

The risk associated with banks' foreign borrowing

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Since 1995 banks' foreign borrowing has increased sharply, matching the growth recorded in the mid-1980s. Measured in relation to banks' total loans, foreign funding is smaller now than at that time. As was the case in the mid-1980s, the increase in foreign borrowing came in response to strong demand for domestic NOK loans. In principle, the exchange rate risk associated with borrowing is eliminated inasmuch as banks use the foreign currency loans to buy NOK spot and sell the same volume of NOK forward in the foreign exchange market. Foreign borrowing, however, involves higher liquidity risk than funding from other sources. Liquidity risk increases both because foreign borrowers may react collectively towards Norwegian banks to a greater extent than ordinary Norwegian depositors and because of the possibility of liquidity problems in the forward market where the currency is temporarily exchanged for NOK. The increased magnitude of bond issues since 1997 has contributed to extending the maturity of foreign debt, thereby curbing the increase in liquidity risk.¹

1 Introduction

This article attempts to shed light on developments in banks' foreign borrowing and analyse the associated risk. The risk is primarily related to the possibility that foreign lenders may abruptly reassess their perception of future developments in a country's economy and collectively reduce their exposure to a country's borrowers. An example of this was most recently seen in connection with the Asian crisis. We also saw how ready access to foreign loans contributed to the build-up of imbalances that later triggered a reversal of foreign funding.

It is difficult to evaluate the possibility of forward market failure. There are several types of operators with varying needs in this market and the harmful effects of herd behaviour from a limited group of operators will thus be reduced. It must be assumed, however, that a macroeconomic shock where foreign lenders collectively reassess their Norwegian borrowers will also influence the forward market to some extent.

Banks' foreign funding is of particular interest to Norges Bank as lender of last resort (LLR). When foreign funding dries up, this represents a type of crisis which, at least in principle, will emerge as a pure liquidity crisis without accompanying solvency problems.

Part 2 of this article describes developments in foreign borrowing. Part 3 discusses the possibility that the foreign sector as a funding source will dry up and the risk of liquidity problems in the forward market, while part 4 presents a summary.

2 Description of foreign funding

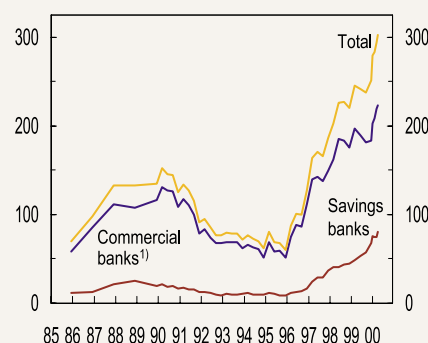
Banks' foreign debt

Banks' gross and net foreign debt rose substantially between 1995 and April 2000 (see Charts 1-3). The increase in foreign borrowing must be seen in the light of a combination of sharp lending growth and far lower growth in customer deposits (see Chart 4). Sharp lending growth towards the end of the 1990s was the result of a

vigorous cyclical upturn and historically low interest rates up to the first half of 1998. Developments after the first half of 1998 were marked by a steep decline in prices in securities markets, higher interest rates and uncertainty concerning future economic developments. For a while this contributed to slower growth in lending to the general public and higher growth in customer deposits.

The competition for savings from other investment

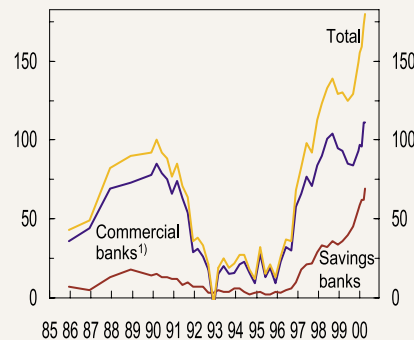
Chart 1 Banks' gross foreign debt, total and for commercial and savings banks separately. In billions of NOK



¹⁾ Incl. Postbanken from 31 December 1992

Source: Norges Bank

Chart 2 Banks' net foreign debt, total and for commercial and savings banks separately. In billions of NOK



