NORGES BANK

Annual report on payment systems

2003

June 2004

Norges Bank's Annual Report on Payment Systems

Norges Bank shall foster robust and efficient payment systems and financial markets. This is in accordance with the Norges Bank Act and the Act relating to the Payment System. Norges Bank therefore monitors the economy and the financial sector in order to identify any trends that may weaken the stability of the financial system. Pursuant to the Act relating to the Payment System, Norges Bank is responsible for the authorisation and supervision of interbank systems that are important to financial stability. The supervisory function is exercised with the aim of minimising risk in the payment system in particular. Large transfers are carried out via the payment system every day that result in asset and liability positions between the sender's and the beneficiary's banks. These positions are then settled in the banks' accounts in Norges Bank. These banks and the central bank thus constitute the core of the payment system.

In an efficient payment system, payments are effected quickly, securely and at low cost. The most important factors in achieving an efficient payment system in Norway are:

- an infrastructure that facilitates economies of scale,
- prices that reflect the production cost of services and
- effective competition on the supply side.

The Annual Report on the Payment System contains information that Norges Bank collects from the financial sector as part of its supervisory work. The Report has been published since 1987 and gives an annual update of trends and prices in the payment system. The Report also contains a brief presentation of work carried out by Norges Bank and other central banks in this area.

The cut-off date for this report was 22 April 2004.

Foreword

Norwegian bank customers have access to one of the world's most efficient systems for payment services. Electronic services, in particular Internet banking and payment cards, offer customers a wide range of services. The statistics for 2003 show that these services are well on the way to replacing costly paper-based services. Banks' prices largely reflect production costs for the services and this pricing policy provides customers with an incentive to choose the most efficient form of payment. Loyalty programmes and free services may distort price signals. Norwegian payment services generally have a high degree of security and a low level of abuse and fraud. New solutions, among other things for card payments, are being developed to increase security further.

Many obstacles have yet to be overcome before typical cross-border customer payments can be carried out as swiftly and cost-effectively as they can within national borders. Due to the number of stages from the sender to the recipient, relatively inefficient interfaces with customers and a lack of common standards between participants, a considerable amount of operations in banks are still carried out manually. Transfer times are therefore prolonged and production costs for these services are high. The need for efficient cross-border payment services has received increasing attention in recent years and legislation is being developed in Europe to improve conditions for such payments. The European banking industry is working on initiatives to develop better cross-border payment services. This work will also benefit Norwegian bank customers.

The new international foreign exchange settlement system, CLS, which included the Norwegian krone from September 2003, will help to reduce risk in foreign exchange transactions for Norwegian banks.

Banks have the option to settle their positions directly in Norges Bank or through a private settlement bank. Gjensidige NOR Sparebank (Union Bank of Norway) and Den norske Bank (DnB) both had authorisation to carry out interbank settlements. The merger between these two banks entails that Norway now has one private settlement bank less.

On the basis of the mandate set out in the Norges Bank Act, the central bank continually assesses whether developments in the payment system are contributing to the stability of the financial system and whether the general public has access to safe and efficient payment services.

Svein Gjedrem

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1 An efficient payment system

The Norwegian payment system is one of the most efficient in the world. Extensive use of electronic services, particularly Internet banking and payment cards, provides customers with a wide range of services and helps to reduce banks' costs. Key factors in achieving an efficient payment system in Norway have been an infrastructure that facilitates economies of scale, prices that reflect the production cost of services and active competition on the supply side.

For a payment system to be efficient, payment transactions have to be effected quickly, securely and at low cost. Most individuals and companies use the payment system every day in one way or another. Payments are often made with cash or other payment instruments that provide access to money in an account. Smooth-functioning payment systems are important for all modern economies. The efficient and secure transfer of means of payment is essential for the execution of different capital transactions, the settlement of foreign exchange trades and in connection with the implementation of monetary policy. The implementation of fiscal policy, i.e. payments to and from the Treasury, also requires an efficient payment system.

Banknotes and coins are legal tender and can be used for all payment transactions where payer and payee meet. Both parties have the right to demand settlement in notes and coins (however, the Norges Bank Act does include the provision that no one is obliged to accept more than twenty five coins of each denomination in any one payment). In recent years, the use of deposit money as a means of payment has increased substantially. Important factors underlying this trend are the payment of wages, pensions, social insurance, etc. into bank accounts and the constant development of new payment instruments for the payment of bills and access to cash from accounts. Deposit money also entails advantages for the customer in the form of interest and security.

Means of payment and payment instruments:

Deposit money comprises deposits in bank accounts. Deposit money is a means of payment. The public can use payment instruments such as giro, payment cards or cheques to access their deposit money.

Cash in this context is banknotes and coins issued by Norges Bank. The public can withdraw cash over the counter in banks or post office branches or from ATMs and POS terminals using a payment card. Cash is both a means of payment and a payment instrument.

General trends in the payment system are presented in this chapter. Chapters 2 and 3 then look at some changes in the use and pricing of different means of payment and payment instruments, respectively. Chapter 4 deals with important developments in Norway that are of significance to the payment system, and Chapter 5 gives a more detailed presentation of international payments.

1.1 Barter economy, monetary economy and deposit money

The development from a barter economy to a cash-based economy, and from a monetary economy to today's payment system, which is largely based on the exchange of deposit money, can be explained by the properties of the means of payment as a medium of exchange and store of value. In a purely barter economy, each party to a transaction must agree on a medium of exchange that the other party accepts. In a monetary economy, the parties settle in a generally accepted medium of exchange: money. Money can also be divided into smaller values that can be divided or added up as required. Thus a monetary system provides a simplified barter system that reduces transaction costs in the economy. This in turn allows for a better division of labour, a more efficient economy and a higher level of wealth.

Metals such as gold and silver had qualities that made them particularly suitable for use as a medium of exchange and store of value, compared with other products. The quality is uniform and relatively easy to identify. The value reflects the quantity and purity of the metal in question. Metal is divisible and so can be adjusted to transactions of different values. The value does not diminish over time and these metals are easy to transport due to the relatively high value for low volumes. In order to fix the value and make the authorisation process more efficient, metals were eventually hallmarked. Thus gold and silver coins gradually took over as a means of payment. They were later replaced by an explicit guarantee that the holder of the cash could exchange the money for the equivalent value in, for example, gold.

When Norges Bank was founded in 1816, the Bank was given the sole right to issue banknotes and coins. Banknotes could originally be exchanged for silver. The silver standard was replaced by the gold standard in 1874. However, when the silver and gold standards prevailed, access to exchanging cash for metal was suspended for long periods at a time. This right was finally phased out in 1931. In today's payment system, the value of a banknote or coin is based on confidence in the issuer. Confidence in the central bank and central government is essential for the value of cash issued by the central bank and deposits held in central bank accounts (*central bank money)*.

The most usual way of settling claims and obligations today other than using cash, is the transfer of funds between bank accounts. Deposit money can be used with the help of payment cards or payment orders that are delivered to the bank via computer/Internet, telephone, post, or in person. These funds are often called *commercial bank money* as opposed to central bank money. Payment solutions that are not directly linked to deposit money have also been developed, for example, credit cards and cash cards. However, these do rely on deposit money or cash for the final settlement of payments.

In 2003, over a billion non-cash payment transactions were registered between households, businesses, financial institutions, the public sector and other market participants in Norway. In terms of value, these transactions totalled nearly NOK 7 000 billion, equivalent to roughly NOK 19 billion per day. However, these amounts are small in comparison with transfers between financial institutions via the interbank system. To illustrate, average daily turnover in the largest Norwegian interbank system, NICS, totalled NOK 250 billion in the same period. The large number of transactions and substantial values make the payment system an important part of a country's economic infrastructure. This is of crucial importance to the stability of the national monetary system and the economy in general. In most countries, it is seen as desirable by the authorities that central bank money and commercial bank money exist side by side. In order to limit risk in banks and ensure that commercial bank money and central bank money can be exchanged at the same value, banks and other credit institutions are carefully supervised. Many countries, including Norway, have also established arrangements for deposit guarantees. In other words, the depositor's funds are guaranteed up to a certain limit in case of receivership.

Surveys carried out by Norges Bank show that in 2001, banks spent NOK 5.9 billion on producing payment services (Gresvik & Øwre, *Economic Bulletin 4/2002*). The costs incurred by the payer and payee in order to effect a payment come in addition to this. It is estimated that costs in connection with payment systems in industrialised countries total between 1% and 3% of GDP. For the allocation of resources in the economy as a whole to be efficient, it is therefore important that transaction costs for payments using deposit money and cash are kept low, and that transfers are carried out with a high degree of security. The need for efficient and secure payment systems is, however, not just a national concern. The steady increase in international trade and substantial cross-border capital flows have also focused attention on payment and settlement systems between countries. An efficient international payment system helps to reduce transaction costs and provides the opportunity for better utilisation of gains from the international division of labour. This is particularly pertinent within the EU and euro-zone. A single market has been established with a common currency, but systems for dealing with cross-border payments in this currency are lagging behind.

1.2 Central bank involvement

Norges Bank is responsible for promoting robust and efficient payment systems and financial markets, and in this way contributing to financial stability. Supervision of the payment system is based on the mandate set out in the Norges Bank Act. Pursuant to §1 of the Act, the central bank shall "promote an efficient payment system in Norway and vis-à-vis other countries". The large transfers that are carried out via the payment system each day result in asset and liability positions between the sender's and the beneficiary's banks. These positions are then settled through the banks' accounts in Norges Bank. These banks and the central bank thus constitute the core of the payment system. Banks' accounts in Norges Bank also constitute the link between the payment system and monetary policy, as the central bank's key interest rates are linked to interest on banks' claims on and loans from Norges Bank.

The Act relating to Payment Systems of 1999 gives Norges Bank a special responsibility for the authorisation and supervision of interbank systems, i.e. systems for clearing and settling accounts between banks. The Act is a result of the growing recognition in the 1980s and 1990s of the importance of the payment system in terms of financial stability. The Act builds on the industry's responsibility to develop stable and robust systems in close cooperation with Norges Bank, as the final settlement bank in the Norwegian settlement system. But the Act also gives Norges Bank statutory authority, as the last resort, to intervene directly with instructions to interbank systems that are important to financial stability.

Pursuant to the mandate set out in the Norges Bank Act, the central bank has worked with banks to develop a shared infrastructure for the payment system in Norway. The banking industry's own organisations are now continuing this work, with less direct involvement on the part of Norges Bank. An important prerequisite for financial stability is that payment and settlement systems are designed and function in such a way that settlement risk for participating banks is manageable and that problems in individual banks are limited to the bank in question and do not give rise to systemic risk that could threaten the stability of the financial system. In most countries, therefore, the central bank has overriding responsibility for the delivery of settlement services to banks. The development of systems with gross settlement in real time, RTGS systems (Real Time Gross Settlement), has reduced settlement risk in many countries.

1.3 Risk in the Norwegian payment system

The Norwegian payment system is generally characterised by a high degree of security and a low level of misuse and fraud. For banks, the main risks involved in participation in the payment system are credit risk and liquidity risk. Credit risk depends primarily on the extent to which banks credit customers before they receive settlement for a payment transaction themselves. Previously, banks have had credit exposure in the settlement system in excess of their capital. However, in recent years, banks have started to credit customer accounts only once they have received settlement, so this type of risk is no longer of significance in the Norwegian system. Liquidity risk is related to the loss of liquidity if settlement is not completed at the expected time. Liquidity for carrying out settlements was generally good in 2003 and the liquidity risk in the Norwegian payment system was therefore low overall. Other forms of risk that may results in credit or liquidity risk are legal risk, operational risk and foreign exchange settlement risk.

Legal risk involves legal uncertainties in connection with participants' rights and obligations in the payment system, for example in the event of a participant's insolvency. Following the entry into force of the Act relating to Payment Systems and adjustments that have been made in order to fulfil authorisation requirements, Norges Bank is of the view that legal risk in the Norwegian payment system is limited.

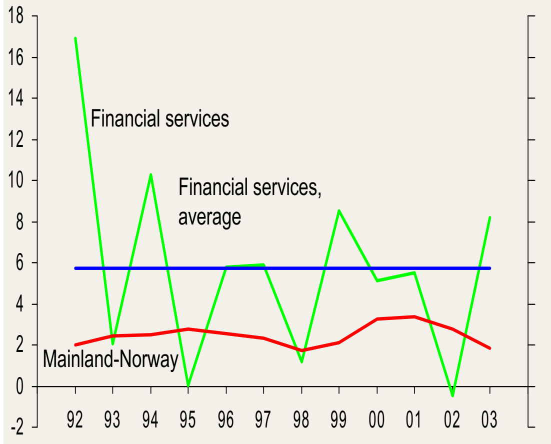
Operational risk can arise as a result of deficient procedures, malfunctions in computing systems and telecommunications systems, breaches of rules, deception, fire, etc., which may incur costs for participants. A number of disruptions in banks' operations centres have shown that the Norwegian payment system is vulnerable in terms of operational risk. The system operator is responsible for ensuring that routines, reserve solutions, know-how and contingency planning are such that the system can deal with operational risk in a satisfactory way. The banking industry has introduced several initiatives to reduce this risk. Norges Bank can implement special measures for systems that do not deal with operational risk satisfactorily. Operational risk is monitored in close cooperation with the Financial Supervisory Authority of Norway.

Foreign exchange settlement risk arises when foreign exchange transactions are settled in settlement systems in different countries and often at different times. Thus there is a risk that one of the participants delivers the sold currency without receiving quid quo pro, as the other party is not able to deliver at the agreed time or at all. If one party does not fulfil its commitment, the counterparty can at worst incur a loss equivalent to the principal sum involved in the deal. In recent years Norges Bank has, like many other central banks, focused on the risk connected to banks' participation in international foreign exchange trading. The establishment of an international foreign exchange settlement system, CLS (Continuous Linked Settlement), which is owned by the largest international banks, has considerably reduced credit risk in connection with such trading. The Norwegian krone was included in CLS in September 2003. Foreign exchange settlement risk in the Norwegian payment system has therefore been substantially reduced.

1.4 Cost-effectiveness

Over the past few years, an increase in customers' use of electronic payment solutions at the expense of more costly manual solutions and a rise in the use of automated solutions in banks have resulted in efficiency gains for banks, consumers, business and industry. In the past decade, efficiency gains in the financial sector have been higher than for the rest of mainland-Norway (see Chart 1.1), and there is reason to assume that the more efficient production and distribution of payment services has contributed to this development.

Chart 1.1 Productivity growth 1992 – 2003. Per cent



Source: Statistics Norway

Electronic payment services are characterised by economies of scale, i.e. that the average unit cost decreases as the number of transactions increases. In order for the production of payment services to be cost-effective, it is therefore important that the infrastructure facilitates the exploitation of economies of scale. This has to a large extent been achieved in Norway by means of coordinated solutions. Lindquist (2003) shows in her work that the rise in the use of electronic payment services has increased the economies of scale in connection with banking activities. However, in order to achieve lower costs, it is also very important that there is competition in supplying services to customers and banks. Competition encourages the development of new payment solutions and the efficient use of resources. Another important factor in achieving a more efficient payment system in Norway has been that prices for payment services have reflected the production costs of these services. Over the past decade, prices for the least cost-effective (paper-based) services have risen more than prices for electronic services. Customers have responded by switching to cheaper and more cost-effective electronic services.

There is a limited basis for comparing the cost-effectiveness of the Norwegian payment system with that in other countries. Norges Bank has carried out cost surveys, but few other countries have similar data available. However, for several years now, the use of fast, cost-effective electronic payment instruments has been more widespread in Norway and the Nordic countries than in many other countries. The table below provides an overview of key figures for payment systems in some countries. Norwegians are world leaders in terms of payment card use and no other country in the EU or G10 states has more point-of-sale terminals per inhabitant than Norway. In Norway these terminals can also be used to withdraw cash. This makes payment cards extremely useful in many areas and facilitates access to cash. Whereas cheques have been more or less phased out as a payment instrument in Norway, they are still frequently used in a number of countries. In the EU, banknotes and coins account on average for 3.5% of GDP. This figure is lower for Norway, Denmark and Finland, whereas Sweden has a higher cash share. One reason for the relatively low cash share may be the widespread use of alternative means of payment, primarily the use of cards.

Table 1.1 Key figures regarding payments in selected countries (2002)									
	EU	Denmark	Finland	Sweden	France	Germany	UK	**USA**	**Norway** (2003)
Notes and coins, % of GDP (* 2001 figures)	**3,5**	2,9	1,9*	4,1	2,0*	3,3*	3,3	**6,0**	**2,6**
Balance in transaction accounts as % of GDP	**36,1**	29,9	28,6	41,3	24,6	27,7	64,4	**5,8**	**24,7**
No. of branches per million inhabitants	**631**	606	303	354	612	613	540	**275**	**623**
ATMs									
No. per million inhabitants	**700**	525	406	297	637	612	690	**1220**	**447**
No. of withdrawals per year per inhabitant	**23**	n.a.	46	36	20	20	38	**37**	**22**
Average withdrawal (EUR)	**121**	n.a.	71	91	63	157	95	**72**	**141**
Card payments									
POS-terminals per million inhabitants	**12 781**	17 835	14 228	11 439	15 620	5 584	13 691	**12 128**	**20 053**
Card transactions per year per inhabitant	**46**	95	94	65	67	24	79	**116**	**130**
Average goods purchase, debit card (EUR)	**61**	47	39	64	46	70	59	**47**	**53**
Average goods purchase, credit card (EUR)	**86**	122	51	104	n.a.	78	102	**95**	**88**
Instruments' % share of number of non-cash payments									
Cheques	**14**	5	0	0	34	1	21	**50**	**0**
Giros (credit transfers)	**28**	24	49	39	19	45	18	**5**	**38**
Direct debits	**25**	16	5	10	16	37	20	**3**	**3**
Payment cards	**32**	54	46	51	31	17	41	**42**	**58**
Card-based e-money	**1**	1	0	0	0	0	n.a.	**n.a.**	**0**

Exchange rates used: EUR = 0,946 USD (2002) and EUR = 8,003 NOK (2003)

Source: ECB, BIS and Norges Bank

A selection of research papers and reports based on the Norwegian payment system

Humphrey, Kim and Vale (2001) have studied the effects of using electronic payments on the efficiency of the payment system. Based on Norwegian data from the period 1989-1995, a model was estimated for a selection of means of payment. This is the first time that such data has been available in any country. The starting point is that different payment services have different production costs. The results show that users respond to price variations between different payment services. One consequence of this is that the social costs of the payment system can be reduced by directly pricing payment services as this accelerates the transition to cheaper and more efficient electronic means of payment.

Lindquist (2002) has studied the effects on banks' costs of new technology and the fact that payment services are becoming increasingly electronic-based and less paper-based, using Norwegian data. The results show that the transition to electronic payment services has reduced banks' average costs and increased economies of scale for banking operations, particularly in connection with deposits.

Gresvik and Øwre (2002 and 2003) carried out a survey of Norwegian banks' costs and income in connection with the payment system in 2001. The results of the survey are compared with two earlier surveys that were carried out at the end of the 1980s and in the mid 1990s. The survey shows that over time costs have been reduced considerably and that income based on direct pricing of payment services has increased. Even though banks continue to offer payment services at a loss, the negative margin has been reduced. They identify changes in the payment system as an important impetus to the sharp increase in productivity in the Norwegian financial sector in the 1990s. Improved efficiency in the payment system is a consequence of the rising number of payment transactions that are produced at lower cost and the fact that direct pricing of payment services means that customers choose the services that cover their needs at the lowest possible cost.

