

Global Infrastructures Are Becoming a Reality. What Are the Industry Consequences?

Presentation by Mr. Jarle Berge, Deputy Governor of Norges Bank, at the Global Electronic Payments Conference, London, 20-21 January 2004.

I would first like to thank our hosts for the invitation to this important conference giving me the opportunity to present some of Norges Bank's experiences in promoting safe and efficient payment systems. Globalisation is increasing and rapid, efficient and secure payment systems are more and more in demand. I will particularly address the major challenges participation in CLS poses to financial infrastructure and liquidity management, and how Norges Bank, in partnership with the industry, has facilitated the inclusion of the Norwegian krone in CLS. Finally, I will make some observations on cost developments in the retail payment system in Norway as the use of electronic services has increased..

The introduction of Continuous Linked Settlement in autumn 2002 in many ways marked the end of more than two decades' efforts to manage foreign exchange settlement risk in a global context. The establishment of CLS was initiated and driven forward by the banking industry, although in close cooperation with the central banks of the currencies concerned. It is also the central banks that ultimately approve the participation of their national currency in the system.

In 1999 Norges Bank's Executive Board agreed in principle to allow the Norwegian krone to be settled in CLS. Norges Bank has since then been working together with CLS and the Norwegian banking industry to facilitate such an inclusion, which became a reality in September of last year. The adaptations to CLS have necessitated changes in the way Norges Bank operates its settlement system to improve liquidity conditions during the morning period for CLS settlement. Norges Bank has also tightened the requirements for back-up solutions in the banks' systems.

Through CLS the participating countries' Real Time Gross Settlement systems are more closely linked. This implies that liquidity problems or lack of operational stability in one settlement system can more easily spread to settlement systems in other countries. Despite the liquidity saving mechanisms in CLS, situations in which there is a shortage of liquidity vis-à-vis CLS cannot be ruled out.

For a currency to be included in CLS, there must be a sufficient number of liquidity providers - banks that are obliged on short notice to provide liquidity in the currency in question if a shortage should arise. CLS recommends that there be at least three liquidity providers in each currency. Norway is a small country with limited liquidity in its currency, but with a relatively large volume of currency trading. Thus, Norway faces many of the same challenges as our nearest neighbours Denmark and Sweden, not least in respect of liquidity management. Several of the Scandinavian banks also operate in all three Scandinavian countries. The preparations to include Norwegian kroner have largely taken place in

collaboration with the central banks of Sweden and Denmark and the Scandinavian banking industry.

In the Scandinavian countries, as in most countries, banks obtain intraday liquidity by depositing securities, which gives them borrowing rights at the central bank. Norges Bank accepts a broad range of Norwegian and foreign securities as collateral for borrowing, including.

Securities registered in Clearstream and Euroclear, or in other Scandinavian central securities depositories. Since the Norwegian central government's financial position has generally been favourable, there is a relatively small volume of government securities in circulation. This has made it necessary for Norges Bank to accept many different types of securities to ensure that the banks have sufficient access to intraday liquidity throughout the day. Furthermore Norges Bank sees merit in including a wide range of papers as this increases liquidity and thus the efficiency of the settlement system. However, in order to avoid exposing the central bank to undue risk, an appropriate system for calculating the loan value of collateral is required, including setting haircut levels correctly in relation to the uncertainty connected with the various securities pledged.

The haircut levels at Norges Bank appear to be high relative to those in many other central banks. There are two main reasons for this. First, Norges Bank uses face value when calculating the value of the banks' securities portfolios. This means that the real value of the pledged securities may deviate from the value Norges Bank uses to calculate the bank's borrowing facility. Second, within the constraints of current bankruptcy legislation, Norges Bank may risk having to wait for up to six months before pledged securities can be sold, which further increases the risk of a reduction in the collateral's value.

The implementation of the Collateral Directive in Norwegian legislation will make possible the immediate realisation of collateral. Furthermore, Norges Bank is in the process of converting its system for calculating lending value into a system based on the securities' market value. The new loan collateral system will thus enable the Bank to set a lower haircut level. Norges Bank's estimates show that converting the system to one based on market values means that the average haircut can be reduced by almost 50 per cent. This will significantly improve liquidity in Norwegian kroner.

The available liquidity in Norges Bank's settlement system and the liquidity needs in Norwegian kroner in CLS vary over time.