¹⁾ Incl. Postbanken from 31 December 1992

Source: Norges Bank

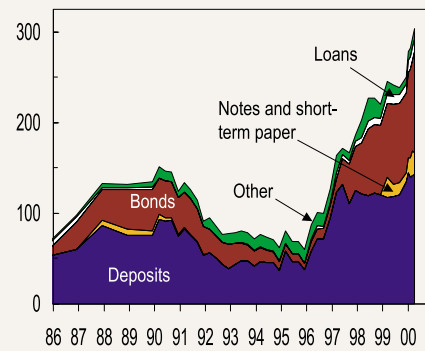
¹ Banks' liquidity risk, including the risk associated with foreign borrowing, is also discussed in the report Financial Stability 1/2000, published in May (www.norges-bank.no/english)

alternatives, such as securities funds and insurance products with a savings component, increased in this period, making it more difficult for banks to finance strong lending growth on the basis of customer deposits. Money and capital markets in Norway and other countries have been alternative funding sources. One possible reason that banks have largely chosen foreign funding may be that domestic money and capital markets have not been considered sufficiently liquid to cover this funding requirement and higher credit ratings internationally have resulted in favourable foreign funding.²

Short-term loans account for a large share of foreign borrowing, with foreign banks placing deposits in Norwegian banks (see Chart 5). Since the second half of 1997, banks have to an increasing extent relied on bonds denominated in foreign currency for long-term financing. This may be related to Standard and Poor's upgrading of Christiania Bank on 21 July 1997. Den norske Bank was given its first rating by Standard and Poor's the same day. However, both banks were upgraded by Moody's as early as 1995.

It may also be natural to view developments in banks' foreign debt in connection with other components of the capital account of the balance of payments (see Table 1). In the period 1995-1999, capital outflows from Norway were larger than the current account surplus, primarily as a result of allocations to the Government Petroleum Fund. The central government sector also recorded an outflow in

Chart 5 Banks' gross foreign debt by financial instrument. In billions of NOK



Source: Norges Bank

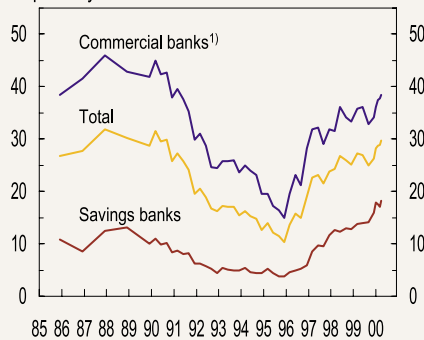
connection with the repayment of government foreign debt. Despite large current account surpluses in the period, capital inflows to private sectors were therefore required.

The capital outflow from Norges Bank and the central government sector probably contributed to slightly higher interest rates in Norway than would otherwise have been the case. It is unlikely, however, that this has motivated banks to borrow abroad. Because banks exchange foreign currency for NOK and hedge the amount through forward exchange transactions (see below), they always pay the prevailing krone interest rate on loans raised abroad.

It is difficult to link capital inflows to banks with changes in capital inflows to other sectors. As seen in Table 1, the sectoral breakdown of capital movements is highly uncertain, and the item "Undistributed capital transactions and errors and omissions" is correspondingly high.

One natural question is whether this funding is favourable for banks because foreign lenders assume that the authorities will cover losses if borrowers experience problems. In practice, the authorities are

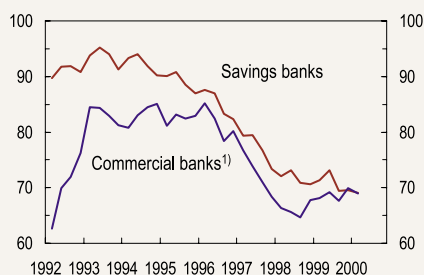
Chart 3 Banks' foreign debt as a percentage of total lending. Total and for commercial and savings banks separately