Humphrey, Kaloudis and Øwre (2000) have estimated the share of cash used in consumer transactions at points of sale in the period 1980-99, using an econometric model. This share declined over the period as a result of the increased use of debit cards. The paper also contains forecasts for cash use in the future and estimates for total cash use in connection with both legal and illegal activities.

2 | Main trends

Growth in the use of electronic payment instruments continued in 2003, as did the decline in the use of paper-based services (see Chart 2.1). More and more Norwegians are entering agreements to use Internet banks and the number of bills paid via the Internet rose sharply. The use of payment cards continued to rise and more terminals for card payments and cash withdrawals were installed in 2003. The value of banknotes and coins in circulation as a share of the total means of payment available to the public fell again in 2003. The number of manual transactions via bank branches declined significantly.

Norway has a relatively high number of card payments per inhabitant in relation to other countries. Chart 2.2 shows the share of cash in relation to GDP and the number of card payments per inhabitant in EU countries, the US and Norway. Most EU countries have a higher share of cash in relation to GDP than Norway and there is a tendency for countries with high card usage to have a lower cash share. However, this does not necessarily indicate cause and effect. In addition to the existence of alternatives to cash, cash holdings are also influenced, among other things, by the velocity of cash circulation.

2.1 Cash

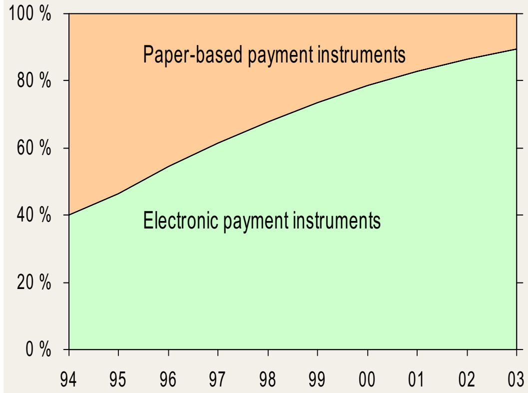
The use of cash and deposit money for transaction purposes is influenced by both trends in household consumption and the costs involved in the acquisition and use of cash in relation to alternative means of payment. New payment solutions and technological changes in the payment system also have an effect on the demand for cash for transaction purposes. Storing wealth in the form of cash will also be influenced by changes in inflation and interest rates. Tax evasion and criminal activities are also likely to affect the demand for cash.

Notes and coins in circulation

The total nominal value of notes and coins in circulation accounts for a steadily smaller share of the value of the means of payment available to the public (M1), and as a share of private consumption and mainland-GDP, see Chart 2.3. It is uncertain, however, whether the decline in cash holdings is due to permanent changes in the demand for cash for payment purposes. The replacement of 1000-krone banknotes and scaling back of the very large cash holdings around the millennium may also have contributed to the decline in cash holdings in the past few years.

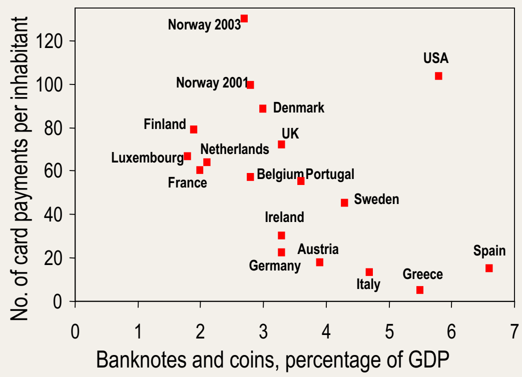
In 2003, the average value of cash in circulation was NOK 41.6 billion, of which banknotes accounted for NOK 37.5 billion and coins for NOK 4.1 billion. The corresponding figure for 2002 was NOK 41.8 billion (see Chart 2.4). The different denominations' share of the value of cash holdings

Chart 2.1 Use of paper-based and electronic payment instruments 1994-2003. Transactions in per cent



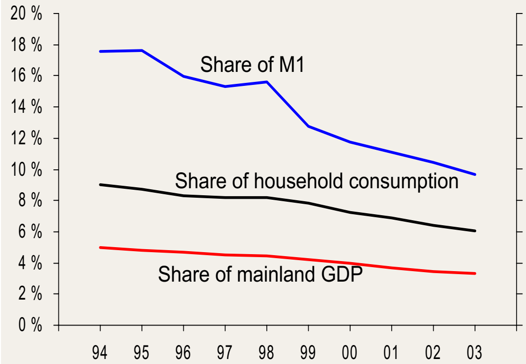
Source: Norges Bank

Chart 2.2 Banknotes and coins in circulation and payments by cards, international comparison 2001



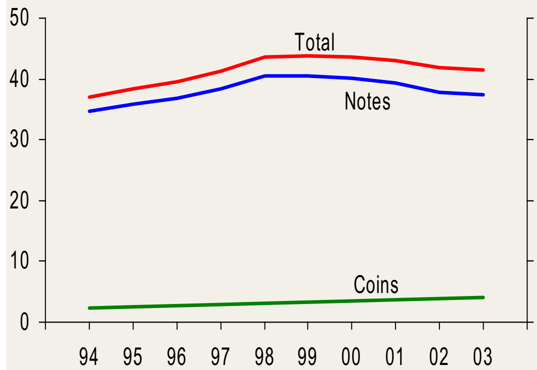
Source: ECB, CPSS (BIS) and Norges Bank

Chart 2.3 Value of notes and coins in circulation as a share of M1, household consumption and mainland GDP 1994-2003. Per cent



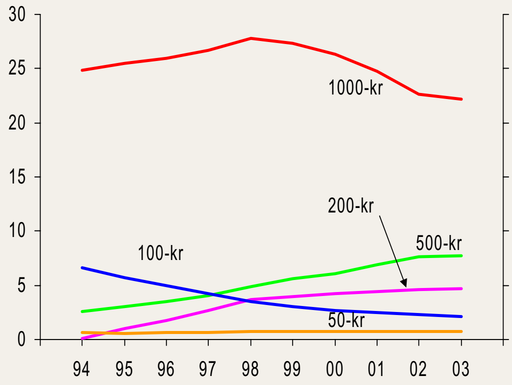
Source: Statistics Norway and Norges Bank

Chart 2.4 Cash in circulation 1994-2003. Annual average. In billions of NOK



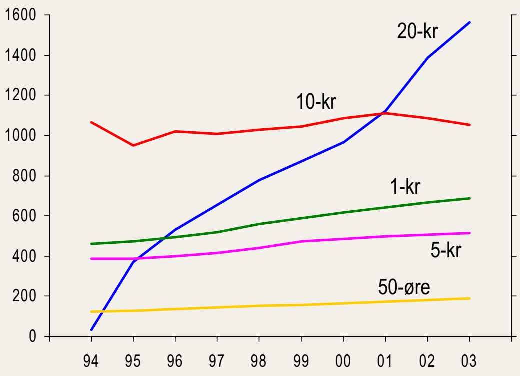
Source: Norges Bank

Chart 2.5 Denominations of notes in circulation 1994-2003. Annual average. In billions of NOK



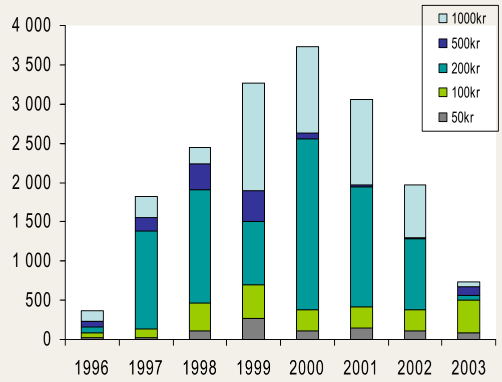
Source: Norges Bank

Chart 2.6 Denominations of coins in circulation 1994-2003. Annual average. In millions of NOK



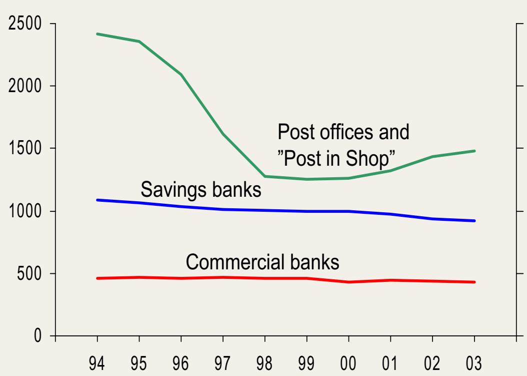
Source: Norges Bank

Chart 2.7 Number of counterfeit notes confiscated 1996-2003



Source: The Norwegian National Authority for Investigation and Prosecution of Economic and Environmental Crime (Økokrim)

Chart 2.8 Number of branches 1994-2003



Source: Norway Post and Norwegian Financial Services Association (FNH)

has changed considerably in recent years (see Chart 2.5). The value of 1000-krone notes in circulation has fallen by NOK 5.6 billion over the past five years. Part of the decline may be the result of the transition from the VI to the VII banknote series. The public chose to use the old notes to build up account deposits rather than exchange them for new banknotes. The value of 500-krone notes in circulation continues to rise. Measured in the number of notes, the 200-krone note has the highest share, followed by the 1000-krone note and the 100-krone note. In 2003, the value of notes in circulation was lowest in March (NOK 36.1 billion) and highest in December (NOK 42.0 billion). The value of coins in circulation has increased steadily each year for the last 20 years. The average value of coins in circulation was NOK 4.1 billion in 2003, a 4% increase on 2002. The introduction of the 20-krone coin in 1994 is the main reason for the increase in the value of coins in circulation (see Chart 2.6).

Counterfeit money

Norges Bank is responsible for issuing banknotes and coins. In order for cash to function as an efficient and secure means of payment, users must have confidence in cash, and banknotes and coins have to be adapted to user needs. Confidence means that users do not doubt that cash represents a claim on the central bank. Norges Bank is responsible for ensuring that banknotes are produced in such a way that they are difficult to counterfeit, that they include features that make it possible to differentiate between genuine and counterfeit notes and that these elements are widely recognised.

The widespread availability of colour photocopiers, PC scanners and printers led to an increase in the number of counterfeit banknotes that were seized at the end of the 1990s (see Chart 2.7). In the last three years, however, the volume of counterfeit money has fallen considerably. With an average of 97.2 million banknotes in circulation, counterfeit notes accounted for roughly 7.5 per 1 million notes in 2003. In order to combat counterfeiting, Norges Bank has upgraded the banknote series and only a small number of counterfeits have been registered since the issue of the latest series. The level of counterfeiting in Norway is low compared with other countries. Total counterfeit notes in euro accounted for around 70 notes per 1 million in 2003.

Access to cash

Cash is generally available from bank branches and post office outlets, from ATMs and point-of-sale terminals in shops. At end-2003, there was a total of 1348 bank branches in Norway (see Chart 2.8). There have only been relatively minor changes in the number of bank branches in the past decade, whereas there have been important changes in Norway Post's distribution network. The reorganisation of Norway Post resulted in a considerable decline in the number of post offices/outlets in the period 1995-1999. The number has risen again in recent years, due to the opening of

PostShop outlets. Banks have slightly reduced the number of ATMs in the their ATM network over the past couple of years and at end-2003, there were just over 2000 ATMs in operation (see Chart 2.9), a reduction of 7% on the previous year. At end-2003, there were over 91 000 point-of-sale terminals in operation in just under 60 000 locations (see Chart 2.10).

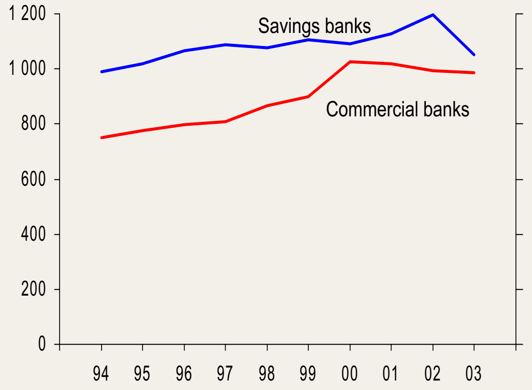
Chart 2.11 shows the number of ATMs and terminals per million inhabitants in selected countries. There is a considerable variation between countries for both ATMs and terminals. Canada and the US have most ATMs, and Denmark and Norway have the highest number of terminals in shops.

In 2003, 270 million cash withdrawals were registered. There has been a sharp increase in the number of cash withdrawals in connection with the purchase of goods in recent years and in 2003, cashback accounted for over half of all cash withdrawals in Norway (see Chart 2.12). In the same period, there were 12% fewer cash withdrawals over the counter than in the previous year and these now account for only 7% of withdrawals. The number of ATM withdrawals has remained relatively stable in recent years. The total value of cash withdrawals was NOK 254 billion, which is more or less unchanged on 2002. Nearly half of this was withdrawn from ATMs, followed by withdrawals over the counter, whereas around 20% was withdrawn in connection with the purchase of goods. The value of withdrawals over the counter fell by 6% in 2003, whereas the value of cashback withdrawals increased by 11%, see Chart 2.13. Customers generally prefer to withdraw cash over the counter when they want to withdraw large sums. The average value per withdrawal over the counter is roughly NOK 4 900. ATM withdrawals have an average value of NOK 1 125 and cashback withdrawals are typically supplementary to smaller transactions as the average value of such withdrawals is NOK 350.

2.2 Access to deposits

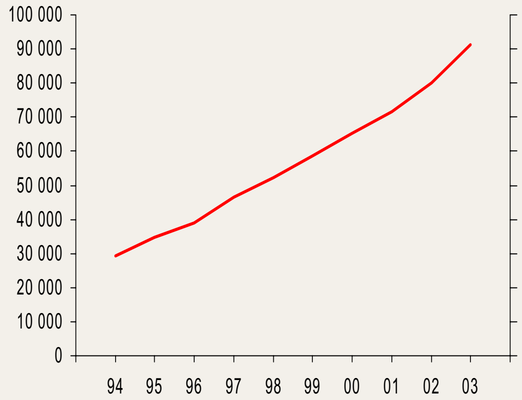
Bank customers can use various payment instruments to access funds in their bank accounts (deposits). In 2003, more than 1 billion transactions were carried out in Norway using different types of cashless payment instruments, which is a 10% increase on the previous year. Nearly 600 million of these were card transactions, whereas different types of giro payments accounted for over 400 million transactions (see Chart 2.14). This means that every Norwegian carried out an average of 222 cashless payments. The total value of turnover using cards, giros and cheques was NOK 6 819 billion. Chart 2.15 shows that the use of different payment instruments varies considerably between countries. In EU countries, as in Norway, different types of giro and cards are the most used instruments. However, direct debit services

Chart 2.9 Number of ATMs 1994-2003



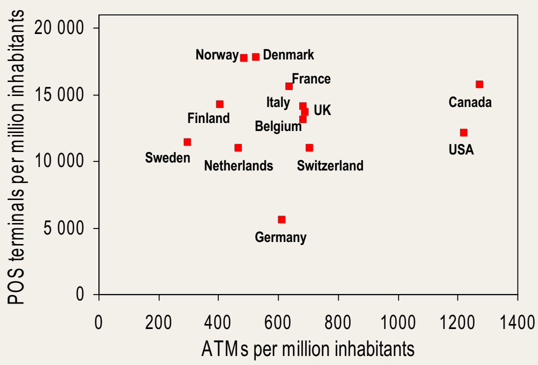
Source: Norges Bank

Chart 2.10 Number of EFTPOS payment terminals 1994-2003



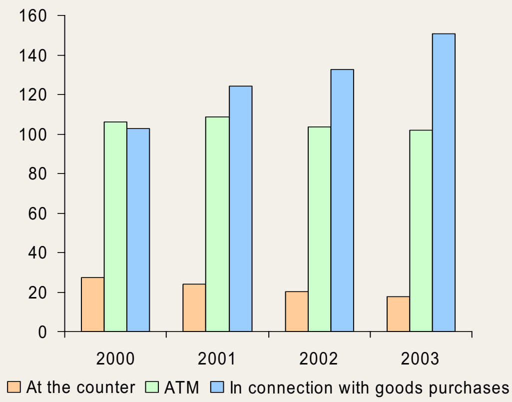
Source: Norges Bank

Chart 2.11 ATMs and POS-terminals per million inhabitants in selected countries. Year end 2002



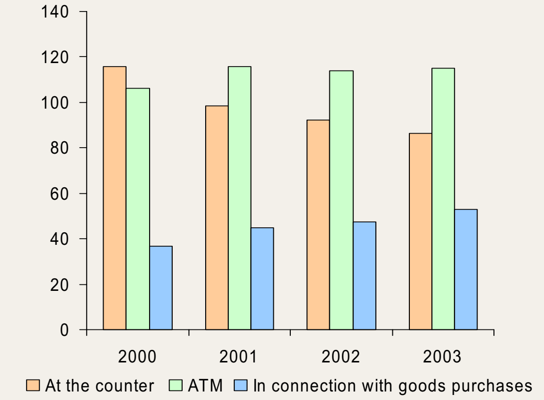
Source: ECB, CPSS (BIS) and Norges Bank

Chart 2.12 Number of cash withdrawals in Norway 2000-2003. In millions of withdrawals



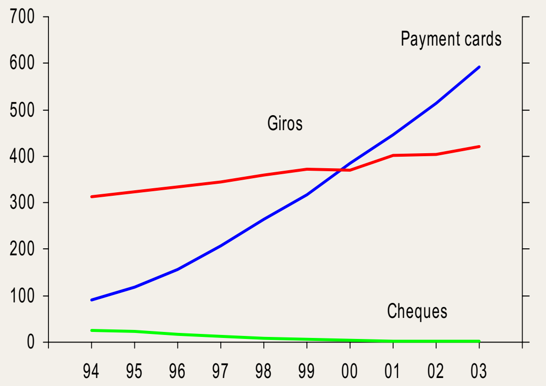
Source: Norges Bank

Chart 2.13 Value of cash withdrawals in Norway 2000-2003. In billions of NOK



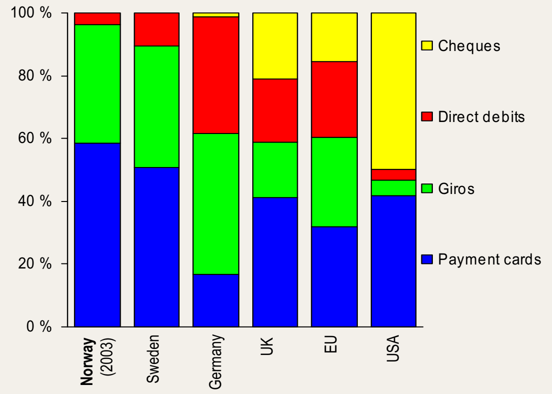
Source: Norges Bank

Chart 2.14 Payment instruments 1994-2003. Millions of transactions



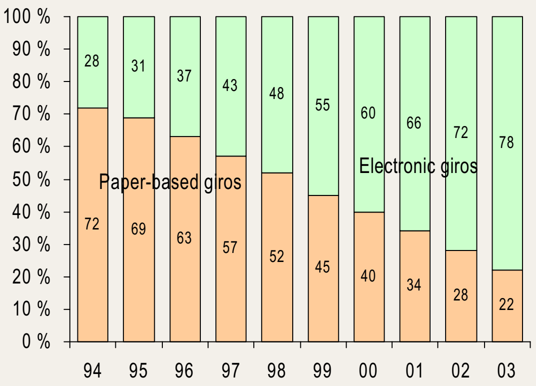
Source: Norges Bank

Chart 2.15 Use of payment instruments in selected countries in 2002. Per cent



Source: Norges Bank

Chart 2.16 Giro transactions 1994-2003. Share



Source: Norges Bank

(equivalent to the Norwegian Avtalegiro) are more popular in Europe than in Norway, whereas card use is generally lower. Cheques continue to play a central role in some EU countries and in the US.