The chart shows that liquidity in Norges Bank's Settlement System (NBO) is normally more than sufficient to meet liquidity needs in CLS. From October to December 2003, the amount of liquidity available in Norges Bank's Settlement System to the twenty largest banks in Norway typically varied between 60 and 90 billion Norwegian kroner. (One euro is equivalent to around 8,5 Norwegian kroner.)

The use of liquidity in CLS is represented by the largest amount on deposit on CLS's account in the course of the day. This amount varied between approximately 1 billion Norwegian kroner and 11 billion Norwegian kroner. Even though there is normally more than enough liquidity in Norges Bank's Settlement System, one can not disregard the possibility of a

liquidity shortage situation in Norway, for instance if the payment of oil tax coincides with a pay-in failure in CLS.

A particular challenge has been to attract a sufficient number of liquidity providers in Norwegian kroner. In a small market like the Norwegian one, there are few banks with a sufficiently large capital base to be able to take on such a role. At an early stage in the preparations for the inclusion of the Scandinavian currencies in CLS, the banking industry called for improvements in the existing model for cross-border collateral in Scandinavia, so that banks participating in settlements in more than one of the Scandinavian countries could better utilise their liquidity. Some banks set this as a condition for serving as a liquidity provider in more than one of the Scandinavian currencies. Against this background the central banks of Sweden, Denmark and Norway jointly considered several alternatives. Since a model was needed that could be implemented in the short term, the Cash Collateral model emerged as the logical choice.

In the Scandinavian Cash Pool (SCP), banks use deposits in one of the central banks as collateral for loans in another central bank. Let me illustrate this with an example in which a Danish bank wishes to pledge collateral in Denmark to increase liquidity in its subsidiary in Norway.

1. At the request of the Danish bank, Danmarks Nationalbank reserves a portion of the bank's available liquidity in the Danish Real Time Gross Settlement System, and transfers the deposit in Danish kroner to an account in Danmarks Nationalbank that is pledged in favour of Norges Bank. The account is in the name of the Danish bank.
2. Norges Bank receives a message from Nationalbanken that an amount in Danish kroner has been pledged as security for an increase in drawing rights for the subsidiary in Norway. Norges Bank converts the amount to Norwegian kroner, deducts a five per cent haircut against exchange rate fluctuations and updates the subsidiary bank's account in the Norwegian Real Time Gross Settlement System with the amount in question.
3. The Norwegian subsidiary bank's available liquidity has been increased.

The Scandinavian Cash Pool is built on existing structures and systems and is based on the individual country's rules and procedures. Communication between the central banks is automated and is based on existing SWIFT standards. This structure ensures that cross-border collateral within the Scandinavian Cash Pool can be pledged in seconds.

The Scandinavian Cash Pool may only be used to move intraday liquidity between the Scandinavian countries. Banks are obliged to redeem loans and ensure that deposits in pledged collateral accounts in Norges Bank are released the same day. In the example outlined above this means that:

4. The Norwegian subsidiary notifies Norges Bank that the collateral deposit is to be released. Norges Bank checks that the collateral has not been borrowed against, then reduces the subsidiary bank's drawing rights, adds the haircut and converts the amount in question from Norwegian to Danish kroner.

5. Norges Bank notifies Danmarks Nationalbank that the reserved amount can be released. Danmarks Nationalbank releases the amount by transferring from the pledged account to the Danish bank's current account in Danmarks Nationalbank.
6. The reversed liquidity is now available to the Danish bank.

As I mentioned before, the system is based on each of the Scandinavian countries' own procedures and rules.

In Norway, collateral may be pledged and funds borrowed within the scheme from the time Norges Bank's Settlement System opens in the morning until 3:00 pm. Similar rules apply in Sweden, whereas in Denmark, borrowed or pledged liquidity must be reversed by 1:30 pm. The central banks require same day reversal so that the use of the system does not affect monetary policy. If these deadlines are not met, a penalty is charged, which in Norway is equivalent to about 0.05 per cent of the pledged or borrowed amount. Norges Bank assumes that such a high penalty will give participants an incentive to comply with the rules. Danmarks Nationalbank and Sweden's Riksbank have their own deadlines for reversals and penalties for failure to meet these deadlines.

