Clearing and settlement at Norges Bank – a historical review

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The Norwegian payment system processes more than three million payment transactions every day. On some days the number of transactions can be far higher. The transactions are cleared and settled in the Norwegian payment system. In the clearing process, a number of transactions are offset against each other. In the settlement process, the results of the clearing are entered in banks' accounts in a settlement bank. Norges Bank is the settlement bank for all the large Norwegian banks. The total value of the transactions is approximately NOK 300 billion on an average day. This means that in less than one week an amount equivalent to mainland GDP passes through the Norwegian payment system.

A clearing and settlement system that resembles the present system did not exist in Norway until 82 years after the establishment of Norges Bank. Norges Bank was assigned a key role as settlement bank and this role is firmly established today[1]. However, the current system is very different from Norges Bank's activities in this field just after it was established in 1816. Norges Bank's responsibility then was to provide a means of payment in Norway, i.e. notes and coins, in which the public had confidence. At an early stage, however, the Bank offered to transfer cash between the Bank's branches.

This article primarily describes some important events in the Norwegian clearing and settlement system in the period from 1816 up to World War II.

Norges Bank is established

In the early 19th century, transactions were normally settled directly between parties. They could take the form of barter, but precious metals and notes and coins were also used as means of settlement. When large amounts were involved, a *"bankier"*[2] might act as intermediary, particularly in connection with exports and imports. Clearing and settlement as we define it today was not relevant, partly because it was practical to settle accounts directly and partly because there was no banking system in Norway for clearing and settling reciprocal receivables and claims. To the extent that banks were involved, these were located abroad, usually in Copenhagen, Hamburg and London.

In the 1700s, a number of attempts were made to establish a joint Danish-Norwegian bank of issue[3]. One important reason why no lasting success was achieved was that banks of issue tended to be used to finance the Treasury. If the issue of notes and coins was not commensurate with the underlying values, confidence in the bank and its money diminished. Hence the value of the money was reduced and the bank had to terminate its operations.

After the dissolution of the union with Denmark in 1814, there were soon calls for a separate Norwegian banking system. This was partly based on real needs on the part of the business sector, but a separate banking system also had a symbolic value in nation-building. The first step towards a Norwegian banking system was the establishment of Norges Bank in 1816.[4] The bank was established as a private joint-stock bank. Capital was procured through mandatory deposits[5], the socalled *silver tax*. The collection of mandatory deposits was difficult and met considerable resistance. In the *History of Norges Bank*, Part I Nicolai Rygg[6] writes:

> *"Opposition was greatest in inland Eastern Norway. In September 1818 a group of farmers, many of whom had come from Hallingdal and Valdres, marched on Kristiania. The authorities grew nervous, and the march was stopped at Bærums Verk, just north of Oslo, although the aim had been to submit a complaint to the Government and the Storting in the capital. Although a number were arrested and some put in prison, the sentences were reduced by King Karl Johan. This was the last open protest against the compulsory deposits."*

[1] The article "Payment systems – a potential source of risk. The need for oversight and supervision" in *Economic Bulletin* 3/07 provides a more detailed description of the Norwegian clearing and settlement system for payments.

[2] "bankier": A person who deals in foreign exchange and securities, discounts bills of exchange, redeems coupons, lottery tickets etc. (Translated from Aschehoug and Gyldendal's Store Norske Leksikon).

[3] Assignations- Vexel- og Laanebanken (also known as Courantbanken, in 1736), Den Danske og Norske Speciebank (1791), Deposito-Cassen (1799) and Rigsbanken (1813).

[4] The full title of the Act that authorised the establishment of Norges Bank was as follows: "Authorisation for Norges Bank, in so far as the Bank's Funding is brought about through voluntary subscription, and in this connection deed of Foundation, instead of authorisation, shall apply to the Bank, if its Funding is procured through mandatory deposits".

[5] At the time, this supply of capital was called "deposits", but in reality it was quite different from what we understand by the word "deposit" today, in that it was more like a tax, even though share certificates were issued for the amounts deposited.

[6] Nicolai Rygg was head of Norges Bank from 1920-1946, and was assigned by the Board of Directors of Norges Bank to write the history of the Bank. Part I (up to 1850) was published in 1918, and Part II (up to 1920) in 1954. A volume about the interwar years was published in 1950.