Giro

Chart 2.16 shows that customers are switching from paper-based services to electronic services. The number of electronic giro transactions rose by 11% in 2003, whereas the number of paper-based transactions fell by 16%. The number of electronic giro transactions has increased three-fold since the mid-1990s, and in 2003 nearly twice as many giro payments were carried out via the Internet than by mail.

Giro payments can be initiated by the payer delivering a giro form to a bank branch, sending a giro in the post (mail giro) or by means of telebanking or Internet banking services. Banks' corporate customers are also offered facilities that use terminals or fixed telephone lines. In order to use mail giro and electronically initiated giro services, the customer has to have a separate agreement with the bank. Direct debit services (Avtalegiro and Autogiro) require an agreement where the account holder authorises the bank to debit specified payments from his or her account. In 2003, the number of agreements for Internet giro payments rose to 2.5 million, an increase of 32% on 2002. There was also continued growth in direct debit agreements. At end-2003, a total of 4.9 million agreements had been signed and around 2200 companies can now receive payments by direct debit. The most usual paper-based giro service is mail giro. The number of mail giro agreements has fallen in recent years and stood at 1.7 million in 2003.

Electronic giro services

In 2003, 326 million transactions were effected by means of electronic giro facilities (see Chart 2.17). The value of turnover through these systems was NOK 6 092 billion (see Chart 2.18). Electronic giro services include terminal payments in company offices and institutions, Internet payments and telebanking and payments based on direct debit agreements. The transition to more electronic processing and fewer manual operations has improved the efficiency of the payment system as electronic services are faster, simpler to use and cheaper than paper-based services. Electronic transactions are also perceived to be less subject to error and other problems than paper-based services.

When looking at typical "homebanking services", there was a marked rise in the number of Internet giro payments in 2003 (see Chart 2.19). The number of transactions rose from 81 million in 2002 to 96 million in 2003. As this service has become more widespread, the growth rate has also levelled off. The value of Internet giro payments increased by 21% to NOK 494 billion in 2003. The Norwegian Savings Banks' Association carried out a study in January 2004, which shows that 1.9 million people now use Internet banking, a 17% increase on the previous year. The survey also shows that over half the population over 15 now uses Internet banking services and that the rise in the use of Internet banking was greatest in relative terms among the over 60s. The figures from the Savings Banks' Association indicate frequent use of Internet banks: 7 out of 10 people with access to Internet banking use the service weekly or more frequently. The number of people with access to a PC and the Internet has increased sharply in recent years and the survey indicates that the higher use of Internet banking must be viewed in light of the general increase in the use of the Internet. Electronic invoicing has made it simpler to make giro payments via the Internet. In 2003 over 1 million electronic invoices were issued. The volume of electronic invoices increased five-fold from 2002 to 2003. One in every 100 Internet bank transactions is thus linked to an electronic invoice. There is reason to believe that use of this service will continue to rise in the future.

Giro payments by telephone have been popular for many years, but the number of payments fell in 2003 for the third consecutive year. A total of 25.5 million such transactions were carried out for a value of NOK 51 billion. Use of direct debit services (Avtalegiro and Autogiro) showed relatively robust growth in 2003. The number of transactions rose by 11% to 34.7 million. The value of turnover increased by 10% to NOK 164.6 billion.

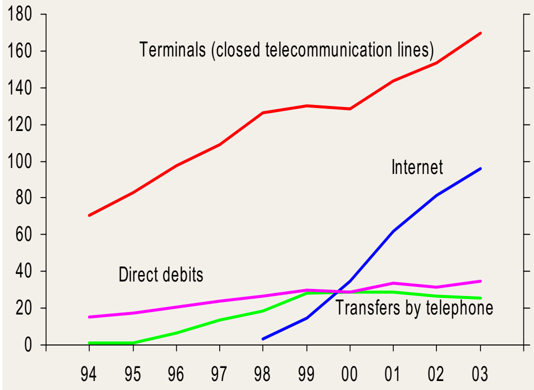
Payments using terminals that communicate via closed communication lines account for the largest share of electronic giro services, measured in both number and value. This type of transaction is primarily used by large and medium-sized businesses. In 2003, 169.9 million transactions were carried out, an 11% increase on the previous year. The turnover value rose to NOK 5 382 billion and the average amount per payment was NOK 31 680.

Internet banking and direct debit services have the highest average transaction amount of electronic giro services used by households, at NOK 5 135 and NOK 4 745, respectively. The high average for direct debit services is peculiar to Norway. In other countries, direct debits are largely used to pay small bills. By way of comparison, the average amount paid through telebanking was NOK 2000 in 2003.

Paper-based giro services

The most used paper-based giro services are giros sent by mail and giros delivered at the counter in bank branches or post offices (see Chart 2.20). Use of these services continued to decline in 2003. Banks' higher charges for paper-based services and the development of user-friendly electronic giro services are probably the main reasons for this trend.

Chart 2.17 Use of electronic giro services 1994-2003. Millions of transactions

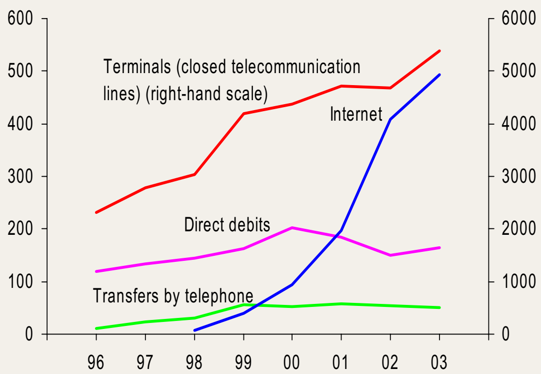


Source: Norges Bank

Electronic invoicing (eFaktura) is the banks' solution for electronically sending and presenting bills directly via the Internet. The solution is integrated with payment services that are available in Internet banks, so that it is easier for customers to receive, manage and pay bills via the Internet. It also makes it easier for companies to follow up payments from customers.

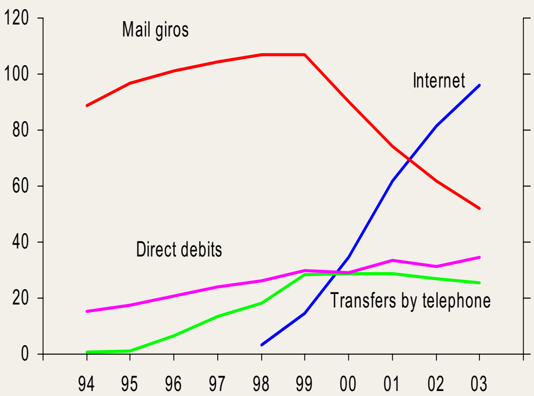
Source: the Norwegian Banks' Payments and Clearing Centre Ltd (BBS)

Chart 2.18 Use of electronic giro services 1996-2003. In billions of NOK



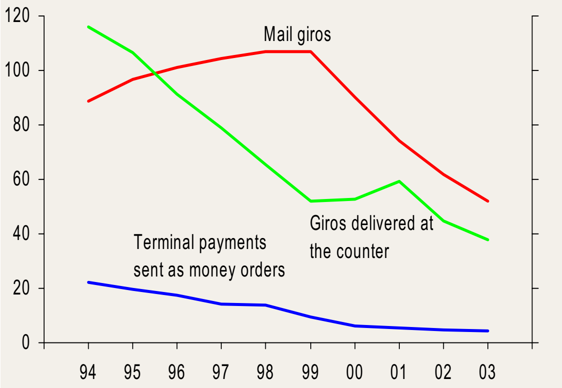
Source: Norges Bank

Chart 2.19 Use of "home-banking" services 1994-2003. Millions of transactions



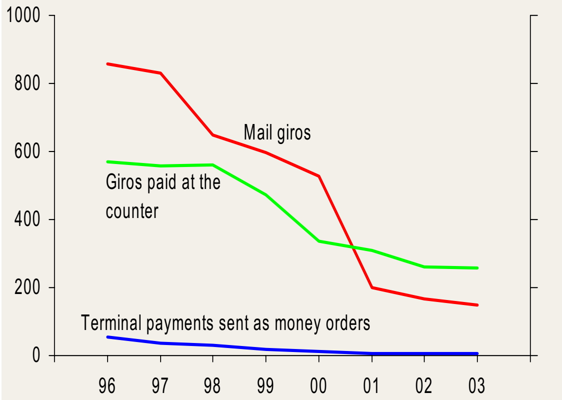
Source: Norges Bank

Chart 2.20 Use of paper-based giro services 1994-2003. Millions of transactions



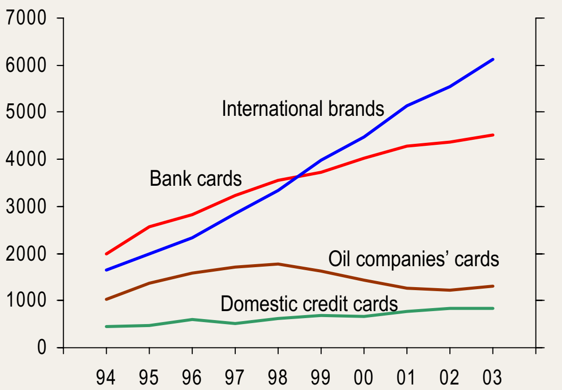
Source: Norges Bank

Chart 2.21 Use of paper-based giro services 1996-2003. In billions of NOK



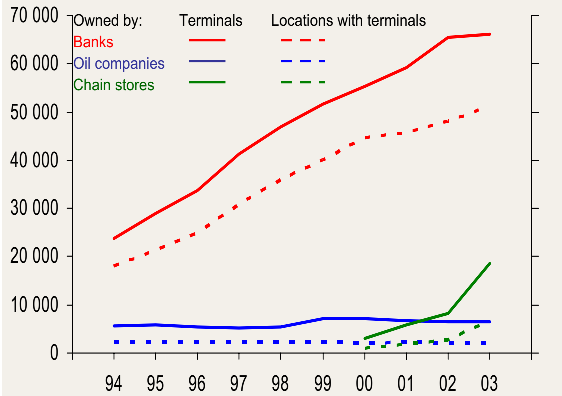
Source: Norges Bank

Chart 2.22 Number of payment cards issued at year-end 1994-2003. Measured in thousands of cards



Source: Norges Bank

Chart 2.23 Number of payment terminals and number of locations with payment terminals 1994-2003



Source: Norges Bank

The number of mail giros fell by 16% in 2003. Due to the high degree of centralised and automated processing, mail giros are deemed to be a relatively efficient paper-based solution. However, in relation to electronic alternatives, it is still more expensive to produce this service, which in turn is reflected in a higher price than for alternative electronic giro payments. Over the counter giros include both cash payments and account debits. In 2003, there was a 16% reduction in such payments and they now only account for 9% of the total number of giros, compared with 37% of all giro transactions ten years ago.

Turnover for all paper-based giro services fell by 5% in 2003 to NOK 411 billion (see Chart 2.21). Turnover for mail giro payments declined by 11% to NOK 149 billion.

Payment cards

Norwegians have many cards and there are few countries where cards are used more often. The most widely used payment card in Norway is the bank card, "Bank-Axept". This is a debit card with automatic online balance and authorisation checks. At end-2003, 4.5 million bank cards had been issued in Norway, see Chart 2.22. Whereas debit cards are used to access funds in the customer's account, including any credit linked to the account, credit cards and charge cards are not linked to bank accounts. Credit cards provide the cardholder with a credit limit agreed with the card issuer. Charge cards are normally based on the principle that the total of all separate purchases using the card in a given period will be paid at an agreed time, for example, every month. In Norway, card companies and banks issue payment cards from four international companies: VISA, MasterCard/Maestro, American Express and Diners Club. In all, these companies had issued 6.1 million cards in Norway by end-2003, which is a 10% increase on the year before. Most bank cards are combined cards, i.e. they have another function in addition to the bank card function, for example, as an international credit card. Disregarding such combined cards, around 2.4 million 'pure' credit cards and charge cards have been issued in Norway. Domestic credit card companies had issued 835 000 cards at end-2003 and oil companies had issued 1.3 million cards.

At end-2003 there were over 91 000 point-of-sale terminals for payment cards in Norway. This is a 14% increase on 2002 (see Chart 2.23). The number of locations with terminals that accept bank cards rose by 13% to just under 60 000. Point-of-sale terminals are generally owned by banks (73%), which then lease the terminals to shops. However, a steadily increasing share of terminals is now owned by grocery chains; this share increased by 20% in 2003. Oil companies own around 7% of terminals. In addition to bank cards and other cards, oil company terminals also accept the company's own card.

Card use in Norway is highly automated. The electronic processing of card transactions provides a higher degree of security and more efficient transaction processing. Electronic debiting requires a terminal that can check whether the card is blocked, and for debit cards, whether there is cover in the account. The use of electronic terminals is growing steadily and manual terminals are being replaced by, among other things, wireless terminals that are suitable for use in restaurants, etc. Manual terminals were only used for 2% of card transactions in 2003.

Looking at the overall use of cards for purchasing goods and cash withdrawals from ATMs, there were 702 million registered transactions in 2003, an increase of 12% on the previous year (see Chart 2.24). The value of these transactions came to NOK 450 billion (see Chart 2.25). Various payment cards were used for nearly 600 million purchases of goods and services, i.e. around 130 transactions per inhabitant. This is a 15% increase on 2002. Card use has quadrupled in the past decade. However, growth has levelled off somewhat in recent years.

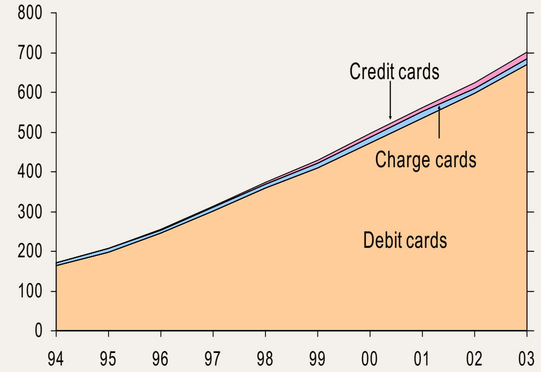
In 2003, 88% of card transactions involved bank cards (see Chart 2.26). The number of transactions where the 'international' part of the card is used is limited and has remained relatively stable for several years. In 2003, however, the share of international payment cards did edge up. The use of credit cards and charge cards is far more widespread in other countries than in Norway, but in countries that have shared solutions similar to the Norwegian Bank-Axept, these cards also have considerable market shares (Denmark and Finland). Chart 2.27 shows the distribution between the different international card companies. Domestic credit cards only accounted for 0.4% of total transactions.

Cards are used to pay for an increasing number of goods and services. The roughly 600 million card payments that were made in 2003 paid for goods and services for a value of NOK 270 billion, which entails an average transaction value of NOK 457. The way in which cardholders use their cards differs between the different types of card. Bank cards are largely used to pay small amounts (average amount NOK 422), whereas international payment cards have an average payment amount of NOK 692. Domestic credit cards are generally used to pay higher amounts, with the average transaction totalling NOK 1 357. However, the trend in recent years has shown that international cards and domestic credit cards are increasingly being used to pay for lower values.

Cheques

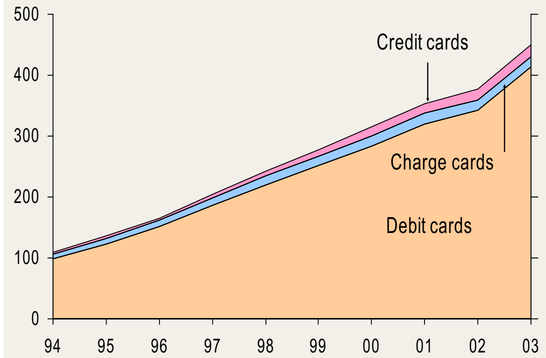
The use of cheques rose steadily after the introduction of wage accounts in the 1960s and peaked in 1984 when over 100 million cheques were written. Use has since declined rapidly. Chart 2.28 shows that 1.5 million cheques were

Chart 2.24 Use of different payment cards for goods purchases and cash withdrawals 1994-2003. Millions of transactions



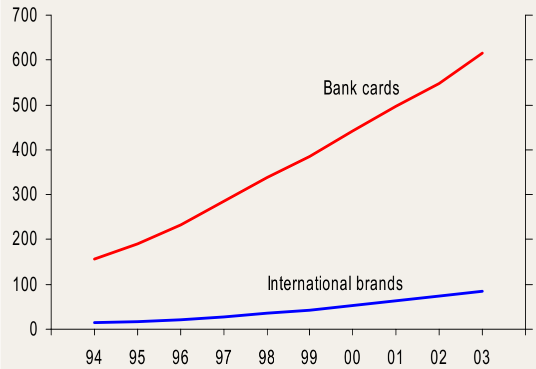
Source: Norges Bank

Chart 2.25 Use of different payment cards for goods purchases and cash withdrawals 1994-2003. In billions of NOK



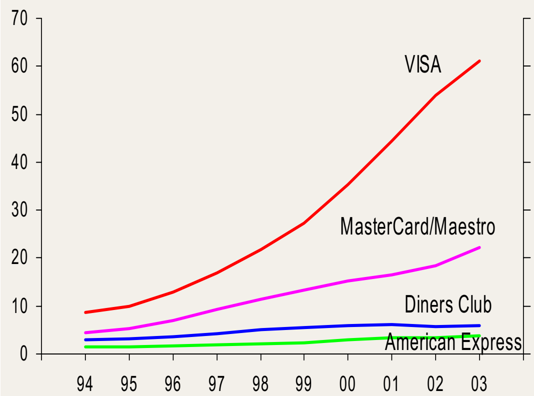
Source: Norges Bank

Chart 2.26 Use of Norwegian payment cards for goods purchases and ATM withdrawals 1994-2003. Millions of transactions



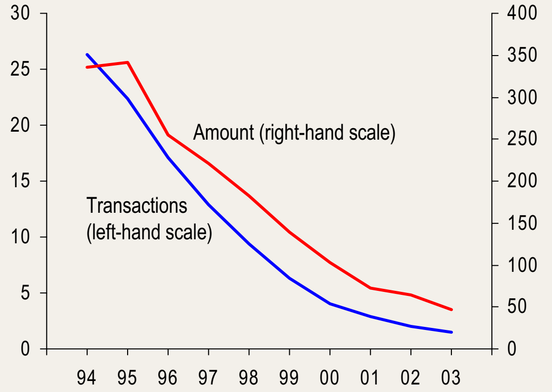
Source: Norges Bank

Chart 2.27 Use of international payment cards 1994-2003. Millions of transactions



Source: Norges Bank

Chart 2.28 Use of cheques 1994-2003. Millions of transactions and billions of NOK



Source: Norges Bank

written in 2003, which accounts for only 0.1% of all cashless payment transactions in Norway. However, cheques are still a suitable payment instrument for payments with immediate settlement between private individuals. The average amount for a cheque transaction is over NOK 30 000. Cheques have primarily been replaced by payment cards, which are a far more efficient payment instrument for the payer and the payee, as well as banks. Cheques are therefore priced in such a way that customers have an incentive to replace cheques with more efficient alternatives.

