

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

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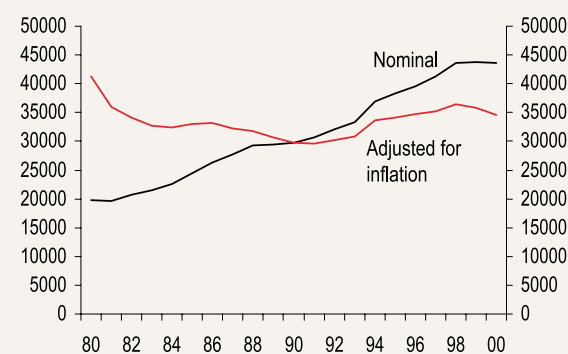
During the past two years, major changes have been made in the organisation of the supply of notes and coins in Norway. The changes are a result of developments in the distribution network since the late 1980s, which have included modifications in the transport system and new delivery procedures. As 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).

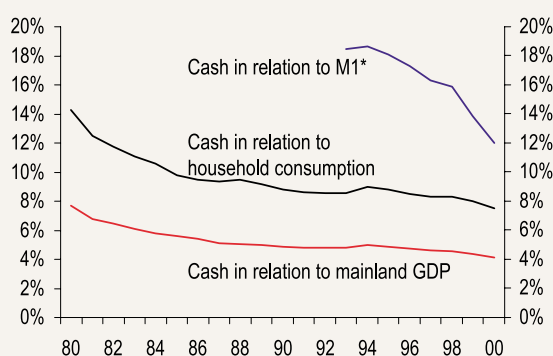
Nevertheless, the volume of notes and coins in circulation increased steadily in the 1980s and 1990s, finally

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

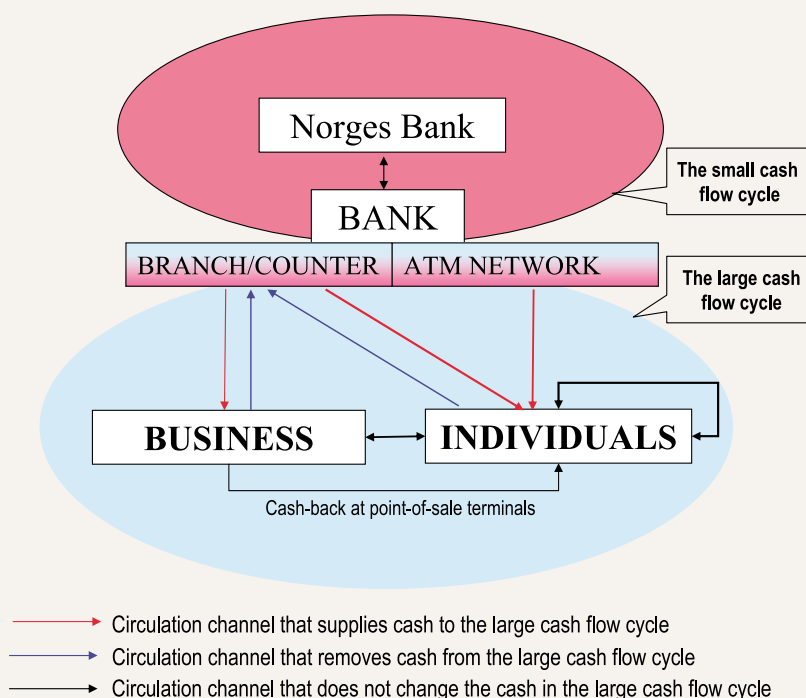
In order for cash to function as an effective means of payment, it is necessary that:

- 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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