The head office was not initially located in Kristiania *(then the name of Norway's capital city; the name of Oslo was not restored until 1925)*, as stipulated by the Act in the event that the capital was procured through voluntary subscription, but in Trondheim instead. One of the arguments put forward was that with mandatory deposits the Bank would not have the same authority to maintain independent status and a long-term approach as it would if it was established through voluntary deposits. It was therefore concluded that a distance to the Storting and the Government would be advantageous for a "mandatory bank". Moreover, there were already branch offices in the major towns of Bergen, Kristiania and Kristiansand in 1816.

The Bank had three main responsibilities: It was to have the sole right to issue notes; it was to carry out banking services for the government, and it was to provide general banking services and operate credit and deposit facilities.

Bills of exchange

Bills of exchange are used to a very limited degree today. A bill of exchange is a security. The Bill of Exchange Act of 1932 (which is still in force) stipulates special requirements regarding the form of a bill of exchange. If these requirements are fulfilled, the bill of exchange has defined legal effects. By issuing a bill of a exchange, a buyer (the debitor, in this context known as the drawee) can pay the seller (payee). The latter can discount the bill of exchange, i.e. have the amount for which the bill of exchange is made out paid in cash at a discount by a bank. (In principle, this is regarded as credit secured on the bill of exchange). The buyer must settle the debt on the bill of exchange with the bank subsequently before the bill of exchange matures. The bill of exchange thus has both a settlement and a funding function. The latter applies in particular if the bill of exchange is to be repaid in a number of instalments.

As the private banking system was developed, it became less common to discount bills of exchange directly in Norges Bank. However, banks could go in their turn to Norges Bank and rediscount the bills of exchange but with a reduction equivalent to Norges Bank's discount rate.

Instruments that were used in the first 75 years[7]

Lending and discounting of bills of exchange

The Bank commenced its lending activities in 1818. On 28 September that year, Norges Bank's Board of Directors announced that the silver fund was large enough to allow the Bank to offer loans and to discount bills of exchange and negotiable debt instruments.

Norges Bank's lending policy was initially somewhat unusual for a bank of issue. Its responsibility was to be to provide short-term loans, preferably to the business sector. Instead, the Bank largely provided long-term loans secured on real property. Although these mortgage loans had a maturity of 6 months, which was the stipulated maximum maturity, in practice they were constantly renewed. As late as 1830, loans secured on real property accounted for 90 per cent of total lending.

At the time of its founding, Norges Bank was the only bank in Norway, but in the 1820s some savings banks were established. They were small, and primarily covered local needs for operating capital and funding for agriculture and craft enterprises. When manufacturing became an industry in Norway, they were not capable of financing increased trade with other countries and increased production. Short-term credit was therefore in very short supply.

In order to meet some of this need, Norges Bank established *Den anekterte laaneindrætning* in 1818. With this loan facility it was possible to deposit a sum of silver and to receive twice the amount in banknotes. At the most, 735 000 speciedaler was on loan at any one time under this arrangement, which terminated in 1835. It had already been partly replaced in 1828 by a borrowing and discount facility, whereby 100 000 speciedaler in silver coins and 150 000 speciedaler in banknotes the debitor, in this contextwere made available for discounting bills of exchange.

Transfers

In 1825 it was already possible to transfer money between towns where Norges Bank had regional branches through a simple money order arrangement.[8] These transfers proved to be a flexible payment system. At the time, commercial banks had not yet been established in Norway, and Norges Bank was the only bank that could undertake such transfers. A party needing to send banknotes between towns in which Norges Bank was represented could have the settlement effected by paying the amount to the branch from which the money was to be sent. The sender had to pay a small charge for this, and the beneficiary received a money order (claim) payable at the branch in the town to which the money was to be sent. This reduced both the costs and the risk associated with money transport. The arrangement was practical, and was developed further as Norges Bank's branch network expanded. Initially, Norges Bank's role in payment transfers was primarily confined to settlements between its various regional branches.