2.3 Interbank systems - clearing and settlement

Systems and participation

Thus far Chapter 2 has focused on changes in the use of payment services for banks' customers. The Norwegian payment system also includes interbank systems. These are systems for the clearing and settlement of transactions between banks. Clearing systems include the banks' joint system for interbank clearance (Norwegian Interbank Clearing System – NICS), clearing systems for private settlement systems and for securities and derivatives trades in the Norwegian Central Securities Depository (VPS) and Norwegian Futures and Options Clearing House (NOS). Settlement systems include Norges Bank's settlement system (NBO) and systems for settlement in private banks. The Payment Systems Act provides Norges Bank with authorising and supervisory authority vis-à-vis interbank systems. The objective of the Act is to ensure that systems are designed with a view to promoting financial stability. NICS, Den norske Bank (DnB) and Gjensidige NOR Sparebank (Union Bank of Norway) were granted authorisation for operating interbank systems in 2001 and are subject to supervision. Following the merger between DnB and NOR, the new bank's name is now DnB NOR Bank ASA. However, the two banks have different core systems and technical solutions and the technical integration of these systems will happen over time. As a result, the two authorisations will be upheld until further notice, but operate with one manager and one board. The structure of the interbank systems is illustrated in Chart 2.29.

All Norwegian banks participate in NICS and they can decide themselves whether claims are settled through an account in Norges Bank or a private settlement bank. All 19 commercial banks and 128 savings banks with accounts in Norges Bank, also have, in principle, access to Norges Bank's settlement system (NBO). However, most banks with accounts in Norges Bank do not participate in payment settlements in the central bank. Smaller banks generally settle their positions in one of the private settlement banks, whereas the larger banks settle in NBO. This means that the banks' positions in the private systems in relation to banks in other settlement hierarchies are included in the settlement bank's position in NBO. Participation in different Norwegian settlement

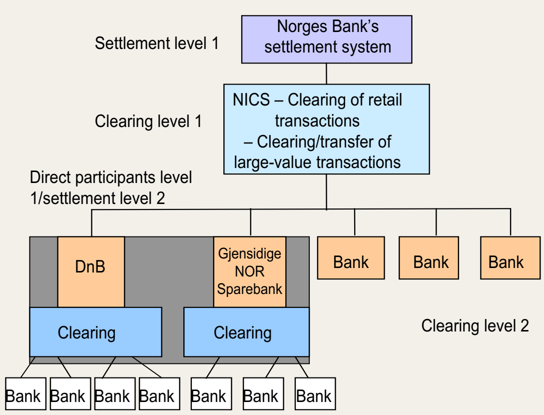
Clearing

A payment transaction between two customers in different banks results in the payee's bank having a claim on the payer's bank. When the payer and the payee have accounts in the same bank, the payment can in principle be processed within the bank. In Norway, however, a large part of service production in the payment system is coordinated. This means that payment transactions using bank cards, mail giros, the Internet and terminals are normally processed via a clearing house, regardless of whether the payer and the payee have accounts in the same bank. Asset and liability positions are calculated in a clearing house (clearing) and are then settled in a settlement bank (settlement). In the clearing process, banks' positions vis-à-vis other banks participating in the clearing are offset against each other.

Settlement

In settlement, the results of the clearing are transferred to banks that are owed money and accounts of banks with net debts are debited (net settlement). In this way, the need for liquidity is reduced. Both banks must have accounts in the settlement bank. In gross settlement, the payment transactions are settled individually, without prior clearing.

Chart 2.29 Interbank systems in Norway



Source: Norges Bank

systems, measured in terms of the number of participating banks and these banks' total assets, is shown in Chart 2.30. Ordinary customer payments (e.g. giro, payment card and ATM transactions) are included in NICS retail netting. This is a multilateral netting in which all claims between banks are reduced to one set of positions between the 148 participating banks. Retail settlement is carried out twice daily in Norges Bank and 28 banks participate in these settlements. Bigger transactions and interbank transactions are settled in the NICS-SWIFT net settlement or NICS-SWIFT-RTGS, which is a real-time gross settlement; 20 banks participate in these settlements.

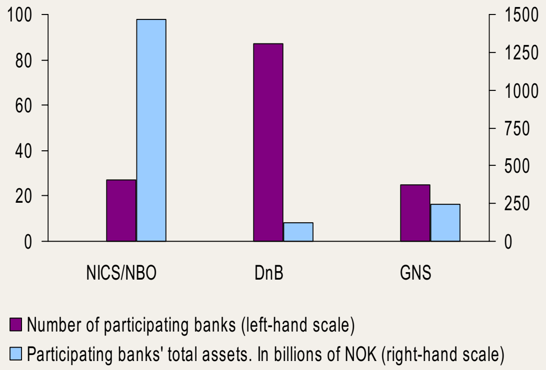
Most SWIFT payments under NOK 25 million are settled in one of four daily NICS-SWIFT nettings, with net settlement taking place in Norges Bank. Payments in excess of NOK 25 million and other specially earmarked transactions are settled immediately on an individual basis in Norges Bank through the SWIFT-RTGS settlement system. Trades in securities and options are settled in VPS, whereas the cash leg of the settlement takes place in Norges Bank. VPS registers and clears transactions and positions for settlement in securities trading, i.e. equities and primary capital certificates, bonds and short-term papers. In addition, VPS clears options trades on behalf of NOS. A total of 17 banks and 22 stockbroking firms participate in the securities settlement, whereas 6 banks and 16 stockbroking firms participate in the options settlement.

Turnover and liquidity

Average daily turnover in NICS was NOK 249 billion in 2003, an increase of nearly 18% on one year earlier. Around 75% of the value in NICS comes from gross transactions (RTGS), which only account for under 0.1% of the total number of transactions. The average gross transaction totalled NOK 315 million. As mentioned, a completely different type of transaction is processed through retail clearing. In 2003, an average of 4 million transactions were processed each day, which is equivalent to over 99% of total transactions. However, the value came to just under 20% of the average daily turnover (NOK 48 billion). The average transaction amount was NOK 12 000. SWIFT net clearing lies somewhere between RTGS and NICS Retail, in terms of amount, with an average transaction value of NOK 2.5 million. There was a fall in turnover in SWIFT net clearing in relation to 2002, as the banking industry decided in 2003 to reduce the maximum amount for transactions in this clearing system from NOK 100 million to NOK 25 million.

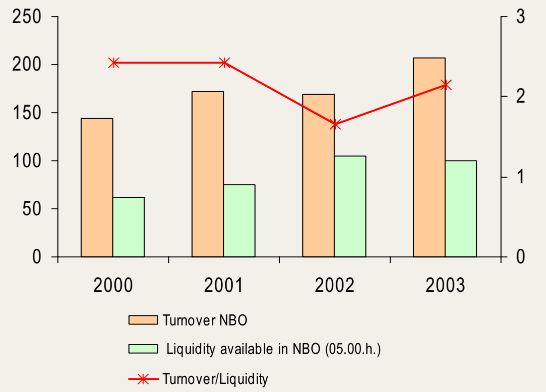
The netting effect in NICS retail clearing and NICS-SWIFT is substantial. The daily value of transactions was reduced from NOK 61 billion before clearing to NOK 8.8 billion in settlement transactions in NBO. This netting effect means

Chart 2.30 Authorised Norwegian interbank systems. Number of participating banks and total assets 2003



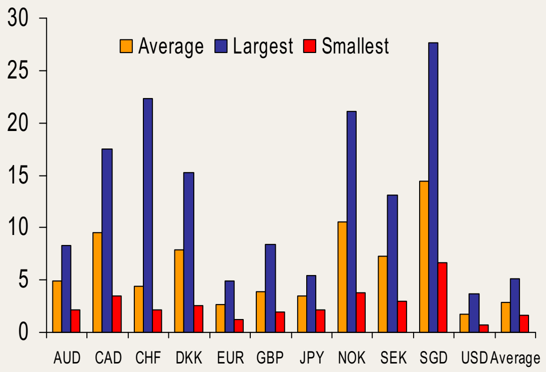
Source: Norges Bank

Chart 2.31 Turnover and liquidity in NBO 2000-2003. Billions of NOK (left-hand scale) and ratio (right-hand scale)



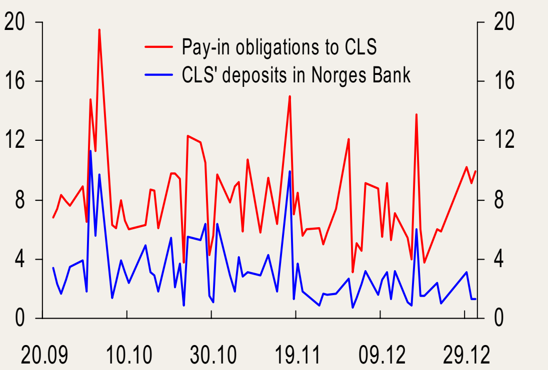
Source: Norges Bank

Chart 2.32 CLS - largest, smallest and average pay-ins as percentage of total turnover. 8. Sep. 2003 - 9. Jan. 2004



Source: CLS

Chart 2.33 Highest deposits in CLS' account in Norges Bank and banks' total pay-in obligations to CLS. In billions of NOK



Source: CLS and Norges Bank

that banks only require liquidity to cover payments equivalent to 14% of the value of total payments in these clearings. The netting effect is greatest in NICS retail clearing.

In 2003, banks had on average NOK 100 billion available in liquidity in NBO as sight deposits and borrowing facilities at start of day (05:00). Available liquidity rose noticeably from 2001 to 2002, whereas the level remained relatively stable from 2002 to 2003 (see Chart 2.31). The rise from 2001 to 2002 was largely due to banks pledging more securities in favour of Norges Bank. From 2002 to 2003, sight deposits in banks accounts increased whereas the value of collateral declined.

CLS (Continuous Linked Settlement)

The Scandinavian currencies (DKK, SEK and NOK) were included in CLS in September 2003. In the period since then until end-February, turnover in NOK in CLS averaged around NOK 70 billion per day. CLS has several features that reduce banks' liquidity requirements in foreign exchange settlement. The most important being that settlement members' pay-in obligations are calculated on a net basis for each currency. The netting effect depends among other things on turnover and varies from currency to currency. Generally, the most traded currencies achieve the best netting effect, see Chart 2.32. NOK Pay-ins account for between 4-20% of NOK turnover and average daily pay-in obligations in the period from September to end-February were just over NOK 7 billion. Deposits in a CLS account in the central bank can be seen as an indication of banks' liquidity requirement in connection with settlement. For NOK, the highest deposit in the course of the day has varied between 13 and 78% of total pay-in obligations, see Chart 2.33. CLS is discussed in more detail in Chapter 4.

3 Prices and income in the payment system

Banks' average prices for electronic payment services remained more or less unchanged from 2003 to 2004, whereas there was a rise in prices for manual payment services. Customers have to an increasing extent chosen to use comparatively cheaper electronic alternatives (see Chapter 2). Thus even though prices on some payment services have risen in recent years, customers' costs in connection with payment services have fallen by around 20% per transaction in the period from 1994 to 2003 (Chart 3.1). Measured in real prices, costs fell by 35% in the same period.

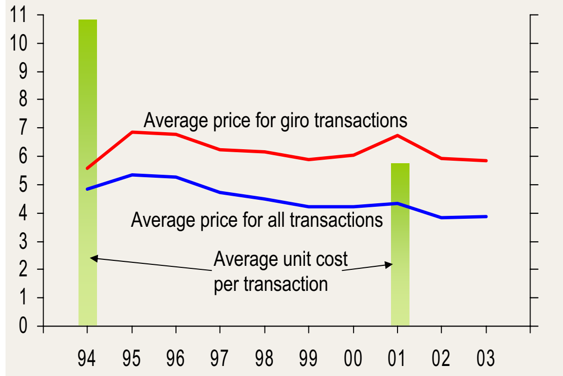
In Norway it is usual for banks to price individual payment transactions directly. In many other countries it is more usual to have a fixed price for account management, for example a fixed price per month combined with a number of free services. If direct prices and fixed charges do not cover costs, the remainder is covered by cross-subsidisation, either from float income, from banks' interest rate margin or from other business areas in the bank. Float income is still usual in many countries, but provisions in Norwegian legislation have eliminated the possibility of such cross-subsidisation. Low interest rates also reduce banks' possibilities for using the interest rate margin to finance the production of payment system services. Competition in the banking market is strong and banks' interest rate margins have declined substantially in the past decade (Chart 3.2). Banks' possibilities for covering costs in the payment system from other sources are therefore limited. Over time, banks have managed to cover more of the costs by increasing prices for payment services and subsidisation with income from other activities has been reduced.

Cost-based direct pricing of payment services gives customers an incentive to choose the most cost-effective services. This has been and still is an important element in achieving an efficient system for payment services in Norway. Loyalty schemes and free services distort these price signals and can also make it harder for customers to compare services between banks.

3.1 Banks' income from the payment system

Banks' income from the payment system came to around NOK 6.2 billion in 2003, an increase of NOK 0.5 billion on the year before (Chart 3.3). Income from domestic payment services totalled NOK 4.9 billion. Income from transfers abroad and other income from the payment system came to NOK 0.5 billion and NOK 0.7 billion, respectively. Norges Bank gathers information on all Norwegian banks' income from the payment system from official financial statistics. In

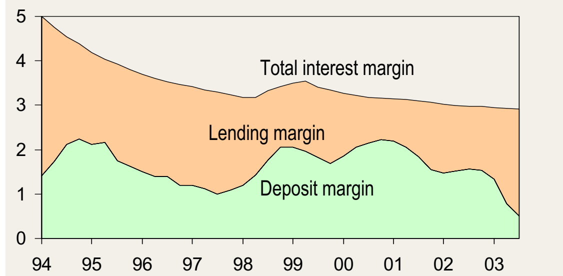
Chart 3.1 Nominal average price per transaction, average price per giro transaction, and banks' unit costs 1994-2003. NOK



Source: Norges Bank

The weighted average prices in Chart 3.1 are calculated by multiplying the average price for each payment service by the service's share of total transactions in the course of the year, then adding up the figures for all payment transactions. This gives a weighted average price for payment transactions in Norway. The weighted average price takes into account changes in prices and the public's payment habits.

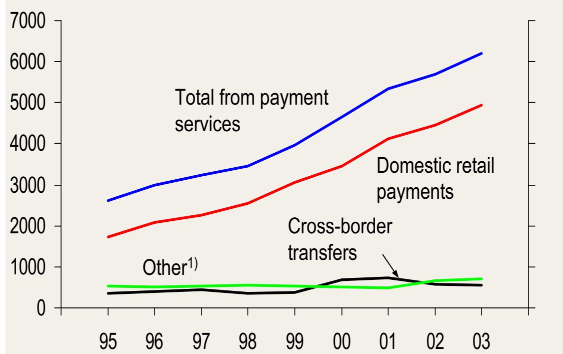
Chart 3.2 Banks' deposit and lending margins, and total interest margin[1)] in Norway 1994 – 2003, Per cent



[1)] Interest margin is defined as the average of lending rates minus the average of deposit rates. 3-month moneymarket rate(NIBOR) is used to split the interest margin into lending margin and deposit margin.The chart shows a moving average over the last four quarters

Source: Norges Bank

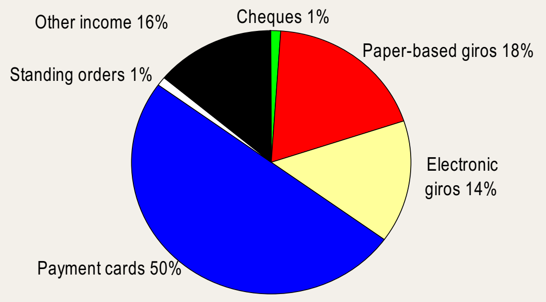
Chart 3.3 Banks' income from payment services. 1995-2003. In millions of NOK



[1)] Collection services, letters of credit and interbank transactions

Source: Norges Bank

Chart 3.4 Income from retail payment services by type of service 2003. Per cent



Source: Norges Bank

Float income for banks is generated when funds are transferred from one account to another, for example through the giro system, and do not bear interest for either the payer or payee for a period. The Financial Agreements Act that entered into force on 1 July 2000 contains provisions that eliminate float income in Norway.

Sight deposits are deposits (in NOK or another currency) that can be immediately converted to banknotes and coins, or from which payments can be made directly without incurring any costs other than normal transaction and start-up fees. This is often called **deposit money**, to which the public has access by using the instruments discussed in this report.

The average prices in Chapter 3 and Table 40 are based on prices collected from individual banks. The average is calculated by weighting prices in each bank with the bank's share of the bank group's sight deposits (commercial banks/savings banks), then the average prices for the bank group are weighted with the group's market shares for the use of payment services.

recent years, higher income from the payment system has coincided with a reduction in production costs for payment services. In addition to average prices, Chart 3.1 also shows banks' average unit costs for payment services. Banks' costs in connection with the payment system were last studied by Norges Bank in 2001 (Gresvik & Øwre, 2002). The survey showed that production costs for domestic payment services came to NOK 5.9 billion and that banks recovered around 70% of costs from the pricing of payment services.

A large part of banks' income comes from cards and different types of giro (see Chart 3.4). Income from cards is derived from transaction prices, annual charges and rental income from terminals. Income from giros accounts for 32% of total income, distributed over electronic giros (14%) and paper-based giros (18%). Payment cards and electronic giros carry relatively low prices and thus account for a smaller share of income than the number of transactions would otherwise indicate. The opposite is true of paper-based giros and cheques, where unit prices are high and transaction volumes are relatively low.

Banks' total income from the domestic payment system is divided more or less evenly between savings banks and commercial banks. However, savings banks generate more income in relation to their total assets than commercial banks. Savings banks recorded higher income in relative terms than commercial banks from cards, whereas commercial banks earned more from giro services. This income distribution has been the same for some years and is probably the result of a relatively higher share of private customers and small businesses in savings banks' portfolios. Society's costs in the payment system include costs for both the payer and payee. In recent years, the degree of self-service in connection with a number of payment services has increased, and to a certain extent, it could be claimed that customers now carry out tasks that were previously performed by banks. On the other hand, the availability of payment services has increased. A rise in the number of payment terminals has increased opportunities for payment by card and provides better access to cash and credit. Internet banking services have become widespread in the space of a short time and it is now possible to carry out many payment services in shops.

3.2 Prices for cash withdrawals

The price statistics were collected in January 2004 from price lists on banks' websites and by direct enquiry. They are based on information from 8 commercial banks and 18 savings banks. At end-2003, these banks accounted for 85% of total NOK current account deposits. In all the banks surveyed, banks' own customers can withdraw cash free of charge at the counter. It is possible in Norway to withdraw cash in banks where the customer does not have a banking relationship, but relatively high fees apply for this service and it is not often used. Cash withdrawal using a card at point-of-sale terminals (cashback) carries no charge other than that associated with the purchase of goods. Prices for cash withdrawals from ATMs vary depending on the time of day and whether the withdrawal is from the customer's own bank or another bank's ATM (see Chart 3.5). As a general rule, withdrawals from one's own bank's ATMs during business hours are free. Outside business hours, a charge normally applies. From 2003 to 2004, the average price for this service rose by 20 øre to NOK 3.89.