¹⁾ Incl. Postbanken from 31 December 1992

Source: Norges Bank

Chart 4. Banks' customer deposits as a percentage of lending to non-financial institutions



¹⁾ Incl. Postbanken from 31 December 1992

Source: Norges Bank

Table 1 Banks' foreign financing and Norway's external account. In billions of NOK

| | 1996 | 1997 | 1998 | 1999 | Accumulated 1996-99 |
|---|-------|-------|-------|-------|------------------------|
| Current account balance | 72.5 | 56.1 | -16.3 | 43.5 | 155.8 |
| Capital outflows | 72.5 | 56.1 | -16.3 | 43.5 | 155.8 |
| From Norges Bank | 79.9 | 57.5 | -6.0 | 67.5 | 198.9 |
| From 'Other sectors' | -7.4 | -1.5 | -10.2 | -24.0 | -43.1 |
| Commercial and savings banks | -53.2 | -40.3 | -13.3 | -18.5 | -125.3 |
| Insurance | 5.6 | 18.3 | 8.4 | 34.1 | 66.4 |
| Other financial institutions | -6.7 | -11.3 | -2.5 | 0.3 | -20.2 |
| Central government | 13.5 | 11.4 | 16.6 | -7.2 | 34.2 |
| Local government | 1.4 | 0.8 | 0.2 | 0.2 | 2.6 |
| Ocean transport | -4.6 | -2.5 | 0.5 | -3.4 | -10 |
| Petroleum activities | -5.9 | -5.5 | -46.4 | -1.2 | -59.2 |
| Other private and state enterprises | 5.2 | 15.1 | -5.0 | -21.7 | -6.4 |
| Undistributed capital transactions and errors and omissions | 37.3 | 11.3 | 31.0 | -7.9 | 71.7 |

Sources: Statistics Norway and Norges Bank

²The committee studying the competitiveness of the Norwegian financial industry (NOU 2000:9) points out that giving banks the opportunity to securitise part of their loan portfolio and to issue asset-backed bonds may improve liquidity in the Norwegian bond market.

often willing to "make funds available" quickly if foreign funding is in jeopardy.³ This has been necessary in countries with fixed exchange rate regimes. On the basis of this assumed implicit guarantee, foreign lenders may have stipulated a lower interest rate than common risk assessments would imply.⁴

Exchanging foreign currency for NOK and hedging in the forward market

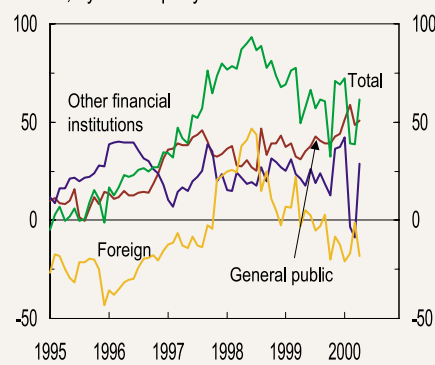
In order to avoid increased currency exposure as a result of loans raised in foreign currency, banks engage in forward exchange transactions in which they exchange the foreign currency for NOK "today" and, at the same time, agree to buy the currency back at a future date at a predetermined rate (forward contract).

Norges Bank receives statements of banks' counterparties in the forward market from registered foreign exchange banks (commercial and savings banks). On the basis of these statements, foreign exchange banks' total net currency positions in the forward market are calculated. Chart 6 shows changes in banks' net foreign currency positions in the forward market from January 1995. The chart shows that up to the summer of 1998 banks' net forward foreign currency holdings increased. This was followed by a pronounced reduction and then a further increase from autumn 1999. The chart shows that the corollary to changes in the total foreign currency position is largely a change in the position vis-à-vis foreign counterparties. The corollary to the increase from the autumn of 1999, however, is primarily a change in the position vis-à-vis other Norwegian financial institutions and the general public.

Chart 7 shows that there is a clear relationship between the increase in banks' foreign debt from 1995 to 1998 and growth in their net position in the forward market. This seems to confirm that the forward market in this period was largely driven by banks' need to convert foreign currency funding into NOK loans.

