adequacy: savings banks¹⁾. Percentage of average total assets

	2000 ³⁾	2001	Q1	
			2001	2002
Interest income	7.6	8.1	8.1	7.6
Interest expenses	4.9	5.6	5.6	5.1
Net interest income	2.7	2.5	2.5	2.4
Total other operating income	0.8	0.7	0.6	0.8
Other operating expenses	2.0	1.8	1.8	1.8
Operating profit before losses	1.6	1.4	1.2	1.4
Recorded losses on loans and guarantees	0.2	0.3	0.1	0.2
Ordinary operating profit before taxes	1.8	1.2	1.2	1.3
Capital adequacy ratio ²⁾	13.7	13.8	13.2	13.5
Of which:				
Core capital	10.9	11.1	10.5	10.8

¹⁾ Including Gjensidige Bank from 1 January 1999.

²⁾ As a percentage of the basis of measurement for capital adequacy.

³⁾ New accounting rules from 1 January 1999.

Source: Norges Bank

Table 34. Profit/loss and capital adequacy: finance companies¹⁾. Percentage of average total assets

	2000 ³⁾	2001	Q1	
			2001	2002
Interest income	10.6	10.3	10.9	9.3
Interest expenses	5.6	6.0	6.2	5.2
Net interest income	5.0	4.3	4.7	4.1
Total other operating income	2.3	2.8	2.0	2.2
Other operating expenses	4.7	4.5	4.4	3.8
Operating profit before losses	2.5	2.6	2.4	2.5
Recorded losses on loans and guarantees	0.5	0.5	0.3	0.2
Ordinary operating profit before taxes	2.1	2.1	2.1	2.3
Capital adequacy ratio ²⁾	12.4	11.3	11.9	11.5
Of which:				
Core capital	11.1	9.8	10.9	10.1

¹⁾ Norwegian parent (excl. OBOS) and foreign-owned branches.

²⁾ As a percentage of the basis of measurement for capital adequacy.

³⁾ New accounting rules from 1 January 1999.

Source: Norges Bank

Table 35. Profit/loss and capital adequacy: mortgage companies¹⁾³⁾. Percentage of average total assets

	2000 ⁴⁾	2001	Q1	
			2001	2002
Interest income	6.9	6.5	7.0	5.4
Interest expenses	6.2	5.7	6.3	4.7
Net interest income	0.7	0.8	0.7	0.7
Total other operating income	0.0	0.0	0.0	0.0
Other operating expenses	0.2	0.2	0.2	0.2
Operating profit before losses	0.6	0.6	0.6	0.6
Recorded losses on loans and guarantees	0.0	0.0	0.0	0.0
Ordinary operating income before taxes	0.6	0.6	0.5	0.6
Capital adequacy ²⁾	16.6	14.6	15.8	14.2
Of which:				
Core capital	13.0	11.2	12.6	11.0

¹⁾ All Norwegian parent companies.²⁾ As a percentage of the basis of measurement for capital adequacy.³⁾ New accounting rules from 1 January 1999.⁴⁾ Kommunalbanken reports as a mortgage company with effect from the first quarter of 2000.

Source: Norges Bank

Exchange rates

**Table 36. The international value of the krone and exchange rates against selected currencies.
Monthly average of representative market rates**