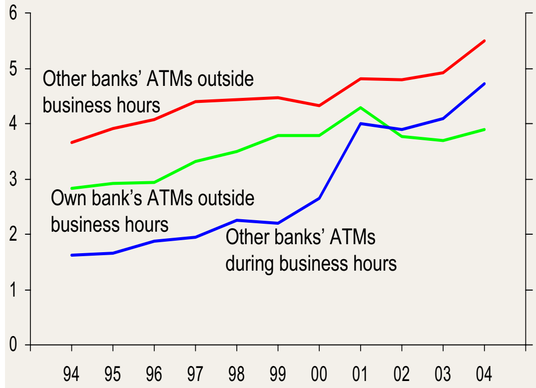
Every ATM is owned or leased by a bank, but can be used by all cardholders irrespective of whether they have an account in that particular bank or not. The cost of having this facility available to all cardholders is divided between banks by means of an interbank fee. These fees are meant to cover the ATM owner's costs in connection with other banks' customers using the ATM. Interbank fees are a net expense for small banks with few ATMs, where as they constitute net income for large banks with many ATMs. The interbank fee for banks stood at NOK 4.50 from 1995 to 2001, but was raised to NOK 6.50 in February 2002. The average price for withdrawals from other banks' ATMs during and outside banks' business hours increased to NOK 4.72 and NOK 5.49, respectively, in 2003.

3.3 Prices for domestic payment services

Prices for electronic services geared towards the retail market have remained stable in recent years, with only minor changes from 2003 to 2004 (see Chart 3.6). Weighted average prices for using cards in payment terminals, giro payments via PC/Internet and telebanking and direct debit agreements are all around NOK 2. Payment via PC/Internet is the cheapest electronic giro service, whereas telephone giros, EFTPOS (payment terminals) and direct debit services are around 10% more expensive. The rise in prices for a number of paper-based services geared towards the retail market was considerable from 2003 to 2004 (see Chart 3.7). The average price for giros paid in cash at the counter is now approximately NOK 42, whereas giros paid by account debit at the counter now cost around NOK 30. The increase was more moderate for mail giros; the average price for this service is now NOK 6.53 excluding postage.

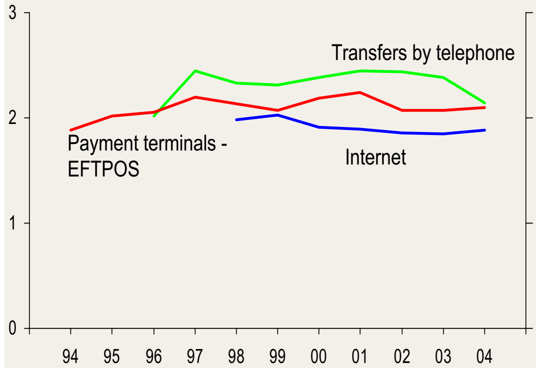
The rise in prices for payment services geared towards the corporate market has also been moderate in recent years. The most automated services (with KID) are generally cheapest, whereas services with notification are most expensive. Giro services that employ a KID number make it possible for both the bank and the payee to trace the transactions more efficiently. When notification is sent to the payee, the payer's bank is charged a special interbank fee by the payee's bank.

Chart 3.5 Prices for ATM withdrawals 1994-2004. Average for all banks. Prices in NOK



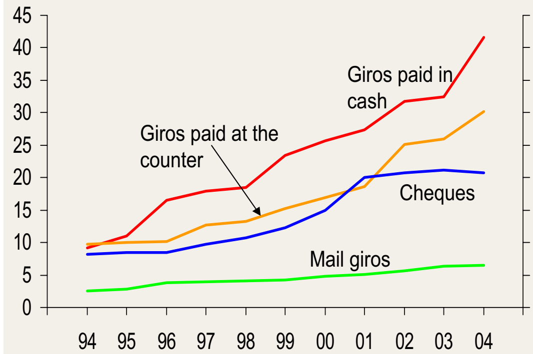
Source: Norges Bank

Chart 3.6 Prices for electronic payment services for retail customers 1994-2004. Average for all banks. Prices in NOK



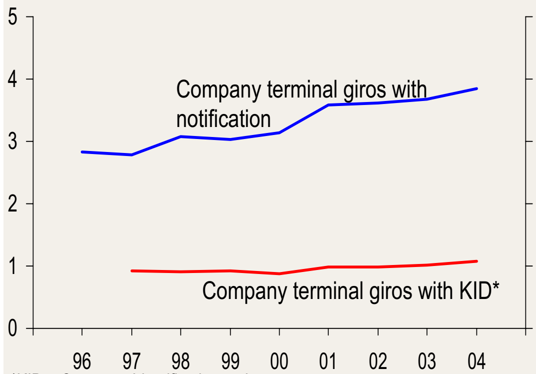
Source: Norges Bank

Chart 3.7 Prices for paper-based services to retail customers 1994-2004. Average for all banks. Prices in NOK



Source: Norges Bank

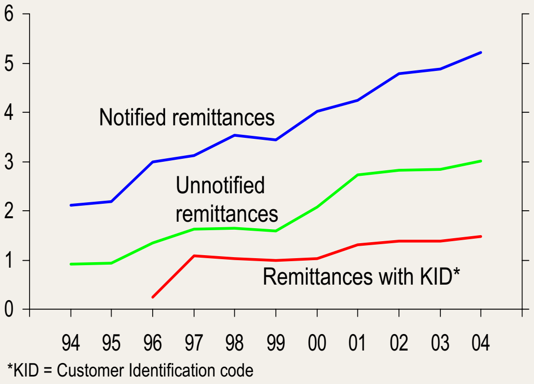
Chart 3.8 Prices for company terminal giros 1996-2004. Average for all banks. Prices in NOK



*KID = Customer Identification code

Source: Norges Bank

Chart 3.9 Prices for remittances 1994-2004. Average for all banks. Prices in NOK

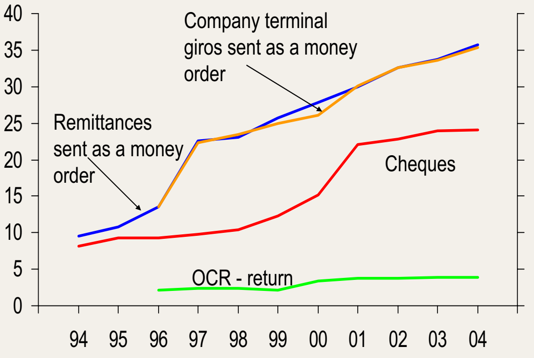


*KID = Customer Identification code

Source: Norges Bank

Access fees for banks' joint systems for card use comprise two price elements. Initially each bank pays an access fee of around 2.5% of the bank's capital or NOK 2m, depending on whether it is a small or a large bank. Banks that increase their capital during the first five years and/or have a card base of more than 17 500 two years after joining the system, have to pay additional fees.

Chart 3.10 Prices for paper-based services to business customers 1994-2004. Average for all banks. Prices in NOK



Source: Norges Bank

Services with notification therefore cost the customer more than corresponding services without notification (see Charts 3.8 and 3.9).

Changes in prices for paper-based services geared towards the corporate market are shown in Chart 3.10. Prices for both company terminal giros and remittance services rose by just over 5% from 2003 to 2004.

Annual fees and start-up fees

It is normal for banks to charge an annual fee for combined payment cards (i.e. cards that have both Bank-Axept and, for example, Visa or MasterCard functionality). At the start of 2004, the average annual fee was NOK 252. Of the 26 banks in the survey, 14 charge an annual fee of NOK 250, whereas two banks have a higher annual fee. The other banks charge an annual fee of between NOK 200 and NOK 250. A joint agreement among banks stipulates that newly established banks shall pay a one-off fee of NOK 250 for each new card issued (Bank-Axept). This fee is paid to Bank-Axept/ BBS (the Banks' Payment and Central Clearing House) and is intended to cover banks' shared costs in connection with developing and adapting the shared infrastructure for payment cards.

Some banks charge a monthly or annual fee for access to Internet banking services and some banks also charge a start-up fee for providing customers with access to Internet banking services. At the start of 2004, a total of 15 banks in the survey charged a monthly/annual fee for such access. The average annual price charged by these banks was around NOK 158. Seven of the banks charged a start-up fee of between NOK 200 and NOK 300. The number of banks charging start-up and annual/monthly fees has fallen since Internet banking services were introduced, which may indicate that competition in the market for Internet banking is intensifying.

Discounts and loyalty programmes in the payment system

Most banks offer discounts on payment services by means of different loyalty programmes that are available to customers who fulfil certain conditions. The loyalty programmes offered by the 26 banks used as a basis for the price calculations in Chapter 3 can be divided into three main groups:

- Programmes where customers pay a fixed monthly fee. Discounts then take the form of free use of certain payment instruments, for an unlimited or limited number of transactions per month.
- Programmes where customers have deposits/loans with the bank, often for a set amount, and/or use other services within the financial group, for example securities trading or insurance services.
- Programmes where customer groups are given a discount, for example young people under 18, students or pensioners. Some banks also operate with the requirement that customers use certain payment solutions, for example, Internet banking or certain account types (student account, etc.).

By calculating the differential between total income based on average prices and the income recorded by banks, Norges Bank estimated in the Annual Report for 2002 that these discounts are on average around 10%. The real price that customers pay for payment services is therefore lower than the average prices presented in this report.

3.4 Price spread

Average prices for payment services can conceal large variations in actual prices between banks. A large spread may indicate that banks have different market strategies or that they are focusing on different market segments, so that competition between banks is less intense for these services. A narrow price spread for a service may indicate keen competition for customers for that particular service. However, a narrow spread may also be the result of banks' joint agreements and regulations pertaining to payment services, in particular the regulation on how to cover costs for joint services, such as the setting of interbank fees. It must be emphasised that this report only presents information on the price spread for selected services. A far more thorough analysis is required to shed light on the competition in the market for these services, or in the market for payment services in general. All references to average prices in this section are, contrary to references earlier in the chapter, to unweighted average prices.

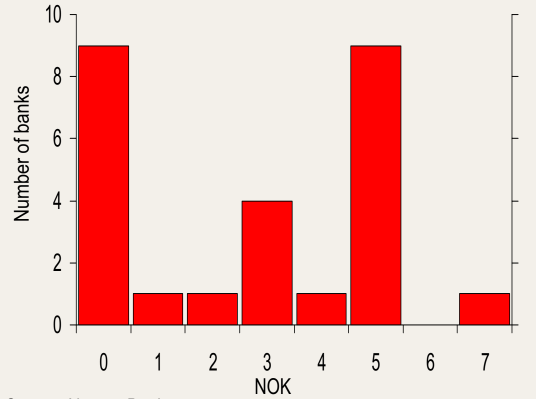
Price spread for some services

Generally, the price spread for a number of paper-based services and EFTPOS is small, whereas it is somewhat wider for electronic giro services and some ATM services. All banks, with the exception of one, offer their customers free cash withdrawals from their own ATMs during business hours. The spread is considerably wider as regards the price of withdrawals from own ATMs outside business hours. Nine banks offer this service free of charge, whereas 10 banks charge NOK 4.50 or more (see Chart 3.11). The price spread is also large in relation to withdrawals from other banks' ATMs. Eight banks offer this service free of charge during business hours, while the remainder charge on average NOK 5.30 (see Chart 3.12). Two banks do not charge for ATM withdrawals, regardless of when and where they are made.

Prices for payment card use in connection with goods purchases (EFTPOS) show little variation. Most banks have chosen to price this service at NOK 2 (see Chart 3.13). The price spread for telephone giros and bill payments via PC/Internet is somewhat wider (see Charts 3.14 and 3.15). Five banks offer services for bill payment via the telephone and PC/Internet free of charge to their customers. The majority charge around NOK 2 to 3 per giro. The price spread for paper-based services targeted at the retail market is relatively small. For example, 19 of the banks included in the survey charge between NOK 5.50 and NOK 7.50 for mail giros (see Chart 3.16).

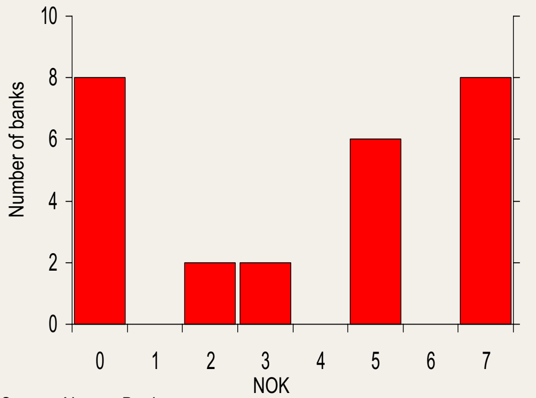
Company terminal giros are a widely-used payment instrument in the corporate market. There are a number of different services for payments from company terminals,

Chart 3.11 Price spread for withdrawals from customers' own bank's ATMs outside business hours in 2004. Prices in NOK



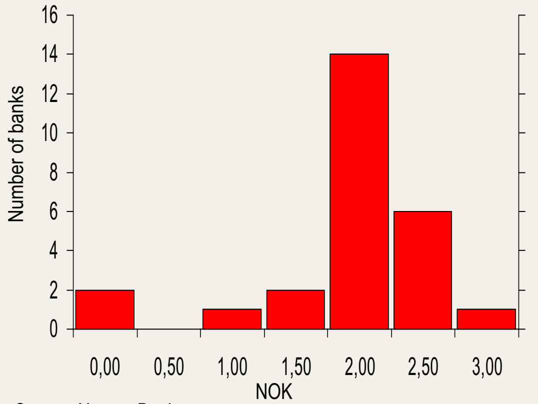
Source: Norges Bank

Chart 3.12 Price spread for withdrawals from other banks' ATMs during business hours in 2004. Prices in NOK



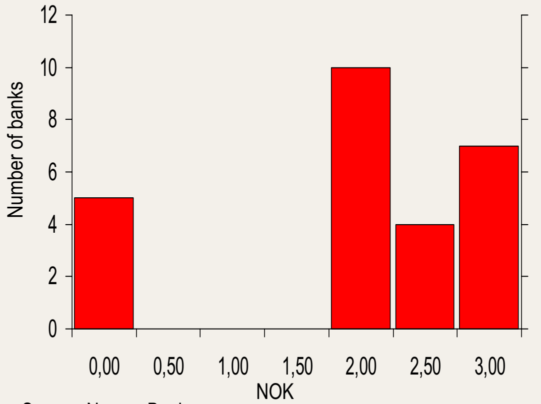
Source: Norges Bank

Chart 3.13 Price spread for use of payment cards in payment terminals (EFTPOS) in 2004. Prices in NOK



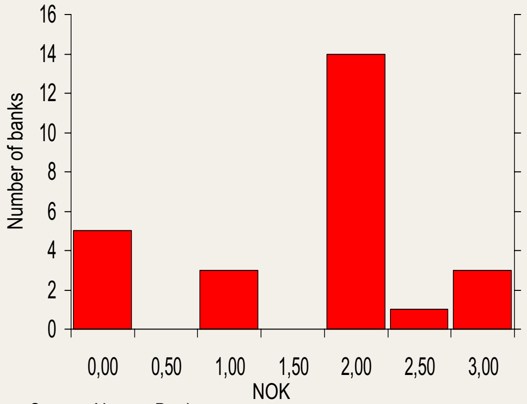
Source: Norges Bank

Chart 3.14 Price spread for telephone giros in 2004. Prices in NOK



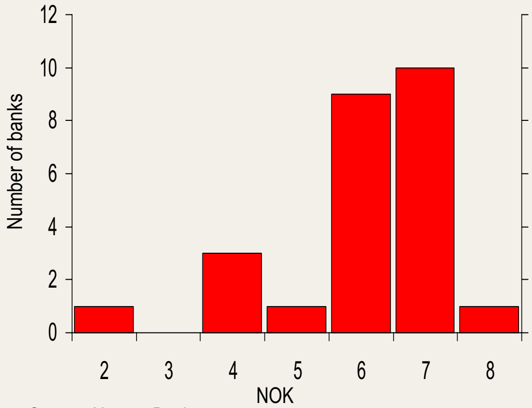
Source: Norges Bank

Chart 3.15 Price spread for giros paid via the Internet in 2004. Prices in NOK



Source: Norges Bank

Chart 3.16 Price spread for mail giros in 2004. Prices in NOK



Source: Norges Bank

but they all have a relatively low price spread. Company terminal giros without notification are priced at NOK 1 by 10 of the banks and 70% of the banks charge NOK 1 or NOK 1.50 for company terminal giros with KID. Company terminal giros with notification have been priced at NOK 4 by 10 of the banks.

Price spread by banks' size and organisation form

The degree to which prices vary according to the size and organisation form (savings banks/commercial banks) of the banks included has varied from year to year. A bank is considered to be large when its share of the banks' combined total assets or deposits in NOK is higher than 2%. When grouped by size, 8 of the 26 banks in the survey qualify as large. Banks' prices for 2004 show that large banks had a slight tendency to charge higher prices for payment services than small banks, but that there is no significant price difference between large and small banks for any of the electronic services geared towards the retail market, such as EFTPOS, telephone giro and Internet banking services. For manual services targeted at the retail market, there are significant price differences for over-the-counter giro services (giro cash to account and giro account to account). The average price for such services is between 30-40% higher in large banks than in small banks. A number of services targeted at the corporate market also show significant price differences. Large banks generally price OCR and remittance services somewhat higher than small banks. There is no significant difference in prices between commercial and savings banks. Large banks are overrepresented in the sample of commercial banks (4 out of 8) and when large commercial banks were compared with large savings banks and small commercial banks with small savings banks, no significant price differences were observed.

4 Infrastructure and regulatory developments

Developments presented in Chapter 2 show a continued move towards a more efficient payment system in 2003. Customers are to a greater extent using cost-effective electronic services and there was a particularly sharp increase in the use of giro payment services via the Internet. The price statistics presented in Chapter 3 show that price differences between the various services give customers an incentive to choose the most cost-effective electronic services.

In 2003, several events also took place that are of importance to the further development of the Norwegian payment system. The Norwegian krone was included in the international foreign exchange settlement system, CLS, thus reducing risk in connection with banks' foreign exchange transactions. The Scandinavian central banks developed a joint solution for better utilising liquidity across all the Scandinavian countries. DnB and Gjensidige NOR Sparebank (Union Bank of Norway) merged and as a result, there is now one less bank operating an interbank settlement system in Norway. The banking industry and other participants in the payment system constantly develop new payment solutions and in 2003, new operators were authorised to issue electronic money. Norges Bank outsourced the operation and administration of Norges Bank's settlement system (NBO) in 2003. This will help to ensure high operational stability and improved cost efficiency in the central bank's settlement services. Norges Bank has also decided to change the system for calculating borrowing rights in the central bank to one that is based on the market value of the securities furnished as collateral for loans. The Norwegian securities settlement system was also modernised in 2003, among other things to include two daily settlements. In order to secure the foundations for the efficient production of coins in the future, Norges Bank sold the Royal Norwegian Mint to Samlerhuset AS Norge and Mint of Finland in 2003. Norges Bank also decided to discontinue the production of Norwegian banknotes from 2007. Changes in legislation that will be important in the period ahead include a new regulation on information and communication technology (ICT), amendments to the Norges Bank Act, a new regulation on notification and reporting of foreign payments and the Act relating to measures for combating money laundering. These events are discussed in more detail below.

4.1 Reduced FX settlement risk and more flexible liquidity management

Participants can be exposed to considerable risk in connection with the settlement of foreign exchange transactions. The establishment of CLS (Continuous Linked Settlement) is an important measure to limit this risk. When

CLS started operations in autumn 2002, it included seven currencies (AUD, CAD, CHF, EUR, GBP, JPY and USD). The Scandinavian currencies (NOK, SEK and DKK) were included in CLS from 8 September 2003 and the Singaporean dollar was included on 10 September. To settle foreign exchange transactions in CLS, both parties to a transaction are required to pay sufficient funds in to their CLS account in the respective central banks in advance. The banking industry and Norges Bank have worked to ensure that liquidity is available for pay-ins to CLS at the most critical period in the morning. One of the measures taken to achieve this was to change the settlement times in NBO.