By current standards, bank services were not readily accessible in the first few decades, as evidenced by the following announcement:[9]

[7] A number of the instruments described below were also in use after the new Norges Bank Act of 1892 came into effect.
[8] Postal giros were not introduced until 1943, and bank giros in 1946.
[9] Rygg (1918)

"In the bank, which one reaches by way of the stair on the right-hand side, the following take place:

From 9 to 10 on weekdays in the Morning Banknotes are exchanged; and during the same Period every Tuesday and Friday also Dividends on Share Certificates; from 11 until 1 the Bank is open for those who have Applications to submit, Loans to raise, Interest to pay, or in some other Respect any Business to discharge with the Bank.

Outside of these Hours, other Bank Businesses do not allow Access to any Persons other than Employees.

Any persons living out of town who have any business with the Bank must arrange to have this carried out by a Commissioner present here, as one cannot correspond with Everyone and Anyone on his personal Affairs.

The Banking Administration in Christiania, the 31st of August, 1825".

Local Norges Bank offices are established

Pursuant to the Act of 15 September 1851, the Bank's governing bodies were permitted to establish new "bank offices". However, these did not have the same status as "regional branches". The background to the Act was urgent requests by a number of Norwegian towns for a branch of Norges Bank. The first request came from Drammen in 1821, and the request was reiterated in 1827. A branch was not established there until 1837. The reason that the Board of Norges Bank was cautious about establishing branches was that too many branches would make it difficult for the Board to maintain an overview of activities, and would increase the Bank's costs.

The following offices were established: Tromsø (1852), Stavanger (1852), Fredrikshald (Halden) (1854), Lillehammer (1860), Bodø (1874), Kristiansund (1880) and Hamar (1881). The bank offices largely engaged in the same activities as the branches, and the Act of 1892 formally gave them equal status, with effect from 1893. Regional branches were subsequently established in Vardø (1902), Ålesund (1902), Larvik (1902), Gjøvik (1902), Fredrikstad (1909), Haugesund (1910), Hammerfest (1910) and Arendal (1914).

Prior to this, and apart from the branch offices in the four major towns (Trondheim, Kristiania, Kristiansand and Bergen), branch offices had been established in Skien (1835) and Drammen (1837).

Money transfer activities developed from the mid-1800s and up to after World War II. Norges Bank played an important role in the transfer of money to all parts of Norway, avoiding the need to send cash. This permitted a reduction in the circulation of physical banknotes. Banks in towns where Norges Bank was not represented could use the nearest branch or office to execute similar transactions. This was an important service and made payments and transfers easier and more secure.

Until the mid-1880s, giro transfers from one account to another only applied to government and Hypotekbanken's accounts. Private individuals had to buy money orders and pay a small fee. In 1886, the Board of Directors took the initiative to extend the right to make transfers to all account-holders, and presented proposals for a reform of the entire transfer system. In the new Act relating to Norges Bank of 1892, the Bank's operations were extended permitting the Bank to act as intermediary for private customers. Section 75 of the regulation to the Act stipulates that all those with an account in the Bank could transfer funds (giro transfer) free of charge to other customer accounts in Norges Bank at all the Bank's branches. This naturally led to a steady decline in discounting of bills of exchange from other towns.

To make it simpler for banks to transfer large amounts to other towns where Norges Bank had regional branches, a special type of draft[10], 8-day collects, was introduced. On the basis of a letter of credit with an unconditional guarantee from the bank in question, Norges Bank issued drafts with a maturity of up to 8 days (10 days in Vardø). [11] The precondition was that the draft represented a receivable. It may be mentioned in this connection that in the inter-war years this arrangement was misused to raise cash during the difficult liquidity situation.[12] This took place through what was known as "kite-flying". In his book about Norges Bank in the interwar years, Rygg writes on page 61:

> *"A glaring example was revealed during the insolvency proceedings for Finnmarkens Handelsbank. It had kept floating a large and steady flow of paper (cheques and letters of credit) drawn on other banks, and another flow came from other towns to Vardø. In 1919, the flow in each direction amounted to exactly NOK 15 million, i.e. NOK 30 million in all. Because of the slow postal service, the bank had a substantial sum of money at its disposal all year round. It could thus be said, as stated in the receiver's report, that in a large number of these transactions, the bank had been guilty of breach of trust, to put it mildly, in relation to Norges Bank itself.*
>
> *But this practice was not limited to a single case. One had an unpleasant suspicion that banks with a close mutual relationship procured funds by drawing upon one another, although it was not possible to prove this."*

[10] A draft is a bill of exchange where the issuer *(drawer)* requires another *(the drawee)* to repay the sum on the bill by the due date. A draft only becomes valid when the drawee has written "accepted" and put his name to the bill of exchange.