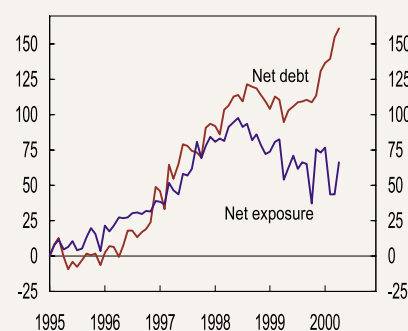
In general, however, there are a number of other operators and motives that influence the forward market, and this reduces the covariation between banks' foreign loans and their position in the forward market. There may also be variations in the level of speculative activity, for example in relation to expectations concerning the future krone exchange rate. Variations in foreign currency loans may also occur, ie part of the currency exposure on the funding side is netted against customers who want foreign currency loans. Daily turnover in the forward exchange market is also very high in relation to the level of banks' foreign funding. These factors imply that caution should be exercised when using changes in the forward market as an indication of developments in banks' foreign funding.

Chart 6 Banks' net currency exposure in the forward market, by counterparty sector. In billions of NOK



Source: Norges Bank

Chart 7 Banks' net currency exposure in the forward market, and banks' net foreign debt. Change from January 1995. In billions of NOK



Source: Norges Bank

3 What are the risks?

There are three different risks associated with banks' foreign funding:

- Liquidity risk, because foreign funding is more volatile than domestic funding with the same maturity.⁵
- Risk of liquidity problems arising in the forward market, making it difficult for banks to convert foreign currency deposits and loans into krone loans.
- Currency risk, because banks may be left with an open currency position if the loan and forward transaction are not simultaneous.

Banks' currency risk in connection with foreign funding is limited. This is partly because their currency positions are regulated in their own currency risk guidelines, and partly because of currency exposure regulations, which impose restrictions on both open positions in individual currencies and overall foreign currency exposure.⁶ The next two paragraphs provide a more detailed account of liquidity risk associated with foreign funding and the risk of liquidity problems arising in the forward market.

³ This occurred in Norway in 1986 and in connection with the banking crisis in the early 1990s. There are many examples of this internationally, most recently in connection with the Asian crisis in 1997-1998. The IMF's ever more extensive rescue operations may also have contributed to this moral hazard. On the other hand, Norway may point to the example of the state-owned company Kongsberg Våpenfabrikk where foreign investors lost money in the mid-1980s.

⁴ Bernard and Bisignano discuss this in the Bank for International Settlement's (BIS) Working Paper no. 86 (March 2000) "Information, Liquidity and Risk in the International Interbank Market: Implicit Guarantees and Private Credit Market Failure" in which they state that implicit guarantees in the international interbank market may have contributed to capital flows to emerging market economies where information asymmetry has made it difficult to assess counterparty risk.

⁵ Liquidity risk can be defined as the risk of a financial institution being unable to meet its commitments when they fall due without incurring substantial additional costs in the form of higher refinancing costs or a sharp fall in the price of assets that have to be realised.

⁶ The Foreign Exchange Regulations contain a provision to the effect that net positions of up to 15 per cent of a financial institution's capital may be taken in each currency. Total foreign exchange exposure must be restricted to 30 per cent of the institution's capital.

Norwegian banks' gross foreign debt is not higher than that of other countries' banks

Even after the sharp increase in foreign funding, Norwegian banks' gross debt is not particularly high compared with other countries' banks (see table below). At the same time, Norwegian Countries banks' gross assets are very low, leaving their level of net debt to foreign banks at a high level. Of the OECD countries included in the table, only Irish banks' net foreign debt as a percentage of total assets was higher than Norway's. In other words, Norwegian banks' exposure in the international interbank market is substantial. However, the net figure for short-term debt in the form of deposits in or loans from foreign banks is not particularly high owing to increased funding in the bond market since 1997. All in all, Norwegian banks' exposure is smaller than prior to the banking crisis.