	Trade-weighted krone exchange rate ¹⁾	Monthly average of representative market rates									
		1 EURO	100 DEM	100 DKK	100 FIM	100 FRF	1 GBP	100 JPY	100 SEK	1 USD	
January 2001	106.81	8.2355	421.08	110.33	138.51	125.55	12.97	7.52	92.48	8.78	
February 2001	106.75	8.2125	419.90	110.04	138.12	125.20	12.96	7.67	91.49	8.91	
March 2001	105.73	8.1600	417.22	109.32	137.24	124.40	12.97	7.40	89.42	8.97	
April 2001	105.50	8.1183	415.08	108.78	136.54	123.76	13.05	7.35	89.04	9.09	
May 2001	104.70	7.9952	408.79	107.16	134.47	121.89	13.04	7.51	88.24	9.14	
June 2001	104.07	7.9338	405.65	106.44	133.44	120.95	13.02	7.60	86.16	9.30	
July 2001	104.15	7.9714	407.57	107.08	134.07	121.52	13.10	7.44	86.05	9.26	
August 2001	104.16	8.0552	411.86	108.20	135.48	122.80	12.85	7.37	86.52	8.95	
September 2001	102.63	7.9985	408.96	107.49	134.53	121.94	12.84	7.39	82.70	8.78	
October 2001	102.80	7.9970	408.88	107.54	134.50	121.91	12.82	7.28	83.50	8.83	
November 2001	102.63	7.9224	405.07	106.41	133.24	120.78	12.81	7.29	84.14	8.92	
December 2001	103.22	7.9920	408.63	107.38	134.42	121.84	12.90	7.04	84.77	8.96	
January 2002	102.72	7.9208	404.98	106.56	133.22	120.75	12.85	6.76	85.84	8.97	
February 2002	101.34	7.7853	398.06	104.78	130.94	118.69	12.73	6.70	84.78	8.95	
March 2002	100.67	7.7191		103.86			12.53	6.73	85.19	8.81	
April 2002	99.16	7.6221		102.53			12.42	6.58	83.44	8.61	
May 2002	97.06	7.5147		101.07			11.96	6.49	81.53	8.19	

¹⁾ The nominal effective krone exchange rate is calculated on the basis of the NOK exchange rate against the currencies of Norway's 25 main trading partners, calculated as a chained index and trade-weighted using the OECD's weights. The weights, which are updated annually, are calculated on the basis of each country's competitive position in relation to Norwegian manufacturing. The index is set at 100 in 1990.A rising index value denotes a depreciating krone. Further information can be found on Norges Bank's web site (www.norges-bank.no).

Source: Norges Bank

Table 37. Exchange cross rates. Monthly average of representative exchange rates

	DEM/USD ¹⁾	DEM/GBP ¹⁾	USD/EUR	JPY/DEM ¹⁾	JPY/USD
January 2001	2.0847	3.0811	0.938	56.012	116.77
February 2001	2.1223	3.0856	0.922	54.740	116.18
March 2001	2.1510	3.1088	0.909	56.410	121.33
April 2001	2.1910	3.1445	0.893	56.464	123.71
May 2001	2.2368	3.1887	0.874	54.463	121.82
June 2001	2.2923	3.2100	0.853	53.367	122.33
July 2001	2.2729	3.2140	0.861	54.810	124.57
August 2001	2.1723	3.1209	0.900	55.904	121.44
September 2001	2.1470	3.1401	0.911	55.321	118.78
October 2001	2.1592	3.1348	0.906	56.168	121.28
November 2001	2.2019	3.1629	0.888	55.563	122.35
December 2001	2.1916	3.1558	0.892	58.047	127.21
January 2002	2.2145	3.1720	0.883	59.876	132.60
February 2002	2.2480	3.1979	0.870	59.426	133.59
March 2002			0.876		130.93
April 2002			0.886		130.75
May 2002			0.917		126.29

¹⁾Converted via the euro on the basis of the rate at 31.12.1998. This conversion was discontinued as at 28.02.2002.