[11] The arrangement is described in Rules and Regulations for Norges Bank, 4th edition (1903). Private banks' drafts on other financial institutions are also mentioned in the 3rd edition (1901).

[12] Rygg (1954)

Emergence of other banks

A few years after the foundation of Norges Bank, other banks emerged. The first Norwegian savings bank was Christiania Sparebank, which was established in 1822. It provided loans against collateral, in addition to discounting bills of exchange. In 1824, the Storting adopted an Act relating to savings banks. This was necessary after banks of this kind had been established in Bergen, Drammen, Skien and Trondheim. In 1860 there was a substantial number of savings banks, but only 4 joint-stock banks.

Christiania Bank og Creditcasse, established in 1848, was the first of these. It was followed by Bergen Privatbank in about 1855, and Den norske Creditbank in 1857. In 1885 there were 36 joint-stock banks in Norway (Petersen, 1986).

Statens Hypotekbank was the first government bank. It was established in 1851, with the principal task of providing mortgage loans to agriculture. This led to a decline in demand for such loans from Norges Bank.

Technological developments also influenced banking operations. An important factor was the emergence and use of the telegraph. One example shows that Norges Bank was not a driving force here.[13] In September 1863, the sum of 80 000 speciedaler was paid into Norges Bank's regional branch in Bergen, to be credited to Christiania Bank og Creditkasse, with a request for telegraphic transfer to Kristiania. The order was effected in Bergen, but when the telegram arrived at Norges Bank's regional branch in Kristiania, the latter refused to disburse the money before the branch had received written confirmation. This took almost a week. The telegraph had then been in operation between these towns for 5 years. Creditkassen therefore raised the issue of the use of telegraphic transfers with Norges Bank. From correspondence in the years 1863-64, it is evident that Norges Bank could not agree to the transfer of money by telegraph.

Advertisements for Creditkassen in 1865, on the other hand, showed that the bank used telegraphic transfers to both send and receive payments in Trondheim, Bergen, Stavanger, Drammen, Hamar, Stockholm, Gothenburg, Copenhagen, Hamburg, Amsterdam, Paris, Berlin and London. Only in 1888, more than 20 years after the request from Creditkassen, did Norges Bank allow telegraphic transfers to other banks. From 1891 it also became possible to use telegraphic transfers to other parties. This was a concession to demands from the business sector, particularly the fishing industry. Against a somewhat higher charge, the Bank now arranged for the transfer of sums of money to all domestic post offices. Rules for this procedure were laid down in 1898.

Large sums were also sent by post, as insured mail. In 1857, NOK 61.7 million was sent as insured mail. At the end of the century, this had increased to no less than NOK 397.5 million. A large amount of money was probably also sent by ordinary mail. However, nothing in our sources indicates that there was extensive contact between Norges Bank and the postal service with respect to payment transactions.[14]

Clearing and settlement between the Scandinavian countries

In 1875, Norway, Sweden and Denmark agreed to establish the Scandinavian Monetary Union. There were several reasons for this. One important reason was that coins from the other Scandinavian countries were circulating in all three countries. It became necessary to introduce a system. The same took place elsewhere in Europe, where a Latin Monetary Union was established in 1865 (with a common currency based on the franc germinal). Germany carried out a monetary reform after unification in 1871.

Work on a monetary union had long been under way. As early as 1863, at the first Nordic economic meeting in Gothenburg, the introduction of a common currency for Scandinavia was recommended. The franc was proposed. The recommendation was repeated at the next meeting, in Stockholm, in 1866. A common Nordic currency was again the theme of the meeting in Copenhagen in 1872, and the appointment of a joint commission to consider the currency issue was recommended.