Like Norwegian banks, Finnish and Swedish banks' net debt to foreign banks was high in the period prior to the

banking crisis. In the 1990s these banks carried out an extensive restructuring of their business. In addition to reducing gross debt, Swedish and Finnish banks have also increased their gross assets. In 1998 Swedish banks' net foreign debt was more or less on a par with that of Norwegian banks, while Finnish banks' net debt was still at a very low level. Danish banks have been in a net creditor position vis-à-vis foreign banks since 1992.

A feature that distinguishes Norwegian banks from Danish, Finnish and Swedish banks is that Norwegian banks have consistently recorded a very low level of gross claims on foreign banks, reflecting Norwegian banks' heavy reliance on the international interbank market as a source of funding. An important explanation may be that Norwegian banks' international operations are very limited, with few foreign subsidiaries and branches. Banks with foreign subsidiaries and branches normally have substantial positions between the parent bank and its branches/subsidiaries that are reflected in these statistics.

Gross claims and liabilities vis-à-vis banks in other countries. Percentage of total assets. 10 Countries by size of net debt.

| | Claims | | | | Liabilities | | | | Net claims | | | |
|-------------|--------|------|------|------|-------------|------|------|------|------------|-------|-------|-------|
| | 1985 | 1990 | 1995 | 1998 | 1985 | 1990 | 1995 | 1998 | 1985 | 1990 | 1995 | 1998 |
| Ireland | | | 17.8 | 23.6 | | | 25.6 | 37.9 | | | -7.8 | -14.4 |
| Norway | 4.0 | 3.1 | 2.1 | 2.8 | 19.4 | 18.8 | 5.2 | 16.2 | -15.5 | -15.8 | -3.2 | -13.4 |
| Sweden | 9.7 | 8.9 | 11.8 | 13.2 | 23.3 | 38.8 | 21.4 | 26.2 | -13.6 | -29.9 | -9.7 | -13.0 |
| UK | 95.1 | 81.5 | 76.2 | 59.1 | 107.0 | 88.1 | 89.8 | 68.6 | -11.9 | -6.6 | -13.6 | -9.5 |
| France | 11.8 | 12.9 | 11.2 | | 15.0 | 15.3 | 15.8 | | -3.2 | -2.4 | -4.5 | |
| US | 11.3 | 14.5 | 11.1 | 13.0 | 10.9 | 17.0 | 18.1 | 17.4 | 0.3 | -2.5 | -7.0 | -4.4 |
| Germany | 6.9 | 12.1 | 9.0 | 9.1 | 5.2 | 6.7 | 8.7 | 12.0 | 1.7 | 5.4 | 0.3 | -2.9 |
| Finland | 7.8 | 3.4 | 9.0 | 12.3 | 16.9 | 19.8 | 13.4 | 13.1 | -9.0 | -16.5 | -4.3 | -0.8 |
| Denmark | 13.1 | 18.5 | 20.4 | 25.5 | 12.1 | 21.4 | 13.3 | 24.6 | 1.1 | -2.9 | 7.0 | 0.9 |
| Japan | 7.0 | 13.9 | 13.0 | 15.8 | 8.9 | 17.1 | 10.6 | 13.3 | -1.9 | -3.2 | 2.4 | 2.5 |
| Luxembourg | 36.2 | 46.8 | 42.6 | 41.6 | 53.2 | 40.7 | 34.4 | 33.5 | -17.1 | 6.1 | 8.2 | 8.1 |
| Switzerland | 12.8 | 42.6 | 32.9 | 42.2 | 10.4 | 11.9 | 11.4 | 18.6 | 2.4 | 30.7 | 21.5 | 23.7 |

Sources: The BIS, International Banking and Financial Market Developments and the OECD, Bank Profitability, Financial Statements of Banks

Risk of loss of foreign funding

An important difference between ordinary short-term deposits from the general public, or other financing in NOK, and short-term foreign loans or deposits is that foreigners are more likely than Norwegian depositors and lenders to engage in herd behaviour. One can imagine events in Norway that might cause foreign financial institutions to collectively reduce their total exposure to Norwegian counterparties. In such a scenario, it makes little difference whether short-term foreign funding takes the form of loans from foreign banks or foreign currency deposits from abroad in Norwegian banks.