Source: Norges Bank

Balance of payments

Table 38. Balance of payments. In millions of NOK

	2000	2001	January - March	
			2001	2002
Goods balance	229 595	231 532	60 810	52 509
Service balance	16 917	25 475	8 156	7 806
Net interest and transfers	-26 864	-23 621	-5 685	-1 168
A. Current account balance	219 648	233 386	63 281	59 147
Of which:				
Petroleum activities ¹⁾	303 153	304 574	82 662	66 482
Shipping ¹⁾	25 609	44 885	9 760	12 236
Other sectors	-109 114	-116 073	-29 141	-19 571
B. Net capital transfers	-1 683	-840	-164	885
C. Capital outflow excl. Norges Bank	52 273	-23 694	9 269	24 257
Distributed among:				
Central government sector	-19 294	14 502	-2 134	-2 146
Local government sector	341	237	-29	432
Commercial and savings banks	-43 033	-33 132	-12 487	-36 090
Insurance	19 744	9 540	10 078	9 296
Other financial institutions	-12 261	-13 263	7 483	-682
Shipping	-8 592	-768	1 061	1 100
Petroleum activities	24 018	-42 379	5 419	-1 937
Other private and state enterprises	22 447	5 000	-16 006	32 389
Unallocated (incl. errors and omissions)	68 903	36 569	15 884	21 895
D. Norges Bank's net capital outflow (A + B - C)	165 692	256 240	53 848	35 775
E. Valuation changes in Norges Bank's net foreign assets	17 030	-41 057	-25 272	-19 604
Change in Norges Bank's net foreign assets (D + E)	182 722	215 183	28 576	16 171

¹⁾Specified by Norges Bank on the basis of items from the balance of payments.

Sources: Statistics Norway and Norges Bank

Table 39. Norway's foreign assets and debt. In billions of NOK

	31.12.2000			31.12.2001			28.02.2002		
	Assets	Debt	Net	Assets	Debt	Net	Assets	Debt	Net
Central government admin.	16.0	76.4	-60.4	16.9	62.8	-45.9	17.2	64.1	-46.9
Norges Bank incl.									
Petroleum Fund	767.6	199.7	567.9	959.5	176.8	782.7	981.5	196.8	784.7
State lending institutions	1.6	0.0	1.6	1.7	0.0	1.7	1.7	0.0	1.7
Commercial and savings banks	131.1	339.5	-208.4	134.6	373.4	-238.8	134.5	387.7	-253.2
Mortgage companies	29.9	94.3	-64.4	39.3	119.0	-79.7	50.1	127.6	-77.5
Finance companies	3.1	18.9	-15.8	3.7	27.4	-23.7	3.7	27.4	-23.7
Insurance companies	193.7	17.0	176.7	187.2	20.2	167.0	192.4	19.4	173.0
Local government	0.0	0.5	-0.5	0.2	0.4	-0.2	0.3	0.4	-0.1
Municipal enterprises	0.1	7.6	-7.5	0.3	8.0	-7.7	0.3	7.2	-6.9
State enterprises	157.9	171.9	-14.0	107.8	116.3	-8.5	108.3	117.6	-9.3
Other Norwegian sectors	396.0	344.7	51.3	457.0	431.6	25.4	469.6	431.1	38.5
Undistributed errors and omissions	0.0	0.0	0.0	0.0	0.0	0.0	14.6	0.0	14.6
All sectors	1 697.0	1 270.5	426.5	1 908.2	1 335.9	572.3	1 974.2	1 379.3	594.9

Norges Bank calculates the holdings figures on the basis of Statistics Norway's annual census of foreign assets and liabilities and sectoral statistics for financial industries. Which are combined with the figures on changes in the form of transactions and valuation changes from the balance of payments and sectoral statistics for insurance and mortgage companies.

Sources: Statistics Norway and Norges Bank

International capital markets

Table 40. Changes in banks' international assets.¹⁾ In billions of USD

	1998	1999	2000	2001	Outstanding
					31.12.2001
Total	280.1	276.1	1 194.9	850.9	11 482.7
Of which vis-à-vis:					
Non-banks	134.1	298.2	287.5	462.8	3 927.9
Banks (and undistributed)	146.0	-22.0	907.5	388.1	7 554.8

1) International assets (external positions) comprise

- cross-border claims in all currencies
- foreign currency loans to residents
- equivalent assets, excluding lending

Source: Bank for International Settlements

Table 41. Banks' international claims by currency. Percentage of total international assets