As banks' liquidity in NBO varies considerably through the year and pay-in obligations to CLS could possibly increase, situations with tighter liquidity in the settlement system cannot be ruled out. Against this background, the central banks in Norway, Sweden and Denmark have developed a solution for the efficient transfer of liquidity between the three currencies that is called "Scandinavian Cash Pool" (SCP). SCP was implemented on 31 March 2003 and means that banks can use deposits in one of the Scandinavian central banks as collateral for loans from another. SCP is based on existing systems and each country's national rules and procedures. The system is currently only used between banks belonging to the same group, but regulations do not prevent the system from being used for liquidity transfers across bank groups.

Scandinavian Cash Pool (SCP)

The way the SCP works can be illustrated by an example where a Danish bank wants to increase the liquidity available for its subsidiary in Norway by pledging collateral in Denmark:

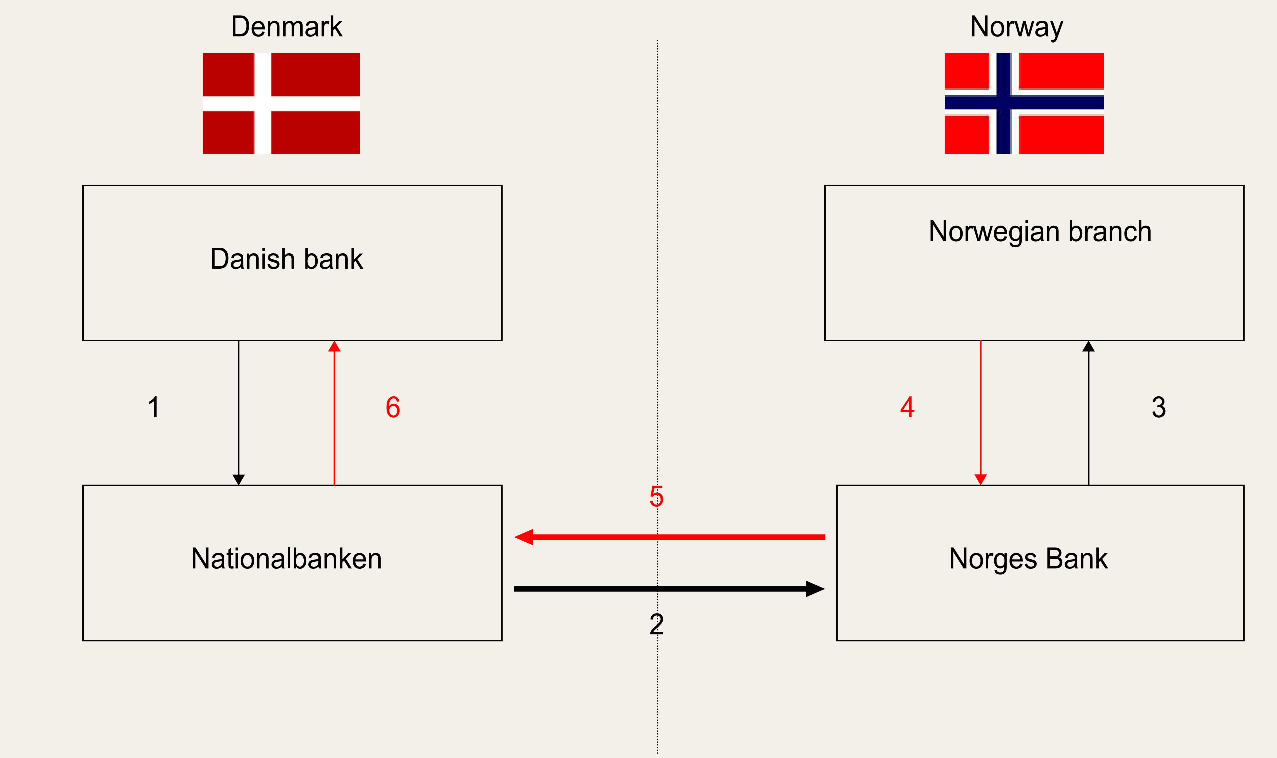
1. On the request of the Danish bank, Nationalbanken reserves some of the bank's surplus liquidity in the Danish payment system and transfers the deposit in DKK to an account in Nationalbanken that is pledged in favour of Norges Bank. The account is in the Danish bank's name.
2. Norges Bank then receives notification of the amount in DKK that has been pledged as collateral for increasing the subsidiary's drawing rights in Norway. Norges Bank converts this amount into NOK, deducts a 5% "haircut" as a buffer against exchange rate changes and updates the subsidiary bank's balance in NBO by the amount in question.
3. The Norwegian subsidiary now has more available liquidity.

It only takes a few seconds to pledge cross-border collateral in SCP. Banks are obliged to redeem loans and ensure that deposits in pledged accounts in Norges Bank are released the same day:

4. The Norwegian subsidiary bank notifies Norges Bank that the pledged assets are to be released. Norges Bank checks that these are not pledged, then reduces the subsidiary's drawing rights, adds on the 5% "haircut" and converts the whole amount from NOK to DKK.
5. Norges Bank notifies Nationalbanken that the reserved amount can be released. Nationalbanken releases the amount by transferring it from the pledged account to the Danish bank's current account in Nationalbanken.

The returned liquidity is then available to the Danish bank.

Scandinavian Cash Pool in operation. An example.



4.2 Merger DnB/NOR.

Gjensidige NOR ASA merged with DnB Holding ASA on 4 December 2003. The operational banks Den norske Bank ASA and Gjensidige NOR Sparebank ASA (Union Bank of Norway) merged on 19 January 2004. The new bank's name is DnB NOR Bank ASA. The Union Bank of Norway and DnB were both authorised to operate interbank systems. Both banks have been settlement banks at level 2, i.e. they have settled transactions for a number of banks that have chosen this solution rather than settling directly in Norges Bank. The merger means that there is now one bank less operating a level 2 settlement system. New participants in this market would thus be good for competition.

The two banks have different core systems and the technical integration of these systems will take place over time. Consequently, both authorisations will be upheld, but will operate with one manager and one board. When the IT systems are consolidated, the consequences of a failure in the new system will be greater than if there was a failure in just one of the systems. However, this can be counterbalanced by using more resources on security. The increase in volume could also result in cost-efficiency gains, increased diversification and improved risk management. As the authorising authority, Norges Bank can set further operational requirements for authorised systems. However, responsibility for operational risk rests with the operator in question.

4.3 Status for smart cards, BankID and authorised e-money systems

Smart cards

The vast majority of card transactions in Norway are with magnetic stripe cards that are checked online using a PIN code as confirmation of identification. This is an important contributing factor to the low level of card misuse in Norway compared with a number of other countries. A substantial number of fraud cases in Norway in 2003 were in connection with "skimming", where the magnetic stripe is copied and attempts are made to reveal the code. A smart card is a card that uses microchip technology. Information is better protected on a smart card than on a traditional card with a magnetic stripe. Smart cards therefore make skimming more difficult. In 2001, a group of banks and the Norwegian Payment and Central Clearing House (BBS) started the project "Smartkort Norge". The aim of the project is, among other things, to introduce the shared international standard for the use of smart card, EMV (abbreviation for Europay, MasterCard and VISA) in Norway. The plan is that all ATMs will be upgraded to read smart cards by January 2005. Payment terminals based on magnetic stripe technology will be gradually phased out. In the transition period, smart cards will also employ a magnetic stripe.

BankID

The Government's action plan, eNorge 2005, states that necessary measures will be implemented for the general use of standard-based electronic signatures by end-2005. Banks in Norway are working towards the introduction of an electronic identification and signature service called BankID. The solution is based on a joint infrastructure developed by the banking industry. The intention behind BankID is to create simpler, more secure and more efficient services via the Internet. Customers will also be able to use their BankID at websites other than their Internet bank. In addition to a secure log on where both parties participating in the communication will be legitimised, BankID will also make it possible to sign electronic transactions, messages and documents. The BBS has been working on the development of BankID for several years. According to plan, Norwegian consumers will have access to digital BankID certificates in the course of 2004 and 2005. The banking industry and BBS are currently also looking at plans to construct a joint system for account-based payments via the Internet. Such a solution would in part be based on the Bank-Axept model and facilitate "all-to-all" account payments via the Internet. The intention is that BankID will be used as an identification solution for this system.

Information stored in the magnetic stripe

The magnetic stripe on a card comprises three tracks that contain different information.

• Track 1 contains a card number and the cardholder's name. This track is not used by the Norwegian Bank-Axept system.

• Track 2 contains information that banks can use for debiting an account or data in connection with international use that can be linked to international partners (such as VISA or MasterCard).

• Track 3 contains information that gives access to the bank account details so that the card can be used as a debit card. Most Bank-Axept transactions used Track 3, and a few use Track 2.

Financial Contracts Act § 35. Misuse of payment cards

(1) The account holder is liable for a maximum of NOK 800 for losses ascribable to unauthorised persons' unlawful use of payment card when the associated pin code or other similar security procedure has been used.

(2) The account holder is liable for a maximum of NOK 8000 for losses ascribable to unauthorised persons' use of a payment card if a) the account holder or anyone else to whom the payment card has been entrusted has mad the misuse possible through gross negligence, or b) the misuse has been made possible because the account holder or anyone else to whom the payment card has been entrusted has neglected to inform the institution immediately on discovery that the payment card has been lost or within reasonable time thereafter.

(3) If an electronic payment card has been misused within Norway, the liability pursuant to the second paragraph cannot exceed the debit limits applicable to the method(s) in which the card has been used.

(4) The limitations in the second and third paragraph do not apply if the account holder or anyone else to whom the card has been entrusted has wilfully permitted the misuse of the card. Nor shall the limitation apply for losses arising because the account holder or anyone else to whom the card has been entrusted has neglected to inform the institution of any irregular use of the card as soon as possible after such has been discovered.

(5) § 34, second and third paragraph, apply correspondingly to the account holder's liability pursuant to this section.

Complaints Board for Consumers in Banking and

E-money systems

The Act relating to Electronic Money Institutions entered into force on 15 April 2003 and regulates institutions that issue means of payment in the form of electronic money, with the exception of banks and other credit institutions. E-money institutions are not banks and e-money does not qualify as a bank deposit and is therefore not covered by the banks' collective deposit guarantee funds. The Act relating to Electronic Money Institutions does, however, stipulate that e-money institutions shall have invested in sufficient liquid assets an amount that is at least equal to the institution's liabilities linked to outstanding electronic money. The Act also stipulates that the Financial Supervisory Authority of Norway shall supervise e-money institutions. In December 2003, the first four e-money institutions in Norway were given authorisation to start operations by the Ministry of Finance. In principle, a division can be made between card-based and network-based e-money systems. Card products are based on the use of cards, often in situations where notes and coins might otherwise have been used, whereas network-based products can be used for carrying out small payment transactions via the Internet.

BuyPass is an e-money system that uses smart card technology. BuyPass Originator AS is the licensee for the system. The smart card contains an electronic purse that can be used to store value, which then can be used to purchase goods at retail outlets that have implemented the BuyPass solution. Users can also open an Internet account that is linked to the card in BuyPass' central systems. Payments can then be debited from either the smart card or the account. A so-called "BuyPass Net ATM" allows for the transfer of money between the smart card and the Internet account. The Internet account is linked to a credit card account or a bank account. The maximum amount that can be stored in the electronic purse is currently NOK 2500 and the maximum amount that can be deposited in the Internet account is NOK 9500. An electronic identity is required to use the BuyPass solution, which is issued by ZebSign. BuyPass Originator AS has issued around 80 000 cards in conjunction with Norsk Tipping.

Contopronto is an electronic money system where the purse is stored on a mobile phone. ContoPronto AS is the licensee. Payments can be made at retail outlets or via the Internet. The mobile purse has a user limit of NOK 1000. *MobilHandel* is a systems for payment using mobile telephones. SmartCash AS is the licensee. MobilHandel is primarily used to pay for topping up prepaid mobile telephone cards. Value is limited to NOK 10 000. In 2003, e-solutions Group AS were granted limited authorisation to continue operating the e-money system, *Payex*. Payex is an electronic purse that can be used for paying small amounts via the Internet. All purchases are debited from the user's

Financial Matters deals with disputes between consumers and banks. Procedures are free of charge. The Complaints Board's statements are recommendations. Complaints Board for Consumers in Banking and Financial Matters was established by the Norwegian Financial Services Association, the Norwegian Savings Banks Association, the Association of Norwegian Finance Companies, the Norwegian Securities Funds Association and the Norwegian Consumer Council. The Complaints Board's statutes were adopted by royal decree on 19 May 2000. In 2003, the Complaints Board received 797 written complaints. 505 cases were in connection with the payment system, of which 492 related to payment cards. The majority of these cases involved the misuse of lost payment cards and were submitted to the Complaints Board by financial institutions. Paragraph 37 of the Financial Agreements Act stipulates that financial institutions shall bear the legal cost of cases involving the misuse of cards.

Source: Complaints Board for Consumers in Banking and Financial Matters

Electronic signature. An electronic signature is a personal ID in electronic form. Electronic signatures can be used to sign electronic transactions, messages or documents.

Electronic money is defned as monetary value represented by an asset that is stored on an electronic medium, issued on the receipt of funds, that is a recognised as a means of payment by companies other than the issuer. The electronic medium can for example be a card with an electronic chip or the memory on a computer hard drive. E-money can be used to replace a number of small-value transactions that are carried out with cash or payment cards today.

Payex account. Money can be transferred to the Payex account from a bank account, credit card or Payex cash card. Payex accounts have a user ID and security code and the user limit is set at NOK 1000.

4.4 Norges Bank outsources the operation and administration of NBO

Using bank account entries, Norges Bank carries out final settlement of banks' interbank claims resulting from financial transactions and participation in the payment system. Norges Bank is also responsible for the settlement of the cash-leg of transactions in shares, bonds and derivatives. However, the Bank's mandate to promote a robust and efficient payment system does not necessarily depend on the central bank being directly involved in the extensive technical operation and administration of the system. In autumn 2002, Norges Bank made a decision of principle regarding the outsourcing of the operation and administration of the settlement system. At end-2002, suitable operating partners were invited to submit a tender for operating the system. ErgoIntegration was selected to supply IT operations and management services for Norges Bank's settlement and central bank system in June 2003 and assumed this responsibility on 1 September 2003. The basis of the contract is that the outsourcing constitutes a transfer of operations which means, among other things, that personnel with key knowledge of the technical operation and development of the systems, as well as programmes and hardware have been transferred to ErgoIntegration from Norges Bank. The outsourcing does not change Norges Bank's overall responsibility nor the range of services offered to banks or other users of the systems. Outsourcing is expected to reduce the total costs of settlement for Norges Bank and the banks. It is also expected to reduce any vulnerability in the systems' operation and management. This is discussed in more detailed in Solheim & Strømme, *Economic Bulletin 2/2004*.

Norges Bank has charged for services in Norges Bank's settlement system (NBO) since 1 July 2001. The price structure is usually adjusted on 1 January every year. The adjustments on 1 January 2004 entailed an increase of roughly 15% on all prices. This is a further step in achieving Norges Bank's goal of full cost coverage for the operation and development of NBO. The price structure in NBO is divided in three, with start-up fee for new participants, various fixed annual charges for participation in the system and the separate net settlements, and a fixed price per settlement transaction that is sent to Norges Bank. There are different prices for transactions linked to net settlement, electronic or manual gross transactions and cheques.

4.5 Norges Bank introduces market values for collateral

A new act relating to the furnishing of financial security was adopted on 12 February 2004. The act will enter into force in summer 2004. It builds on EU Directive 2002/47/EU relating to agreements on the furnishing of financial security. In general, the Directive aims to coordinate rules on bankruptcy and pledged collateral in order to reduce uncertainty in the event that one party to an agreement does not fulfil its obligations. Banks participating in NBO can raise loans in Norges Bank on the condition that they can furnish collateral for the loan. This must be in the form of Norwegian bonds pledged with the Norwegian Central Securities Depository (VPS) or foreign bonds pledged in securities depositories in Denmark or Sweden or Euroclear and Clearstream. The act entails that Norges Bank can realise the security immediately should a bank be subject to receivership. For this reason, it is therefore more useful if the pledged collateral has a market-determined value rather than the current system where borrowing rights are based on the nominal value of the pledged collateral. This is one of the reasons why Norges Bank will change its system for calculating the value of loans. By using market values, Norges Bank will reduce its risk as borrowing rights will be adjusted as and when market values change. This new system for collateral for loans will provide the basis for setting lower "haircut" levels.

4.6 Introduction of two securities settlements

The Securities Registration Act entered into force on 1 January 2003. The new act has made it possible to implement important modernisation measures in the Norwegian securities settlement system and adjustments in accordance with international recommendations. The new act entails that the transfer of rights in VPS takes immediate legal effect on registration and the systems for both settlement and pledging collateral were therefore modernised in spring 2003. Changes in the securities settlement system (VPO) include a transition from one to two settlements daily and a requirement that banks earmark funds in advance of each settlement. The changes are presented in more detail in Husevåg & Bjerkeland, *Economic Bulletin 4/2003*. Following the introduction of two daily settlements, more trades will be settled on the agreed date, as deals that lack sufficient cover in the form of money or notes in the first settlement will automatically be included in the second settlement and settled if and when there is cover. Final settlement of securities and cash can now take place on the trading day, T+0 settlement. Two thirds of all collateral pledged by banks for different types of loans from Norges Bank are secured in VPS. These securities can now be changed throughout the day with immediate effect.

4.7 Banknotes and coins

Norges Bank is responsible for issuing banknotes and coins. For cash to function as an efficient and secure means of payment it is necessary that participants have confidence in the banknotes and coins, that they have features that are suited to requirements and that they are readily available. Cash processing must also be efficient. Only Norges Bank can fulfil its responsibility as issuer of banknotes and coins. Other tasks in connection with the production and distribution of notes and coins can, however, be carried out by other parties, but Norges Bank must ensure that they are executed in accordance with the central bank's requirements. In June 2003, the Royal Norwegian Mint was sold to Samlerhuset AS Norge and Mint of Finland. Norges Bank has entered into an agreement regarding the purchase of Norwegian circulation and commemorative coins from the company. The agreement applies to the period to end-2009. Norges Bank's printing works will continue to produce Norwegian banknotes until 1 July 2007. After this, the Bank will cover its banknote requirement by purchasing notes from other printing works.

The current banknote series (series VII) was completed when the new 1000-krone note was issued in 2001. The design and security features of this series makes it easier to recognise genuine banknotes according to different visual, tangible and technical criteria. Although the level of counterfeit money in Norway is low in comparison with many other countries, recorded incidents rose in the period to 2000. This was one of the reasons why Norges Bank decided to upgrade low denomination banknotes in the series. The 200-krone note was upgraded in 2002 and the new 100-krone note was issued on 25 March 2003. An updated 50-krone note was issued recently on 1 February 2004. The 200-krone and 100-krone notes have now been upgraded to the same security level as the 1000-krone and 500-krone notes and include, among other things, metal elements that are easy for the public to identify and difficult to copy. The 50-krone note has been upgraded to include a security thread that is the same as the other banknotes in series VII, but does not include the other metal elements.