One important goal of the Scandinavian monetary union was to simplify trade between the Scandinavian countries. However, the monetary union did not draw up rules for payment transactions between central banks. Before instructions could be issued for payment to one central bank, there had to be receivables in the sight deposit account of the other two central banks in order to draw on these accounts. If there were insufficient funds in the account, debts had to be paid by sending banknotes, foreign currency or gold to the other central bank. This had to be transported physically from one central bank to the other, and this was in many ways an awkward solution. By the 1880s, a simpler system for financial transactions was called for.

In October 1885, the three central banks agreed to simplify settlement of trade surpluses and deficits in order to reduce shipments of gold and banknotes. Each central bank could now issue instructions to pay banks in their home countries from their sight deposit accounts in the other central banks. The amounts had to be above NOK 10 000. There was no requirement that there should be any receivables in the account, nor was

[13] Engebretsen (1949)
[14] Johannessen and Thue (1997)

any interest to be charged on amounts in the account or on amounts due. In the text of the agreement, no maximum was set for the amount that one bank could owe another. However, the condition was that none of the banks should for a lengthy period have more receivables than were likely to be used within a reasonable period of time.

However, it was possible to require repayment of amounts that one central bank owed another. This could take place directly, but receivables in the third bank could also be used. Debts could also be paid using 10-krone and 20-krone pieces (gold coins).

In principle, this type of transaction could only take place at the head offices of the three central banks. In Norway, it was also possible to use the Kristiania and Bergen regional offices in addition to the head office in Trondheim. This type of payment did not incur bank charges.[15]

The system did not function entirely smoothly. As early as in 1889, the head of Sveriges Riksbank claimed that the bank was not obligated to issue money orders to everyone. Through the 1890s, there were complaints that Sveriges Riksbank was reluctant to issue money orders. The Swedish central bank had been redeeming Danish and Norwegian notes at par since 1880. Norges Bank did not follow the same practice: some exchange rate loss was factored in. This prompted a sharp comment in a Swedish newspaper: this was an "insult" that must be due to Norwegians' "poor upbringing".

The Board of Directors had decided that Norges Bank would not redeem notes other than its own at par because a large volume of Swedish notes were circulating in Europe. The reason they were not redeemed at par was not due to ill-will, but because both Norwegian and Swedish business benefited from this circulation. The explanation for Norges Bank's approach was that the redemption would lead to fairly substantial shipments of gold from Sveriges Riksbank.

After a period (1894), Norges Bank agreed to receive Sveriges Riksbank's banknotes without any deductions. The background for the Board of Directors' decision was that Norges Bank in the 1890s was in debt to Sveriges Riksbank. The same arrangement was practised with respect to Danish banknotes. It was not until 1901 that Danmark's Nationalbank agreed to redeem Swedish and Norwegian notes at par.

Norges Bank's outstanding accounts with the other two central banks differed from each other after the turn of the century. Norges Bank normally had money owing from Sveriges Riksbank, while it owed money to Danmark's Nationalbank. Norges Bank covered its debt to Nationalbanken by using its receivables in Riksbanken. The Bank's transactions with neighbouring banks accounted for the bulk of Norges Bank's gold transactions.[16]

The origins of the clearing system

The clearing house system arose in London in around 1775 with the inception of The Banker's Clearing House (TBCH), which had daily bilateral clearing. TBCH introduced multilateral settlements in 1841. There are several accounts of the origin of clearing. In essence, clearing among the individual banking firms took place by sending 'walk clerks' around to other banks with cheques and money orders to be settled in cash. One day, one of these walk clerks decided that it would be more rational to meet on a street corner and exchange the documents, and settle any differences in cash. Later on, the meetings took place in a pub.

Kristiania Clearing Office – clearing comes to Norwegian banking

The Norges Bank Act of 1892 defined a clearer central banking role for Norges Bank. One important reason was the expansion of the banking system since the establishment of Norges Bank. There was no longer any need for Norges Bank to carry out all the practical banking tasks for which it had previously been responsible. Moreover, the banks did not want Norges Bank as a competitor in the regions in which they were represented.

On the other hand, new needs arose. As interaction between banks became more extensive, there were increasing numbers of outstanding claims among them. Towards the end of the 1800s the need therefore arose for a simpler means of settling receivables between banks, particularly cheques, but also money orders.