	December			
	1998	1999	2000	2001
US dollar (USD)	34.3	41.5	43.4	45.4
Deutsche mark (DEM)	11.3	..	..	..
Swiss franc (CHF)	2.6	2.4	2.2	2.1
Japanese yen (JPY)	10.1	9.0	8.3	6.2
Pound sterling (GBP)	4.2	4.3	4.4	4.4
French franc (FRF)	3.5	..	..	..
Italian lira (ITL)	4.6	..	..	..
ECU/EURO ¹⁾	1.4	27.8	27.7	28.6
Undistributed ²⁾	28.0	15.0	14.0	13.3
Total in billions of USD	9 665.4	9 939.5	10 765.5	11 482.7

¹⁾ From January 1999.

²⁾ Including other currencies not shown in the table, and assets in banks in countries other than the home countries of the seven currencies specified.

Source: Bank for International Settlements

Foreign currency trading

Table 42. Foreign exchange banks. Foreign exchange purchased/sold forward with settlement in NOK.¹⁾ In billions of NOK at end of month

	Purchased net from:					Purchased gross from:		Sold gross to:	
	Central govt. ²⁾	Other financial inst. ³⁾	Non-financial sector	Foreign sector	Total	Non-financial sector	Foreign sector	Non-financial sector	Foreign sector
April 2001	0.1	43.1	61.4	-45.7	58.9	93.9	542.6	32.5	588.3
May 2001	0.1	30.5	59.5	-48.0	42.1	96.4	563.6	36.9	611.6
June 2001	0.1	38.4	77.7	-17.6	98.6	109.5	648.8	31.8	666.4
July 2001	0.1	1.3	72.2	-20.6	53.0	107.4	606.0	35.2	626.6
August 2001	0.1	32.7	69.5	-7.2	95.1	110.9	679.7	41.4	686.9
September 2001	-0.1	30.1	57.9	9.8	97.7	108.5	688.6	50.6	678.9
October 2001	0.0	31.0	64.5	-22.8	72.7	107.7	644.6	43.2	667.4
November 2001	-0.2	39.4	60.5	-37.4	62.3	105.9	679.3	45.4	716.7
December 2001	0.4	43.6	66.8	-57.0	53.8	107.8	725.7	41.0	782.7
January 2002	0.4	59.4	55.8	-36.3	79.3	107.0	744.0	51.2	780.3
February 2002	0.3	47.7	63.5	-18.4	93.1	106.3	733.7	42.8	752.0
March 2002	0.2	45.9	56.6	7.0	109.7	99.0	725.3	42.4	718.3
April 2002	0.1	54.5	64.4	-24.2	94.8	105.0	649.8	40.6	674.0

¹⁾ Excl. exchange rate adjustments.

²⁾ Central government administration, social security administration and Norges Bank.

³⁾ Incl. possible discrepancies between forward assets and forward liabilities within the category of foreign exchange banks.

Source: Statements from commercial and savings banks (registered foreign exchange banks) to Norges Bank

Table 43. Foreign exchange banks. Overall foreign currency position. In millions of NOK

	31.03.2001	30.06.2001	30.09.2001	31.12.2001	31.03.2002
Foreign assets, spot	222 821	228 094	221 490	219 915	217 232
Foreign liabilities, spot	347 759	329 440	358 713	335 926	366 240
1. Spot balance, net	-124 938	-101 346	-137 223	-116 011	-149 008
2. Forward balance, net	-2 720	54 848	81 370	44 192	76 692

Source: Norges Bank

Table 44. Norges Bank's foreign currency transactions with banks. In billions of NOK