The scheme is open to all banks wishing to participate and may be used regardless of whether the need to move liquidity arises in connection with CLS or banks' obligations as liquidity providers. As of today the system is used only between banks belonging to the same group, but the regulations do not prevent the scheme from being used across banking groups. The costs connected with the development of the Scandinavian Cash Pool have been fully covered by the banks participating in the scheme. If new banks eventually wish to join the system, the original participating banks will be reimbursed accordingly.

The Scandinavian Cash Pool has been in daily use since the summer of last year. Before the Scandinavian currencies were included in CLS, relatively small amounts were transferred in this manner. Since the Scandinavian currencies were included in CLS, the volume has grown somewhat. In the period from September to December 2003, on average of the equivalent of some 600 million euro was transferred daily in the Scandinavian Cash Pool. The highest amount transferred in a single day was about 2 billion euro.

So far, the Scandinavian Cash Pool has primarily been used to pledge security in Denmark in order to increase liquidity in Norway and Sweden.

Chart 1 shows net liquidity flows to Norway through the SCP and pay-ins in Norwegian kroner to CLS. The amount of liquidity transferred through the SCP appear to coincide with the CLS pay-in requirements.

Even though the average turnover in the SCP is not that high, we see that the Scandinavian Cash Pool is in regular use and that on some days considerable sums are transferred via this scheme. The Scandinavian Cash Pool is also considered to be an important back-up system. So far, liquidity providers have not been needed in CLS, and the SCP has thus not been put to the test under such circumstances. But if a liquidity crisis should arise, it is reassuring to know that the scheme can be used to transfer liquidity from one country to another in seconds.

Cross-border collateral and liquidity management are issues that are drawing more and more attention internationally. Along with other European central banks, Bundesbank and Clearstream have devised a scheme for transferring liquidity from other countries for securities settlement in Germany. The scheme has been operational since November 2003. In this model, participants make liquidity available for the German market by means of deposits in cash or securities at their national central bank, which submits a cross-border guarantee to the Bundesbank. As in the SCP, liquidity is made available to participants in one country based on deposits or pledged securities in another central bank. However, there are also differences. In the SCP, the transfer of liquidity from one country to another is not related to a specific settlement and the liquidity can flow to and from each of the participating systems.

In March of last year, the US Payment Risk Committee (PRC), comprising representatives of the largest global banks, published the report "Managing Payment Liquidity in Global Markets: Risk Issues and Solutions". The report recommends that the private sector develop new, well-constructed services that over time will enable market players to respond effectively to ever-increasing demands for intraday liquidity in the global markets. Among the alternatives listed are cross-border collateral pools. The report also urges central banks to broaden the range of foreign securities accepted as collateral for intraday liquidity and to facilitate the use of cross-border collateral.

The establishment of the Scandinavian Cash Pool is a measure in line with the intentions underlying the recommendations of the PRC report. Let me add that the central banks also considered a common central securities depository model as an appropriate model for cross-border collateral provision in Scandinavia. This model requires each central bank to set up a depository of securities in a common central securities depository, for example, in Clearstream or Euroclear, and to arrange for information exchange in real time between the lending central bank and the central securities depository in question. Unlike the Scandinavian Cash Pool, the model also requires agreement among the participating countries on, among other things, the securities that may be pledged as collateral at any given time. Nevertheless, these seem to be a preference amongst the Scandinavian banks to move towards a common CSD model. The feasibility of such a model may be assessed in the longer term.

It is debatable whether it is within the central bank's responsibilities to assist in the establishment of schemes that may potentially operate in competition with private schemes. The report from August 2003, "The Role of Central Bank Money in Payment Systems" from BIS' Forum for central banks, the Committee on Payment and Settlement Systems (CPSS), discusses the use of central bank money as part of the underlying issue of the balance between payment services provided by central banks and those provided by commercial banks in the payment system. The report shows that while the objectives and main principles of central banks in the CPSS have much in common, the implementation of central bank policies varies widely in this area.

Section 1 of the Norges Bank Act states that Norges Bank shall "☐ promote an efficient payment system domestically as well as vis-à-vis other countries ☐". It is not always easy to define where the industry's responsibility ends and the central bank's begins. Norges Bank

considers it important to be always mindful of the balance between allowing the market to "sort things out" on its own and intervening in order to facilitate the market's ability to function, as well as to periodically review the central bank's own role in the payment system.