Such a reaction from foreign lenders may not necessarily be triggered by Norwegian conditions. Major international portfolio managers may have response rules, entailing an automatic reduction in their exposure in all countries of a particular category if certain events occur. For example, exchange rate problems in Latin America might prompt a reduction in exposure to all small open economies that are not part of a large currency bloc. In such a situation, Norway may also be affected. A similar mechanical contagion effect might be triggered for example by a requirement for higher margin payments in one or more markets, entailing the realisation of

positions in other markets. Both these factors probably played a part in autumn 1998 in connection with Russia's moratorium on payments and the crisis of the Long Term Capital Management hedge fund. Paradoxically enough, the growing contribution from institutional investors and investors with sophisticated risk management systems may have made such mechanisms more important than they have been in the past. In such cases, nevertheless, liquidity problems are not likely to be as great as if the underlying unrest were due to factors specific to Norway.

Norway's petroleum activities may be one such factor. A dramatic fall in the oil price might trigger a loss of confidence in Norwegian financial institutions.

As a general rule, problems in banks, for example high credit risk, will cause a loss of confidence. We saw this in connection with the Norwegian banking crisis. The episode illustrates the tendency for various types of risk to be interdependent. A typical scenario is that weaker profitability and financial strength as a result of high loan losses reduce banks' credit ratings to the extent that they cannot obtain (re)financing without significant extra costs.

While the internationalisation of the banking industry has increased the risk of contagion from abroad, it may

also have reduced the possibility of systemic problems, in that the banking system has become more diversified, both geographically and by industry. For example, the foreign banks that have established operations in Norway will be less vulnerable to a Norwegian economic downturn or other specifically Norwegian crisis than banks with all their activities in Norway. An improved information supply in recent years may also have reduced the risk of "unjustified" herd behaviour by foreign operators. Short-term foreign funding will irrespective be a more fragile structure than bank deposits from the general public.

The risk of liquidity problems in the forward market

If it is not possible to exchange funds for NOK and hedge against currency risk in the forward market, foreign currency loans will not be a relevant source of financing for NOK loans. There is therefore a liquidity risk associated with the forward market.

Much of the activity in the forward exchange market is a result of underlying needs, such as banks' need to hedge foreign currency financing. According to the banks themselves, a bank that has been promised a foreign currency loan will immediately initiate a hedging transaction.

In addition to the underlying needs, there will be substantial activity of a speculative nature in the forward market. The major Norwegian banks and some foreign banks quote two-way prices for NOK in the forward market. This means that part of the business of these financial institutions is to offer forward transactions to customers, whether they wish to buy or to sell NOK. Depending on the prices set, banks may shift their net exposure in the desired direction, or dispose of undesired exposure against another bank that quotes prices in the forward market. The banking community maintains that the forward exchange market for NOK is so large and liquid that it is not difficult to find counterparties.

The risk of the forward market drying up is directly related to the identity of the banks' counterparties. Who wanted to increase their spot purchases of foreign currency and their forward purchases of NOK in the period from 1995 to mid-1998? The only source that provides an indication is the breakdown into non-residents and some Norwegian sectors shown in Chart 6. The figures suggest that it was primarily non-residents who were counterparties in the forward contracts entered into in order to hedge their currency exposure in connection with banks' increased foreign funding in the period 1995-1998. However, the corollary to the increase from autumn 1999 is a change in the position vis-à-vis other Norwegian financial institutions and the general public.