	2000		2001		Week in 2002											
	1-52	1-52	10	11	12	13	14	15	16	17	18	19	20	21	22	1-22
A. Norges Bank's net sales of foreign exchange to banks	-53	-111	-0.98	-0.98	-1.00	-0.63	-0.74	-1.03	-1.06	-1.09	-1.01	-1.20	-1.20	-1.45	-1.46	-20.85
1. Spot	-48	-111	-0.98	-0.98	-1.00	-0.63	-0.74	-1.03	-1.06	-1.09	-1.01	-1.20	-1.20	-1.45	-1.46	-20.85
2. Forward	-5	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Used by banks to cover:																
B. Foreign sector¹⁾	-37	-15	3.41	-9.75	5.44	-24.85	30.19	9.91	9.20	-4.83	3.05	25.80	-29.95	22.22	-25.88	-4.57
1. Spot	-64	4	-4.61	10.57	8.74	-1.54	1.70	-2.07	6.67	2.81	4.44	3.29	-4.69	5.75	-12.28	15.53
2. Forward	27	-20	8.02	-20.32	-3.30	-23.31	28.49	11.98	2.53	-7.64	-1.39	22.51	-25.26	16.47	-13.60	-20.10
C. Norwegian sectors, non-bank¹⁾	-22	-96	-11.76	7.32	-7.73	24.49	-31.84	6.42	-7.56	-1.11	-2.63	-23.41	27.82	-22.31	23.80	-19.18
1. Spot	20	-102	-12.76	12.83	-17.77	25.13	-24.66	2.60	-10.96	3.66	-0.04	-25.99	29.01	-28.12	9.33	-15.85
2. Forward	-33	7	-2.74	3.12	15.60	1.46	-7.26	-7.74	9.17	-9.87	1.09	-2.01	7.02	-3.52	15.46	7.52
3. Increase in customers' net currency claims on banks	-10	-1	3.74	-2.39	-5.56	-2.10	0.08	-1.28	-5.77	5.10	-3.68	4.59	-8.21	9.33	-0.99	-10.85
D. Other	6	0	7.35	1.46	1.30	-0.27	0.92	-4.52	-2.71	4.85	-1.44	-3.58	0.93	-1.36	0.60	2.89
1. Banks' income deficit in foreign exchange, foreign	6	9	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	2.49
2. Losses on spot transactions, foreign	6	-3	0.35	-0.16	-2.09	1.14	-2.04	-0.84	-1.30	-1.40	-1.48	-0.96	-0.54	-2.97	-1.79	-18.86
3. Other losses, including adjustments	-6	-4	3.60	1.63	3.02	-0.06	1.29	-3.05	-0.04	2.09	0.00	-2.18	1.08	1.34	2.40	16.88
4. Increase in banks' total position	-1	-2	3.29	-0.12	0.26	-1.46	1.56	-0.74	-1.48	4.05	-0.07	-0.55	0.28	0.16	-0.12	2.38

Specification:

Non-resident net sale of NOK-denominated assets related to:

Net NOK claims on banks	5	0	-2.37	6.83	5.59	-1.16	1.16	-1.23	6.84	-1.87	0.49	2.37	-0.98	5.81	-7.58	9.01
VPS- registered shares	-40	-3	-0.60	2.40	1.57	-0.75	-0.68	-0.24	-1.19	5.53	3.37	1.35	-3.19	-0.43	-1.97	7.50
VPS- registered bonds	-16	10	-0.38	1.14	0.21	0.32	0.69	0.45	0.20	0.59	0.18	0.28	-1.01	0.75	-2.66	2.40
VPS- registered notes and certificates	-3	-2	-1.26	0.20	1.37	0.05	0.53	-1.06	0.82	-1.44	0.41	-0.71	0.48	-0.38	-0.07	-3.37
Total (equal to NOK offset to B1 above)	-64	4	-4.61	10.57	8.74	-1.54	1.70	-2.08	6.67	4.45	3.29	-4.70	5.75	-12.28	15.54	

Memorandum:

Increase in banks' foreign spot position (net)
(Corresponds to A1-B1-C1-D1-D2)

-29	-20	15.93	-24.33	10.01	-25.47	24.15	-0.83	4.42	-6.27	-4.04	22.35	-25.09	23.78	3.17	-4.16
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¹⁾ Positive figures denote foreign exchange sales from banks to the sectors mentioned. Negative figures denote purchases.

Source: Norges Bank