On 25 January 1897, the managing director of Creditkassen, Mr Castberg, gave a speech at Statsøkonomisk forening, an association of Norwegian economists, entitled *"Should a Clearing House be established in Kristiania, and how could this be achieved?"* It was generally agreed that a clearing house was needed, but doubts were nevertheless raised as to whether it would have enough to do.[17] Nothing came of it. In 1897 an act relating to cheques was introduced in Norway, and payment by means of cheques became increasingly common in the business sector. Clearing in Kristiania Bank Clearing House started in 1898, modelled on the clearing that took place in Manchester (the scope of activities there was more in line with what was anticipated in Oslo, as opposed to clearing in London), and initially only extended to those banks and banking firms in Oslo that were listed on the Oslo Stock Exchange. This also applied to Norges Bank. The

15 Today's Scandinavian Cash Pool resembles this arrangement in certain respects. Once the Nordic currencies became settlement currencies in CLS (Continued Linked Settlement), situations could conceivably arise where there was a shortage of national liquidity for the daily settlement. In the light of this possibility, the central banks of Sweden, Denmark and Norway developed a solution for the efficient transfer of intraday liquidity between the three currencies: the Scandinavian Cash Pool. Through this system, private banks can use liquidity in one of the central banks as collateral for loans in one of the other central banks.

16 Rygg (1954)

17 K. Petersen (1986)

Clearing for banks outside Kristiania, and for savings banks

Due to rapid growth in the financial industry in Kristiania, private banks outside Kristiania established an association to protect their interests in 1897: "The Central Association for Norway's private Banks outside Christiania". This association established the "Central bank for Norway"[1], with an office in Kristiania. The purpose of this bank was to have a clearing office and an intermediary in Kristiania. In fact, the bank went bankrupt during the banking crisis of the 1920s.

In 1915, the "Central Association for Norway's private banks outside Christiania" merged with "Christiania Banking Association" (founded in 1900) to become "The Norwegian Bankers' Association" (today the Norwegian Financial Services Association). The then Director of Norges Bank, Karl G. Bomhoff, led "The Christiania Banking Association" in the period 1904–1906.

The "Central Association for Norwegian Savings Banks" was established in autumn 1914. One of the most important results initially was the establishment of Fellesbanken A/S, which was used to deal with common tasks, such as representing the savings banks in Kristiania Clearing Office.

[1] There was considerable debate about using the term "central bank" for a private commercial bank.

Director of Norges Bank, Karl G. Bomhoff, headed the office. Norges Bank accordingly assumed responsibility for establishing satisfactory procedures for payment settlement, and further developed its role as settlement bank.

It was not long before Norges Bank withdrew from the clearing house. The reason was that the firm Arntzen, Schmidt & Co. was denied the right to join, and it was felt that the clearing house was acting like a private association. A couple of years later, Norges Bank was urged to join again. The grounds for withdrawal no longer existed. Director Bomhoff therefore continued as head of the clearing house.

Kristiania Bank Clearing House was a clearing house for banks, stockbrokers and trading companies for reciprocal claims and receivables. Representatives of the participating banks met at the clearing house[18] with ready-sorted cheques and claims in packages for each participating bank that had been drawn on, and then exchanged the packages for a statement of the respective sums. These sums were transferred to an account in Norges Bank, and each bank was then given the final result of the day's clearing. Net receivables were credited to the respective bank's account with Norges Bank, while debts were debited. Clearing took place at the daily meetings according to special procedures that were laid down in the clearing house's statutes (see box overleaf for simplified description of the procedures).

An inspector from Norges Bank ensured that the procedures were followed, and directed the clearing. In 1923, the annual turnover in the clearing house was no less than NOK 5 billion, at a time when banknote circulation was just over NOK 500 million.

The clearing house was in operation throughout most of the last century (it was closed down in 1989). Some of the forms that Director Castberg developed were still being used 50 years later. The meetings originally took place on the premises of the Oslo Stock Exchange, and the banks later met in Norges Bank.