4.8 Contingency planning in the financial sector

The Contingency Committee for Financial Infrastructure (BFI) was established as a joint coordinating body to improve the efficiency of contingency planning in the financial sector and to adjust plans to a modern infrastructure. In 2003, the BFI discussed, among other things, issues linked to operational stability and vulnerability in Norway's financial infrastructure. Experiences from previous abnormal situations and contingency exercises in the financial sector were assessed and in particular, the consequences of a possible work conflict in the financial services industry were discussed. The Committee has also reviewed the contingency planning aspects of banks' IT operations taking place in other countries. Furthermore, new rules and regulations concerning contingency plans for the power supply and telecommunication have been presented in the Committee, and some contingency cases in the Civil Defence and Emergency Planning System have been coordinated in the Committee. Several financial institutions in the Nordic countries have developed their cross-border services in recent years and established branches in other Nordic countries, as well as acquiring and forming financial groups comprising institutions in several countries. As a result of this, closer cooperation has been developed between the central banks and supervisory authorities in the Nordic countries, among other things, to enable them to deal with contingency issues.

4.9 Acts and regulations

New regulation relating to information and communication technology

The Financial Supervisory Authority of Norway adopted a new regulation relating to the use of information and communication technology on 21 May 2003 (ICT Regulation). The Regulation entered into force on 1 August 2003. Regulation no. 1157 of 16 December 1992 relating to the use of information technology was repealed. The new ICT Regulation applies, among other things, to clearing houses, securities registers, systems for payment services and e-money institutions. The Regulation contains requirements with regard to conducting risk analyses of ICT activities. Requirements are also set out for procedures for coping with abnormal situations and changes, in addition to continuity planning requirements.

Act relating to Measures for Combating Money Laundering

Norway has joined the Financial Action Task Force (FATF), an international organisation that was established to combat money laundering. The FATF recommendations have been implemented in Norwegian legislation. Following events in the US on 11 September 2001, the FATF adopted a set of supplementary recommendations in order to prevent any misuse of the world's financial systems for financing terrorism. One of the supplementary recommendations sets requirements for information about the payer and payee in connection with payment transfers. In 2002, the Ministry of Finance prepared a bill that followed up various international obligations in connection with money laundering and the financing of terrorism. The Act of 20 June 2003 relating to Measures for Combating Money Laundering, etc. implements the FATF's recommendations in connection with the financing of terrorism and the European Parliaments and Council's Directive 2001/97/EU

The Contingency Committee for Financial Infrastructure (BFI). The resolution to establish the Committee was adopted the Board of Norges Bank in October 2000, in consultation with the Ministry of Finance and other key participants in the financial sector. The following institutions/organisations are represented in the Committee: the Financial Supervisory Authority of Norway, the Norwegian Financial Services Association, the Norwegian Savings Banks Association, the Norwegian Banks' Payments and Clearing Centre Ltd (BBS), EDB Business Partner ASA, the Norwegian Central Securities Depository (VPS). The Ministry of Finance participates in meetings as an observer. Norges Bank provides the chairmanship and secretariat functions of the Committee. The Committee's main tasks are) to draw up and coordinate measures for preventing and resolving crisis situations that could cause severe disruptions in the financial infrastructure, and ii) to ensure the necessary coordination of contingency issues in the financial sector, e.g. in the civil contingency system. The bulk of BFI's work involves the coordination of information and measures between key participants, whereas each institution is responsible for implementing the contingency measures in their own enterprise.

IBAN and BIC

on amendments to Council Directive 91/308/EEA relating to preventative measures combating the use of the financial system for money laundering. The Act entails an expansion of the circle of people who must notify the National Authority for the Investigation and Prosecution of Economic and Environmental Crime (Økokrim) of any suspicious transactions to include estate agents, auditors, accountants, lawyers and dealers in objects resulting in cash payments in excess of NOK 40 000. The Act also applies to some other institutions and enterprises and professional groups that may be particularly vulnerable to misuse in connection with money laundering and the financing of terrorism.

Amendments to the Norges Bank Act and new regulation relating to notification and reporting obligation for foreign payments

The Act of 20 June 2003 relating to amendments to the Norges Bank Act, etc. entered into force on 1 January 2004. This entails, among other things, the revocation of the Currency Control Act of 1950, with delayed effect (in practice until 1 January 2005) for some paragraphs. On the basis of this resolution and amendments to other acts, the Ministry of Finance repealed Norges Bank's regulation of 27 June 1990 relating to foreign exchange control, with effect from 1 January 2004. Norges Bank's Regulation has been the operative legal basis for reporting requirements in relation to payments between Norway and other countries that are included in the balance of payments. The legal basis for reporting requirements has been continued in a new regulation issued by the Ministry of Finance, on 19 December 2003, "Regulation relating to notification and reporting obligation to Norges Bank in relation to payments between Norwegians and foreigners, etc." No changes have been made to the respecting reporting requirements.

Norges Bank's foreign payments statistics are the most important basis for the balance of payments that is produced by Statistics Norway every month. Foreign payments statistics are based on reports from Norwegian banks and enterprises that have accounts in foreign banks or have settlement agreements with foreign conglomerates. The current system for gathering foreign payments statistics (BRAVO) will cease operations from 2005 and will be replaced by a new system for the direct reporting of changes in asset and debt positions, as well as transactions vis-à-vis abroad. The tax authorities, customs and Økokrim currently have access to gather information from Norges Bank about payments between Norwegians and foreigners. The number of queries from control and supervisory bodies relating to information from the statistics systems for control purposes totalled 997 in 2003, against 883 in 2002. These queries have resulted in the investigation of 1545 named enterprises or private individuals and feedback on 58 609 transactions. From 2005, control authorities will be able to collect information about payments between participants in Norway and abroad through the new foreign exchange register that is being developed.

Norges Bank's statistics relating to the payment system include price statistics and statistics on trends in the payment system. Until now, the information underlying these statistics has been provided on a voluntary basis. The amended paragraph 27 of the Norges Bank Act relating to information requirements now also includes information regarding the payment system and thus provides a formal basis for gathering information about the payment system.

Do technological advance and new participants change banks' unique position in the payment system?

The basis for all payment systems is the wish to transfer value from the payer to the payee. In Norway only commercial and savings banks can accept deposits from "a non-specific group of depositors", the so-called deposit monopoly. A deposit in a bank can be accessed by using a wide range of different payment instruments. A payment can be initiated by the owner of the funds giving instructions to his/her bank (e.g. using giro or a bank card) that a given amount is to be transferred to a specified person via a specified account. If cash is disregarded, then it is only banks that can provide settlement in a generally accepted means of payment – deposit money. However, there are also payment instruments that are not directly linked to deposits, such as credit cards and charge cards, where the payee (shop) and the payer (customer) have a claim and a liability position, respectively, in relation to the card company. Payment by credit card in a shop does not provide the shop with new purchasing power until the shop's claim on the card company is converted into deposit money by settlement in the bank.

Special rules, supervision and deposit guarantees have been established so that the public can be confident that their funds that are deposited in a bank will be managed in a responsible way. However, banks are not just responsible for ensuring that money is stored securely in accounts; it is equally important that "the transportation of value", i.e. the transfer of funds from one bank account to another, is carried out in a secure manner. Legislation regulates these conditions (e.g. the Financial Agreements Act and the Act pertaining to cheques). Banks have themselves regulated the issue of liability in the payment system in separate agreements that all participating banks in the Norwegian payment system must sign up to. These agreements govern, among other things, when responsibility for the secure storage and transport of money transfers from the payer's bank to the beneficiary's bank. Even though banks are responsible for the storage and transport of deposit funds, this does not necessarily mean that they have to carry out all operations in connection with the payment system themselves. They can decide whether to outsource various functions or not, for example, the development and operation of Internet banking solutions and the collection, processing and clearing of transactions. However, the banks are liable vis-à-vis their customers.

Mobile telephones are an example of new technology that can facilitate new payment solutions that affect the relationship to deposit money in some way:

- Mobile phones are used for communication with banks regarding information about and the initiation of account payments. Banks have created solutions whereby telephone operators in varying degrees function as assistants in carrying out "the transport of value". The means of payment is deposit money and banks are liable vis-à-vis their customers.
- Mobile phones can also be used for payments in that the user uses his or her mobile phone subscription to pay for services other than telephone services. Services that are purchased using the mobile phone can then be paid using deposit money, for example by giro, at the same time as paying the telephone bill. For the user, using a mobile phone in this way has many similarities with using a charge card.
- Another relationship arises if the bank customer orders an amount to be paid to a system that stores prepaid payments (e-money). The prepaid funds can be stored on a mobile telephone SIM card, or in a payment card or on a computer. The means of payment used in such a system is not deposit money, but e-money, and the customer has no claim on the bank, but rather on the e-money institution. E-money is not yet a widely-used means of payment in Norway.

The existence of different participants in the market for payment services is positive for competition in the payment system and encourages the development of new, innovative solutions. However, in terms of efficiency and confidence in new electronic payment services, it is essential that the division of responsibilities between the participants involved is clear.

5 | International payments

In the area of international payments many challenges remain before typical customer payments can be executed as efficiently as they are within national boundaries. The main reason for this is that payment systems are normally designed to process domestic payments, and there has been a lack of systems that can efficiently handle cross-border retail payments. Due to the many stages in the transfer process from the sender to the recipient, a relatively inefficient interface with customers and a lack of common standards for exchanging messages, a lot of the operations are still carried out manually in banks. This delays the transfer time and means that production costs for these services are higher than for corresponding domestic services. In recent years, the need for efficient cross-border payments has received increased attention, particularly in connection with the work towards an integrated market for payment services in Europe. Efficient cross-border payment systems are deemed to be necessary in order to realise the advantages of the internal market and the development of such systems is a natural consequence of the establishment of the monetary union and the introduction of euro banknotes and coins. Legislation in Europe is being further developed to improve conditions for cross-border payment services and the European banking industry is working on measures to develop more efficient cross-border payment services.

5.1 European financial integration and developments towards a single payments area

A prioritised objective in the EU is to develop a more homogenous European payments area. Several harmonisation measures have already been implemented. As a step in the EU's Financial Services Action Plan (FSAP), the Regulation on cross-border payments in euro was adopted in 2001. A key principle in the Regulation is that the charge for a euro transaction to another country cannot be higher than that for a corresponding payment within the bank's home country. This principle has covered cash withdrawals and card-based payments since 1 July 2002, whereas it has only applied to credit transfers since 1 July 2003. The Regulation also regulates institutions' information obligations in connection with charges for domestic and cross-border payments. The Regulation currently applies to amounts up to EUR 12 500, but the limit will be increased to EUR 50 000 from 1 January 2006. (The implementation of this Regulation in Norway is discussed in a separate section below).

The Regulation has been an important impetus behind the European banking industry's initiatives to make payment systems in Europe more efficient. The European banking industry has worked together since 2002 with the goal of creating an efficient payment area in Europe by 2010, the Single Euro Payments Area (SEPA). In connection with this work, the industry established a separate organisation, the

Legislative acts in the EU

In the EU, there are several different legislative instruments that fall under the umbrella term legislative acts. The most important instruments are:

Regulations are binding on all member states and shall be applied directly. **Directives** are binding on member states in terms of their objective, but it is left to the national authorities to decide the form and means for implementation. **Resolutions** can be compared to directives in Norwegian legislation and are binding in their entirety upon those to whom they are addressed.

Recommendations and opinions are not binding. National authorities may be obliged to take such non-binding legislative acts into consideration when a legal issue is to be decided or the content of a joint rule is to be clarified.

European Payments Council (EPC), which sets the strategic guidelines for this work. In spring 2003, the EPC presented its first progress report (EPC 2003). Several measures are mentioned in the report, including:

IBAN is the customer's international bank account number. BIC is the bank's identification number.

STEP2: The centralised clearing system, STEP2, operated by the European Bankers Association (EBA) is a joint project involving a number of European banks.

Worldwide payment systems

- The establishment of a pan-European clearing house (PE-ACH, Pan-European Automated Clearing House) and in relation to this:
    - The Credeuro Convention, which is a standard for carrying out cross-border payments. Participating banks guarantee among other things a maximum transfer time of 3 business days and that they will adhere to STP standards (BIC, IBAN, etc.).
    - The receiver capability requirement, i.e. that all banks and their customers can be reached through the system.
    - A standard procedure for interbank charges (ICP) that provides the end-user with certainty in relation to charges and ensures that the transferred amount is credited in full to the beneficiary.
- EPC members are committing themselves to work towards realising a single European card market and to foster more efficient cash-handling and cash services.

To date, international payments have to a large extent been based on correspondent bank operations, i.e. that banks have accounts with each other and that these accounts are used to settle transactions between customers in different banks in different countries. The pan-European clearing house, PE-ACH, is a considerable simplification of the correspondent bank model. The first solution for pan-European clearing, EBA's STEP2, was launched in April 2003. In February 2004, the clearing house had around 50 direct participants. In addition, more than 1100 banks were linked to the system as indirect participants, i.e. they could send notification of transactions through one of the direct participants.

Last summer, the European Central Bank (ECB) presented an evaluation of how far banks had come in relation to realising the objective of a single euro payments area (ECB 2003b). The progress and adopted measures were welcomed. The importance of publicly stating significant milestones more precisely than before was highlighted. The decision to establish a pan-European clearing house was seen as positive. It was also pointed out that the EPC should in particular promote the widespread implementation of "straight through processing" (STP) standards for transfers between banks and between banks and customers. It was noted that central banks in the euro area have repeatedly requested the swift implementation of such standards.

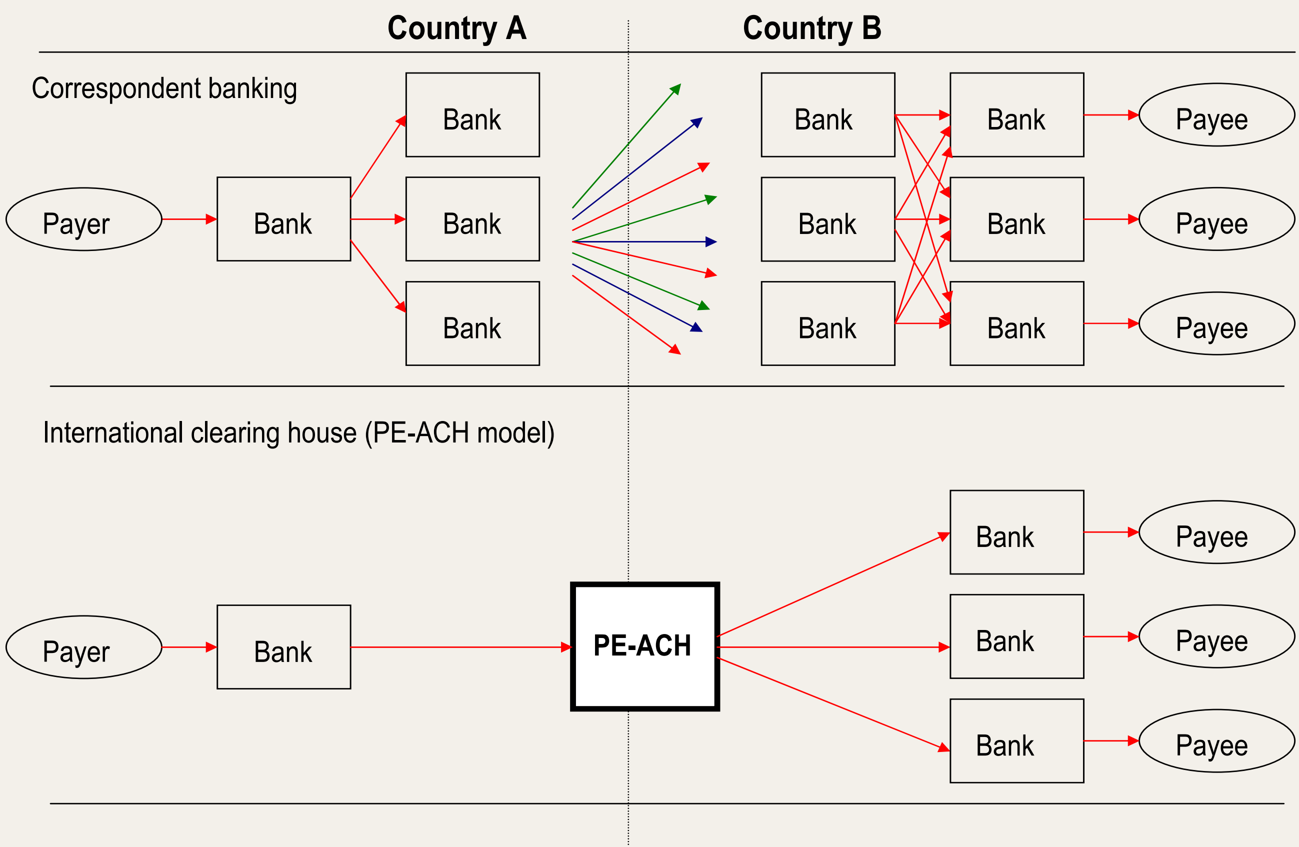
The EU Commission started to review the entire EU legislation governing the payment area after the Regulation on cross-border payments was adopted. As part of this review, the Commission circulated a proposal for a new legal

Alternative arrangements for international payments

International payment systems have largely been based on correspondent banking relationships. In other words, that banks have accounts with each other and that these are used for settling transactions between customers in different countries. To make it possible for customers with different banking relationships to reach customers in another country, a host of bilateral arrangements is required. In practice, correspondent banking systems operate as follows: The bank of the customer who wishes to send money instructs its correspondent bank to credit the beneficiary's account. If the beneficiary has an account in this bank, the transaction is settled here. However, the customers at either end of the transaction often have accounts in banks that do not have accounts with each other. If the payer/beneficiary has an account in another bank, the transaction has to be effected via the respective domestic payment system before it can be credited to the customer's account (see chart for illustration).

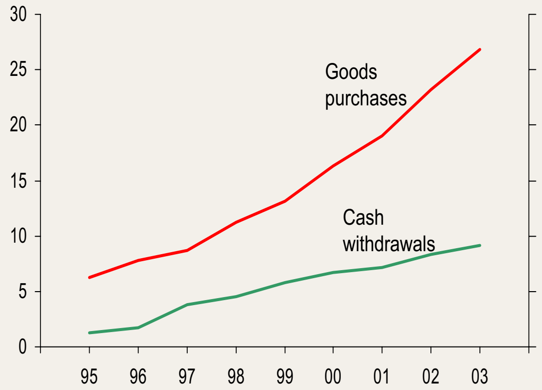
Due to manual interfaces with customers, the numerous stages involved and lack of standards for exchanging messages, banks carry out many of these operations manually. This means that the transfer time is generally longer and that production costs and the cost of using the services are higher than for similar domestic services.

An alternative to the correspondent bank solution is the PE-ACH solution. This can perhaps be best described by work underway at a European level to make a joint international clearing system similar to the one in Norway and many other countries on a domestic level. A joint clearing house combined with common international standards for the exchange of messages, including "addresses" for banks and beneficiaries (BIC and IBAN) are expected to promote a more efficient cross-border payment system in Europe.