In our experience, the Scandinavian Cash Pool is a very secure, efficient and cost efficient scheme for moving liquidity across national borders, thus expanding Scandinavian banks' access to intraday liquidity.

In our opinion, the establishment of the Scandinavian Cash Pool is also a good example of a successful collaboration and a balanced division of responsibility between the central banks and the industry.

Returning to the CLS I find this an excellent example of how banks have jointly developed a global infrastructure, how central banks have coordinated their oversight of this infrastructure and how central banks and banks have responded to the challenges CLS poses to settlement systems in the participating currencies. CLS has reduced risk and contributed to improving the efficiency of international clearing and settlement activities.

The efficient payment services of the future will require the development of infrastructure across national borders in many areas, involving substantial investment.

It is estimated that payment services in industrialised countries account for between 1 and 3 per cent of GDP. A more efficient organisation of payment services may thus yield considerable savings, freeing up resources for other purposes.

Norges Bank has conducted surveys of banks' prices and costs for payment services for several years¹. The reason I would like to take this opportunity to present some of the findings of these surveys is not that Norway has a unique payments system. Nor can we draw any conclusions about the general cost level connected with payment services in Norway compared with other countries. What the findings of our surveys may help to illustrate, however, is the potential cost savings that may be achieved with the increased use of electronic services within an infrastructure that enables participants to utilise economies of scale. And prices reflecting the costs of the different services appear to be an important instrument in bringing this about.

Norway, like most countries, has seen a profound change in the public's payment habits in recent years. This is primarily reflected in the increased use of electronic services and a decline in the use of manual, paper-based services.

This development has reduced the banks' costs and has been a key contributor to the productivity gains recorded by the financial services industry which were quite impressive in the 90's.

Norges Bank conducted surveys of the costs incurred by banks providing payment services in 1988, 1994 and 2001. Direct as well as indirect costs were included. The most recent survey covered seven banks: two large banks and five smaller ones. Together these represented 38 per cent of the volume of payment service transactions in Norway.

During the period for which we have data, the number of transactions has risen sharply, while total costs have remained fairly stable.

Since 1988, unit costs have fallen by over sixty per cent measured in constant prices. In 2001 the average unit cost, excluding cash withdrawals over the counter, was approximately five kroner.

In recent years, banks have increased their direct pricing so that the degree of cost coverage has increased substantially from 1988 to 2001. In 2001, cost recovery through direct prices had risen to 70 per cent.

How has this affected the prices that consumers are charged?

The overall picture is one of a rather sharp rise in prices for paper-based services, whereas the price of electronic services has remained stable at a much lower level (the scales of the two charts are very different).

Despite the rise in prices for paper-based services, the increased use of electronic services has reduced the weighted average price per transaction since 1994. We believe that a key contributor to this development is that increased prices better reflecting the high costs of manual services have influenced customers' choices in the direction of more cost-effective electronic services.

For most services, the prices customers are charged are lower than the banks' unit costs. Unit costs apparently remain high for one of the services that is currently growing the fastest, bill payment over the Internet. In 2001, the prices customers were charged covered less than a quarter of the costs reported by banks for providing this service. It appears that the banks are pricing this service on the basis of a long-term strategy to induce customers to use new and more efficient payment instruments by offering low prices in the introductory phase. Even though prices in the short term do not therefore reflect the relative costs of providing the service, we expect that this will contribute to increased efficiency in the payment system because economies of scale are exploited at an earlier stage. Since 2001 interest payments have increased dramatically, according to anecdotal evidence.

As Norges Bank sees it, the most important factors for achieving a more efficient payment system in Norway have been: an infrastructure that facilitates economies of scale, which in Norway has meant a high degree of coordinated solutions, prices that reflect the costs of providing the services, and effective competition among service providers. We believe that this has meant gains for banks, consumers and business and industry, as well as for society as a whole.

What has been the central bank's contribution to this? Most importantly I think by consistently supporting the banking industry in their efforts to price services correctly, often in the face of popular protest.

Concluding remarks

Globalisation and technological change will increasingly affect how central banks carry out the tasks related to promoting financial stability and efficient payment systems. With CLS

and the way the central banks and the banking community have responded to the new challenges that have arisen as a result, I am confident that we will continue to work together to reach solutions that improve services and reduce risks in the payment system. We all have a common goal: a more efficient and secure payment system.

Thank you for your attention.

Footnotes

¹See www.norges-bank.no for further details