Monitoring goods and capital flows – clearing[19] in relation to other countries

For a period in the 1930s and 1940s, Norges Bank had a particular clearing responsibility:

During this period, a number of countries had introduced foreign exchange controls because of economic turbulence and a recession. Even countries that had unrestricted currency had difficulty in obtaining payment for exports to the countries that had introduced exchange controls. A system of clearing agreements was therefore established, so that exporters received settlement in their own country's currency for the amounts paid by importers. The importers in each country paid their debt through their bank to their own country's central bank. The two central banks kept each other informed of incoming payments and conducted mutual clearing.

Norges Bank occupied a central position under this regime. An approximate balance was to be maintained between the value of exports and the value of imports (both goods and services were included) between Norway and the countries with which Norway had clearing agreements. Only the excess amount one way or the other was settled in currency. The use of the clearing system gathered pace after various countries suspended the gold standard in 1931. It was generally believed that this use of clearing would only be a provisional arrangement in the absence of a convertible currency and common measures of value for the external value of the means of payment of various countries, and that it would be abandoned when the special circumstances that created the system no longer existed. Four years later, it proved necessary to formalise the system after all. Through the Payment Equalisation Act of 31 May 1935, the Ministry of Finance was authorised to issue regulations to ensure that Norwegian receivables in countries that had restricted or prevented payment transfers to Norway were covered by the relevant country's receivables in Norway.

[18] The initial members were: Den norske Kreditbank, Kristiania Handelsbank, Den norske Industri- og Vexelbank, Christiania Bank og Kreditkasse, Norges Bank and banking firms Sev. Chr. Andresen & Co and Tho. Joh. Heftye & Søn.
[19] The English word 'clearing' was actually used by Norges Bank before a Norwegian equivalent was found.

Clearing and settlement procedures at Kristiania Clearing House

1. Before meetings, all member banks had to sort all the cheques, money orders etc. they had for clearing against the other members, one package for each of the other members. They were also to make lists of "outgoing" cheques etc., one for each of the other members. A list of totals also had to be made.
2. The clearing house opened at 12.15 p.m. precisely. Representatives of the member banks were to take their places immediately, and submit the sorted cheques and money orders etc. and the lists they had prepared. The lists were compared with the contents of the packages. Papers that were manifestly incorrect were removed, and the lists totalled again. When everything agreed, each bank entered the amounts on the lists received on the lists for received "incoming" cheques etc. under the name of the banking business in question. The incoming cheques were then totalled.
3. The clearing house was temporarily closed at 12.45 p.m. The representatives of the member banks then returned to their banks with the list of incoming cheques. The list was reviewed in the bank to see if anything should be rejected or returned. These items were marked "NB".
4. The clearing house re-opened at 13.15 p.m. The incoming and outgoing columns for each bank were totalled and handed to the inspector for verification. He entered the amounts on the settlement list. Debit and credit sums ought now to balance. If not, there was an error in the clearing. Errors were to be rectified immediately.
5. If the clearing amounts balanced, settlement took place through the transfer of amounts to or from the members' accounts in Norges Bank or to the clearing house's account in Norges Bank. The transfers were initiated by the officers of the member banks. If a bank found itself in a debit position, special procedures had to be followed. The clearing was normally supposed to be completed by 1.30 p.m.
6. The balance of the clearing was only partially accepted in the case of papers to which there were objections. Papers which had not been approved were to be returned to the member bank that had presented them by 2.00 p.m.

In terms of the work involved, these clearing agreements presented Norges Bank with a considerable challenge.[20] It became necessary to establish a clearing house. The clearing house opened in 1936 with 43 employees, and the number was subsequently increased. In October 1934, the Ministry of Finance appointed an advisory body for the ministry and Norges Bank for foreign exchange clearing. The advisory body had first eight, then nine representatives from the ministries concerned, the business sector and banks. The Director of the Central Bureau of Statistics (now Statistics Norway), Gunnar Jahn, was chairman. The Foreign Exchange Office in Norges Bank's Foreign Exchange Department did all the paperwork in connection with the Norwegian clearing agreements with other countries. The clearing house also followed up to ensure that the guidelines in the clearing agreements were observed.[21]