Turnover figures can provide an indication of whether there is a substantial risk of a loss of counterparties in this market. Every third year, the Bank for International Settlements conducts an international survey on activity

in foreign exchange markets. Norges Bank is responsible for the survey of the Norwegian foreign exchange market.⁷

In April 1998, turnover in the forward exchange market was USD 111 363 million, or USD 5 861 million per banking day (see Table 2). Since April 1995, turnover has increased by almost 58 per cent. By comparison, Norwegian banks' total currency-based funding came to USD 25 909 million in April 1998.⁸

Table 2 Turnover in the Norwegian forward market by counterparty in April 1995 and April 1998. In millions of USD and as percentages

| Counterparties | Turnover | | | |
|------------------------------------|------------|--------|------------|--------|
| | April 1995 | | April 1998 | |
| Residents | 21 230 | 30.1% | 24 999 | 22.4% |
| of which financial institutions | 10 357 | 48.8% | 13 193 | 52.8% |
| of which non-financial enterprises | 10 873 | 51.2% | 11 806 | 47.2% |
| Non-residents | 49 290 | 69.9% | 86 364 | 77.6% |
| of which financial institutions | 45 243 | 91.8% | 85 667 | 99.2% |
| of which non-financial enterprises | 4 047 | 8.2% | 697 | 0.8% |
| Total | 70 520 | 100.0% | 111 363* | 100.0% |

*Of the total amount in 1998, NOK 86.4 billion related to NOK transactions

Sources: Norges Bank, BIS surveys of spring 1998 and 1995

The large turnover figures indicate that the market is liquid. The increase since 1995 shows that liquidity increased during the three-year period, but it is difficult to analyse whether the increase is due to increased use of hedging strategies or to speculative transactions. However, banks increased their foreign funding substantially during the period, which should provide part of the explanation for the upswing in the forward market. Almost 90 per cent of forward trading takes place between banks and other financial institutions. The breakdown of the turnover by counterparty shows that the non-resident sector is clearly the most important. Non-residents were counterparties in almost 78 per cent of transactions entered into by Norwegian foreign exchange banks in April 1998. In Norway, other financial institutions and non-financial enterprises are almost equally important as counterparties for banks.

In order to shed further light on the liquidity risk associated with banks' foreign debt, it may also be useful to look more closely at turnover in the forward market broken down by maturity. Table 3 shows the turnover in the forward market in April 1995 and April 1998 broken down by maturity. One important feature of turnover in 1998 was the large proportion of short maturities (7 days or less). However, it is also worth noting that the turnover for maturities of over a year amounted to USD 1640 million in April 1998, which represented 14 per cent of banks' foreign bond debt.

In addition to banks, insurance companies, among others, have underlying needs in the forward market. Insurance companies that receive premia in NOK, but

⁷Nineteen Norwegian banks were covered in the BIS survey of spring 1998. These banks are assumed to cover more than 95 per cent of activity in the Norwegian foreign exchange market. A total of 43 countries participated in the international survey.

⁸The amount in USD is based on the average exchange rate for April 1998 (NOK 7.5262/USD).

want to invest in securities denominated in other currencies, may wish to hedge an exchange rate forward. They will then purchase currency forward against NOK. An insurance company may also wish to hedge its investments in foreign currency, particularly investments in bonds. They must then sell foreign currency forward against NOK.

Table 3 Turnover in the Norwegian forward exchange market by maturity in April 1995 and April 1998. In millions of USD

| Maturity | 1995 | | 1998 | |
|-----------------|--------|-------|----------|-------|
| 7 days or less | 35 036 | 49.7% | 84 672 | 76.0% |
| Over 7 days and | | | | |
| up to 1 year | 33 728 | 47.8% | 25 051 | 22.5% |
| Over 1 year | 1 756 | 2.5% | 1 640 | 1.5% |
| Total | 70 520 | 100% | 111 363* | 100% |

*Of the total amount in 1998, NOK 86.4 billion related to NOK transactions

Sources: Norges Bank, BIS surveys of spring 1995 and 1998

Enterprises also have a regular need for hedging. Meeting this need may entail both purchasing foreign currency forward to hedge the price in NOK of deliveries from abroad, and selling foreign currency forward to hedge the NOK price of goods that are sold against payment in foreign currency.