During World War II, there was mandatory centralisation of foreign exchange transactions. In 1940, pursuant to the Payment Equalisation Act, the administration installed during the German occupation in lieu of a government laid down provisions concerning the exchange of goods etc. between the occupied areas of Norway and other countries. All payments were to be made through Norges Bank's head office in Oslo. In summer 1940 provisions were laid down that gave Norges Bank further control of foreign exchange transactions. A foreign exchange licence from Norges Bank was now necessary for importing, and an export licence was necessary for exporting. Importing goods of German origin, or goods that had undergone substantial processing in areas under German control, did not require a licence. In practice, these regulations meant that Norway had to refer to Germany for both imports and exports. However, there were efforts to achieve trade agreements with Sweden, the US (which at this time was neutral) and countries overseas. These were unsuccessful.[22]

Before the outbreak of war in Norway, Norway had payment agreements with Germany, Italy, Spain, Greece and Turkey. After 9 April, new agreements were made; by the end of 1940 there were agreements with 13 countries, and two more were concluded in 1941. There were direct clearing agreements with some countries (Denmark, Sweden and the Soviet Union), while centralised clearing through Deutsche Verrechnungskasse in Berlin was used for other countries.

Due to the increase in the number of clearing agreements, the Ministry of Trade decided in autumn 1940 that clearing would no longer be carried out at Norges Bank and established the Norwegian Clearing Institute[23], which was directed by a Clearing Committee. Norges Bank's rights and obligations with respect to clearing agreements and agreements with banks regarding clearing were transferred to the Clearing Institute. The institute continued its operations until 1946, when Norges Bank again assumed these responsibilities.

[20] 1933: clearing agreement with Greece; 1934: clearing agreement with Germany, and a quota and compensation agreement with Turkey; 1935: clearing and payment agreement with Italy; 1936: clearing agreements with Romania and Spain; 1940: payment agreement with the UK.

[21] Rygg (1950)

[22] Jahn, Eriksen and Munthe (1966)

[23] Established on 15 November 1940.

Developments after World War II

In the early years after World War II, clearing between banks proceeded in roughly the same way as described earlier, through what in due course was renamed Oslo Clearing House.

In the late 1950s and particularly in the 1960s, after the use of cheques had become common, it was necessary to find some manner of automating the registration of all incoming cheques. At that time, it was the responsibility of Oslo Clearing House to collect in cheques from the office's member banks. Daily clearing and settlement was carried out in Norges Bank through transfers to or from the individual banks' accounts in Norges Bank. A large share of these, in terms of value, were interbank settlements, and they constituted an important part of day-to-day liquidity management in the banking system.

In the mid-1970s, cheque clearing for commercial banks was transferred to the IDA data-processing centre and savings banks' cheque clearing was transferred to Fellesbanken. Clearing was based on cheques with magnetic ink character recognition encoding. IDA also had a local clearing house in Bergen, and after a period a local clearing house was established in the Trøndelag region. These local clearing houses processed transactions from both commercial and savings banks. Most of the cheques received by Norges Bank were sent to IDA for clearing, as were cheques from 10 of the Bank's regional offices. The actual settlement took place in Norges Bank.

The turnover of the Oslo Clearing House (i.e. cheques cleared in Norges Bank) totalled NOK 78 billion in 1975.

From the mid-1970s and up to the 1990s, Norway's clearing and settlement systems underwent extensive development. In November 1997, Norges Bank acquired a new system for final settlement of payment transactions. In March 1999, the system became a fully fledged real-time gross settlement system – RTGS – for large transactions. There were also major improvements in systems for other payments.

Payment instruments have also developed at a rapid pace. After the war, cash and manual giros were almost the sole payment instruments. After a period cheques came into use, automatic cash dispensers (ATMs) were tried out as early as in 1970, and internet banking was introduced in 1996. All these innovations led to a very sharp increase in the number of transactions in the Norwegian payment system – with a transition from paper-based to electronic solutions.

In the years ahead, the work to establish a common payment market in Europe will influence solutions in Norway. Legislation and payment systems in Europe will be standardised, and purely national systems will become less important or vanish. This will probably apply to payment methods both for the general public and in the securities settlement process. Mergers will probably also take place, and cooperative agreements be established between suppliers of clearing and settlement systems. In the years ahead, adapting the current Norwegian systems to these trends and at the same time maintaining an efficient payment system will present a major challenge.

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