Experience with liquidity problems in the forward market

Strong lending growth also created an increasing demand for foreign funding in the 1980s. By financing an increasing portion of activities with foreign currency deposits, and at the same time buying foreign currency forward, banks obtained NOK funding. In the 1980s there was still zero exposure regulation, which meant that banks' net foreign currency exposure, ie the aggregate of forward and spot positions with offsets in NOK, was supposed to equal zero.⁹ In order to be able to finance domestic lending growth through foreign loans, banks were thus heavily dependent on currency traders wanting to sell foreign currency against forward purchases of NOK. Since forward contracts oblige parties to buy and sell foreign currency at rates that are agreed before the transaction takes place, the market is vulnerable to uncertainty about future exchange rates.

Toward the end of 1985 and in early 1986, it became increasingly difficult for Norwegian banks to buy foreign currency forward against NOK. There were problems in rolling over contracts because of mounting devaluation expectations, partly owing to the sharp drop in oil prices.

With no possibility of currency hedging, banks would have to reduce their foreign currency borrowing. They would be unable to compensate for a loss of foreign funding in the domestic money and capital markets without a substantial increase in interest rates. To prevent a sharp increase in interest rates – which was considered to be inconsistent with general economic policy guidelines – Norges Bank therefore chose to replace foreign funding

with the Bank's own lending to banks. In April and May 1986, banks' borrowings from Norges Bank increased from just under NOK 10 billion to NOK 70 billion. In addition, Norges Bank supplied liquidity through repurchase agreements.

In the 1980s the forward market was influenced by a number of factors. One of these was confidence in the fixed exchange rate policy. If this confidence failed, confidence that money market investments via the forward market were profitable would also fail. This would in turn trigger a shift out of foreign currency positions to avoid substantial losses. In 1985 and 1986, developments in the Norwegian economy generally and in the oil price in particular had an impact of this nature. It is uncertain whether even a substantial raising of Norwegian interest rates, at any rate at such a late stage, could have prevented a reversal of currency flows via the forward market.

A number of fundamentals have changed since the mid-1980s, which should have reduced the possibility of disturbances in the forward market. First, exchange controls have been substantially reduced, and the EEA agreement makes it highly unlikely that extensive controls will be reintroduced. The reintroduction of exchange controls, or expectations of their reintroduction, could clearly have a highly negative effect on the forward market. Second, Norway now has a floating krone exchange rate, while in the mid-1980s we had a fixed exchange rate (band) against a basket of foreign currencies. Such a band, with expectations of movements in the exchange rate both within and outside the band, could impede the functioning of the forward market.

4 Summary

Banks' foreign debt has increased sharply since 1995. Measured in relation to their overall activities, for example total lending, banks' foreign debt is still slightly lower than it was in the mid-1980s. Since a large proportion of the loans are short-term, there is liquidity risk associated with banks' foreign funding. In recent years, more bond debt has been raised in foreign currency, so that the maturity of banks' foreign debt has increased.

Liquidity risk associated with foreign funding has proved to be substantial. Most recently in connection with the Asian crisis, we saw examples of herd behaviour among foreign lenders which created major, acute problems for borrower countries.

A more smoothly functioning Norwegian capital market will probably make it less attractive for banks to seek foreign funding.

It must be assumed that the probability of foreign funding drying up as a result of problems in the forward market has decreased. This market is substantially more liquid than it was earlier, and the absence of exchange controls and transition to a floating exchange rate should have reduced the possibility of the market drying up.

⁹The requirement that a net foreign exchange position of zero be maintained was abandoned in 1990 and replaced by foreign currency position regulation.

¹⁰Data on banks' claims and liabilities vis-à-vis banks in other countries are based on BIS statistics and total assets on OECD statistics. This may lead to a degree of error, since the selection of banks used in the statistics of the BIS and the OECD, respectively, may differ. BIS statistics are stated in USD. Total assets are converted from national currencies into USD. Data on total assets for 1998 are projected from 1996 on the basis of average growth in total assets over the past five years.