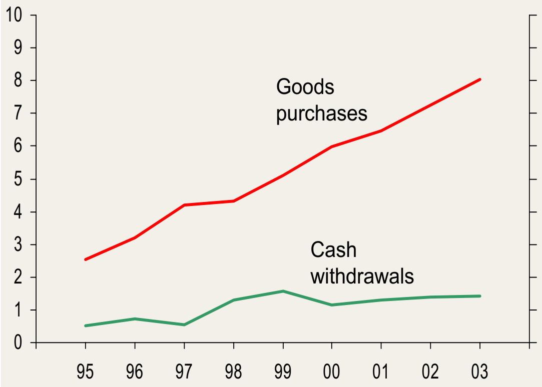
framework for payments in Europe, "New Legal Framework for Payments in the Internal Market" (EU Commission 2003), for comments in December 2003. The legislative review is extensive and will include areas such as the legal rights and obligations of users and providers of payment services, information requirements to customers, legal certainty in the transaction process etc. The proposal has been included in the Commission's Financial Services Action Plan (FSAP). The Ministry of Finance, Norges Bank and the Financial Supervisory Authority of Norway all participated in this consultative process.

Chart 5.1 Norwegian card transactions abroad. 1995-2003. In millions



Source: Norges Bank

Chart 5.2 Non-residents' card transactions in Norway. 1995-2003. In millions



Source: Norges Bank

Visa cards are issued by 21 000 banks and financial institutions worldwide. The card is accepted at 20 million locations, including 840 000 ATMs.

MasterCard is a global payment network with more than 30 million locations in over 220 countries, including 820 000 ATMs.

Diners Club cards can be used at over 9 million locations worldwide, including 790 000 ATMs.

American Express is accepted at locations all over the world and cash can be withdrawn from 550 000 ATMs.

Source: Company websites

5.2 Volume and prices in international payments

The volume of cross-border payments is still very modest compared with the volume of domestic payments. In 2003, more than 1 billion transactions were registered using Norwegian payment services, whereas only 45 million cross-border transactions were registered and 23 million SWIFT messages.

Most cross-border transactions are in connection with card use. In 2003, 36 million transactions were initiated with Norwegian payment cards abroad. This entails an increase of roughly 15% on the year before. The bulk of card use is in connection with the purchase of goods (see Chart 5.1). Cash withdrawals accounted for a quarter of all transactions. Measured in worth, use of Norwegian payment cards abroad rose by 15% to NOK 33.6 billion in 2003. Purchases of goods accounted for just over 60% of this amount. It is assumed that the increase in Norwegians' use of payment cards abroad is connected to the fact that Norwegians travel more now and that it is possible to use cards at a growing number of destinations. Foreigners' use of payment cards in Norway rose by 10% to 9.5 million transactions in 2003 (see Chart 5.2). Around 85% of these transactions were in connection with the purchase of goods. In 2003, foreigners used cards in Norway for a total of NOK 6.9 billion. Cash withdrawals accounted for 28% of the value of foreigners' card use in Norway.

Prices for using cards abroad vary from bank to bank and from card type to card type. Purchasing goods abroad typically costs between NOK 0 – NOK 5, plus a currency add-on. Cash withdrawals abroad cost more. However, the extent to which customers are charged a fixed sum or a percentage of the amount withdrawn, or a combination, varies from card issuer to card issuer. It is therefore important for customers who use cards extensively abroad to familiarise themselves with the terms and conditions attached to the use of the card in question.

SWIFT (Society for Worldwide Interbank Financial Telecommunications) is an electronic network and standard format for transmitting messages. SWIFT operates worldwide and is one of the most important messaging systems for cross-border financial transactions. The format is used for transfers on behalf of customers and for pure interbank transactions. At end-2003, SWIFT had 2 303 customers and 7 498 users worldwide. In 2003, 2 billion messages were transmitted through SWIFT, equivalent to around 8 million per day. Nearly 60% of messages were payment-related. In Norway, SWIFT has 22 members and 7 branches of foreign banks that are members through the parent bank. In addition, 5 Norwegian institutions are registered as users, making a total of 34 SWIFT users in Norway at end-2003. A total of 12.9 million SWIFT messages were sent and 10.4 million messages were received in Norway in 2003, an increase of 17% on 2002. As there may be 2-3 messages in connection with one payment, it is difficult to determine the number of payments based on the number of messages. Information on the breakdown of payment transactions into customer transactions and interbank transactions are not available. The number of transfers abroad using instruments such as cheques and giros has declined in recent years and the services now only account for a minor share of foreign transactions.

For consumers, cross-border payments are still considerably more expensive than domestic payment services. Prices for transfers abroad depend on whether the transaction is electronic or paper-based and on the size of the amount to be transferred (see Charts 5.3 and 5.4). Paper-based payment services are generally more expensive than electronic services. Most banks have an additional charge for sending confirmation to the beneficiary. A number of banks also charge customers for depositing cash in third country currencies and currency exchange. Customers' real costs linked to cross-border payments may therefore be higher than the prices presented in the statistics. There were only minor price changes for most services from 2003 to 2004.

The prices of transfers in the EFTA/EEA area and Nordic countries

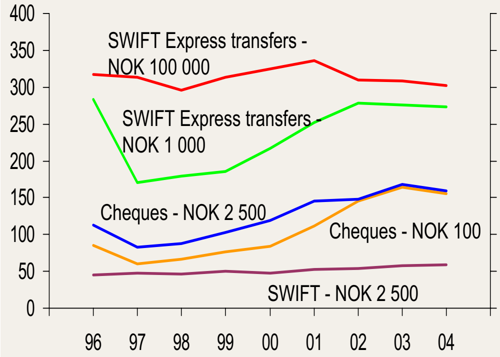
Several studies have been made of charges in connection with cross-border payments. The EFTA surveillance authority (ESA) carried out a survey of different small-value cross-border transfers by normal consumers in the EFTA countries (ESA 2003). The EU Commission has also previously carried out a similar study on the EU countries. The starting point for the EFTA survey was the Directive on Cross-Border Credit Transfers, etc. (97/5/EC). One important objective of the Directive is to improve cross-border credit transfers by making them faster, cheaper and more secure. The survey looked among others at cross-border credit transfers (EUR 100) and cash withdrawals

3-D Secure. More secure card payments on the Internet

Visa and MasterCard have introduced 3-D Secure solutions for more secure card transactions on the Internet. These solutions are Verified by Visa™ and MasterCard® SecureCode™. The solutions require the cardholder to provide a PIN code issued by the bank/card issuer in addition to the card number and expiry date.

Source: Teller AS

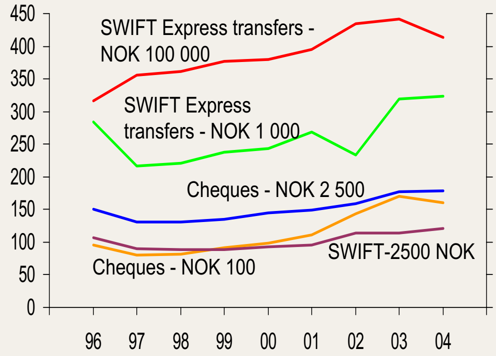
Chart 5.3 Prices for cross-border payments[1]. Electronic transfers 1996-2004. Prices in NOK



[1] Unweighted average of prices from 26 banks

Source: Norges Bank

Chart 5.4 Prices for cross-border payments[1]. Paper-based transfers 1996-2004. Prices in NOK



[1] Unweighted average of prices from 26 banks

Source: Norges Bank

using cards (EUR 100) and covered transactions between the EFTA countries and between these countries and selected EU countries. Some of the results were: nearly three quarters of successful transfers arrived on day four or earlier. On average, a transfer between the countries costs EUR 18.37. The price spread was considerable, the highest price being EUR 81.70 and the lowest, EUR 4.04. Cash withdrawals using debit or credit cards typically cost between EUR 2-5.

In autumn 2003, Foreningen Norden (Nordic Association) carried out a survey on the cost of transferring money between the Nordic countries (Foreningen Norden 2003). The survey included both manual over-the-counter transfers and transfers via Internet banks. The survey revealed, among other things, that the highest charge for sending NOK 100 from a Norwegian Bank was NOK 260 and that it could cost as much as EUR 21 to send EUR 12 from Finland to Sweden. The results showed that prices vary depending on which countries are involved in the transfer and which banks are participating as sender or beneficiary bank. The transfer time has become quicker compared with a similar survey in 2002, but it still takes longer to transfer money between the Nordic countries than within national boundaries. In relation to the previous survey, banks have become better at providing customers with information.

Customers' rights and obligations in connection with international payment transactions

Bank customers' payment transactions to and from other countries are regulated by the provisions in the Financial Agreements Act. The provisions contain terms and conditions for information obligations vis-à-vis customers, minimum standards for the maximum time a transfer can take and rules for compensation if a transaction is not completed within the stipulated time. For example, the provisions state that in the EEA area if an amount has not been credited to the beneficiary's institution within five working days after the acceptance date for the payment order, this shall constitute a delay on the part of the payer's institution. For payment transfers to countries outside the EEA area if the amount has not been credited by the close of the eighth working day, this shall constitute a delay. In general, if the amount is not made available to the beneficiary at the agreed time this constitutes a delay on the part of the beneficiary's institution.

The Regulation on Cross-Border Payments in Euro regulates cross-border payments in euro. The Regulation stipulates that the charges for such payments cannot be higher than the charges for corresponding euro payments within an EU member state. However, the Regulation also regulates the information that must be available for the pricing requirement to apply. On the request of the institution, the customer shall provide the payee's IBAN number and beneficiary institution's BIC number. In this connection, banks can demand an additional charge for the transaction if the customer does not provide this information. If the customer so requests, the institution shall provide the customer's IBAN number and the institution's BIC number.

Implementation of EU Regulation on Cross-border Payments in Norway

In November 2003, the EU Regulation on Cross-Border Payments in Euro was incorporated in the annex to the EEA Agreement. In autumn 2003, there was a consultative round on the implementation of the Regulation in Norwegian legislation. A proposal (Proposition no. 52 to the Odelsting) was then submitted to the Storting in the spring session 2004 that recommended the direct implementation of the Regulation in the Financial Contracts Act. Pursuant to Article 9 of the Regulation, member states outside the euro zone can decide to extend the Regulation's area of application to include their national currency. Sweden has chosen to implement the Regulation so that it also applies to SEK, whereas Denmark and the UK have decided that the Regulation will not apply to their currencies. The Ministry of Finance is of the view that the Regulation should not be extended to include NOK. In its evaluation, the Ministry among others underlined the principle that the customer should pay for actual costs and that this is important in order to prevent cross-subsidisation. Cross-border transactions are assumed to be more expensive than domestic transactions in NOK. It also pointed out that no system exists for cross-border payments in NOK of the kind that the European banking industry now is establishing for cross-border transactions in euro. The Ministry will monitor developments and assess any measures to be taken, including making the Regulation applicable to NOK, if there is no clear reduction in charges within a reasonable amount of time.

5.3 International initiatives to promote efficiency and reduce risk

Modernisation of TARGET and new collateral framework in euro countries' central banks

The settlement systems of the national EU central banks are linked together in the joint gross settlement system, TARGET, that settles individual transactions in real time. Following the expansion of the EU, 10 new countries will have the opportunity to link up to TARGET. In autumn 2002, the ECB announced the strategy for the future development and modernisation of TARGET, named TARGET2. In the new system, national central banks will still be responsible for maintaining accounts and business relations with participants in their jurisdiction. However, as a shared platform is to be introduced, it will no longer be necessary for each national central bank to maintain a settlement system with a separate technology platform (ECB 2004a). The guidelines for TARGET2 have been through a consultative round where there was an opportunity to comment on the elements in the new system. Users of TARGET were also given the opportunity to feedback any business requirements in the form of user interfaces and standards for communication, functionality and services. There was broad support for a more integrated TARGET2, based on harmonised core services, a single price structure and cost-effective operations (ECB 2003a). TARGET2 will now proceed to the project development stage. The new system is expected to be in operation by early 2007.

Borrowing facilities in the central bank are a key element in banks ongoing liquidity management. Securities that are accepted as collateral for loans are divided into two classes in the euro zone. Level 1 comprises marketable debt instruments that fulfil euro area eligibility criteria. Level 2 comprises a wider range of assets that satisfy criteria set by national central banks and minimum requirements established by the ECB. The securities that are accepted may therefore vary from country to country. A consultative paper from June 2003 on a new collateral framework in the euro area proposes a gradual transition to a single list. The ECB will evaluate which amendments need to be made to the rules pertaining to collateral (ECB 2004b).

International recommendations and trends

Central bank money and private bank money both fulfil important functions in a modern payment system. The relationship between the central bank and private banks is complex and includes elements of both competition and cooperation. The role of central bank money in the payment system was comprehensively treated in a report from the Committee on Payment and Settlement Systems (CPSS 2003). The report assesses the relationship between settlement and payment services in the central bank and in private banks, and how best to exploit the advantages of both. A key point is that central bank money improves the quality of the payment system as a whole and users of private bank money can thereby also benefit from central bank money. The report also points out that central banks should avoid competition with commercial banks in terms of payment services to the public. Banks should also be able to choose whether to use the central bank or private banks to carry out settlement transactions. The relationship between the central bank and private banks in the payment system can be organised in different ways. Although the report does not give any specific policy recommendations, it does contain a framework for assessing the central bank's approaches to these problems.

Many international banks experience an increased need for liquidity in order to carry out settlements. The increased demand must among other things be seen in light of growth in the volume of financial transactions, increased use of real time gross settlement systems (RTGS) in central banks, the introduction of CLS (see Chapter 4), and the fact that Delivery versus Payment (DvP) and individual settlement is used in securities settlement. In March last year, the US Payment Risk Committee (PRC), which comprises representatives from 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 services that will make it easier for market participants to cover the steadily growing need for intra-day liquidity across national boundaries. Among the alternatives mentioned are "cross-border collateral pool" arrangements. The report also encourages central banks to approve more foreign securities as collateral for intra-day credit and to arrange for cross-border collateralisation. Scandinavian Cash Pool (SCP) is an example of a service developed by banks in cooperation with central banks as a means to meet these challenges. See Chapter 4 for more information about SCP.

Competitive conditions in the card market are a highly topical issue internationally. The authorities in several countries have implemented measures to foster competition and efficiency in the card market. In Australia, the Reserve Bank of Australia (RBA) has introduced a far-reaching reform and similar issues have also been highlighted in the EU, UK and USA. In 2000, the authorities in Australia published a study that concluded, among other things, that credit card schemes hindered competition and efficiency in the payment system. In 2001, it was clarified that credit card schemes could be regulated by the Australian Payments Systems Act. Several new regulatory measures were introduced in Australia in 2003, including the removal of restrictions in the agreement between credit card companies and merchants that entailed that merchants could not charge customers for using credit cards. The interchange fees paid by the transaction acquirer to the card issuer were also affected by the regulation. The fee will now be cost-based and shall cover specific costs. Further, the access-regime has been relaxed, so that more participants can operate credit card schemes. In 2002, Visa and MasterCard took the RBA to court in an attempt to stop the regulations. The companies claimed that the central bank had overstepped its authority by regulating credit card schemes. The court did not uphold the companies' claim. New interbank fees for credit card transactions were introduced in October 2003, which are just over half of what they were previously. The RBA expects that competition will ensure that the new, lower fees result in lower charges for merchants, which in turn will be reflected in the prices paid by consumers (Reserve Bank of Australia 2003).

6 | References

Andresen, Ingrid and Bjørn Bakke (2004): ”Continuous Linked Settlement – Valuta for pengene”. *Penger og Kreditt* no. 1/2004 (vol. 32), pp. 37-47.

Bjerkeland, Kristin and Vigdis Husevåg (2003): ”Securities settlement in Norway”. *Economic Bulletin* no. 4/2003 (vol. 74), pp. 144-156.

Committee on Payment and Settlement Systems (2004): “Statistics on payment and settlement systems in selected countries - Figures for 2002”. *CPSS Publication*s no. 60, March 2004.

Committee on Payment and Settlement Systems (2003): “The role of central bank money in payments systems”. *CPSS Publication*s no. 55, August 2003.

EFTA Surveillance Authority (2003): “Report on the application of Council directive 97/5/EC on cross-border credit transfers, and on the cost of payments with cards and of cash withdrawals in the EFTA-EEA states”, September 2003.

European Central Bank (2004a): “Future developments in the TARGET system”. *ECB Monthly Bulletin*, April 2004.

European Central Bank (2004b): “Measures to improve the collateral framework of the Eurosystem – Summary of the answers to the public consultation”, January 2004.

European Central Bank (2004c): “Payment and securities settlement systems in the European Union - Addendum incorporating 2002 figures (Blue Book)”, April 2004.

European Central Bank (2004d): “Annual Report 2003”, April 2004.

European Central Bank (2003a): “Public consultation: Summary of comments received on TARGET2 – Principles and Structure”, July 2003.

European Central Bank (2003b): “Towards a Single Euro Payments Area – Progress Report”, June 2003.

European Commission (2003): “Communication from the Commission to the Council and the European Parliament concerning a New Legal Framework for Payments in the Internal Market (Consultative Document)”, December 2003.

European Payments Council (2003), press release: “Single Euro Payments Area: establishing firm roots”, April 2003.

Ot.prp. nr 52 (2003-2004): “Om lov om endringer i lov 25. juni 1999 nr. 46 om finansavtaler og finansoppdrag mv.” (Implementation of Regulation (EC) No 2560/2001 on cross-border payments in euro), April 2004.

Foreningen Norden (2003), news release: ”Fortsatt urimelig dyrt å sende penger over grensene i Norden for bankkunder”, September 2003, downloaded from: http://www.norden.no/nytt/bank.html

Gresvig, Olaf and Grete Øwre (2002): ”Banks’ costs and income in the payment system in 2001”. *Economic Bulletin* no. 4/2002 (vol.73), pp. 125-133.

Gresvig, Olaf and Grete Øwre (2003): ”Costs and Income in the Norwegian Payments System 2001. An application of the Activity Based Costing framework”. *Working Paper* 2003/8, Norges Bank.

Grønvik, Gunnvald and Leif Veggum (1999): “Pengeflytting før og nå”. In Norges Banks Skriftserie no. 28:

Sentralbanken i forandringen tegn – Festskrift til Kjell Storvik, pp. 90-100.

Grønvik, Gunnvald (2000): “Videreutviklingen av det indre markedet for finansielle tjenester”. *Penger og Kreditt* no. 3/2000 (vol. 28), pp. 206-220.

Guibourg, Gabriela and Lars Nyberg (2003): ”Kortbetalninger i Sverige”. *Penning och Valutapolitik* no. 2/2003, pp. 29-39.

Humphrey, David, Moshe Kim and Bent Vale (2001): ”Realising the Gains from Electronic Payments: Costs, Pricing, and Payments Choice”. *Journal of Money, Credit and Banking* no. 2 2001 (vol. 33), pp. 216-234.

Humphrey, David, Aris Kaloudis and Grete Øwre (2000): ”Forecasting Cash Use in Legal and Illegal Activities”. *Working Paper* 2000/14, Norges Bank.

Lindquist, Kjersti-Gro (2002): ”The Effect of New Technology in Payments Services on Banks' Intermediation”. *Working Paper* 2002/6, Norges Bank.

Norges Bank (2003): “Annual report on payments systems 2002”, April 2003.

Norges Bank (2003): “Norges Bank utkontrakterer til ErgoGroup AS”. Press release 1 July 2003.

Norges Bank (2003): “Søknad om fusjon mellom DnB Holding ASA og Gjensidige NOR ASA”. Letter to Kredittilsynet from Norges Bank dated 27 August 2003.

Regulation (EC) No 2560/2001 of the European Parliament and of the Council of 19 December 2001 on cross-border payments in euro.

Reserve Bank of Australia (2003), press release: ”Interchange fees for the Bankcard, MasterCard and Visa credit card schemes”, October 2003. For more information about the reforms in the credit card market in Australia, see the web-page of the Australian central bank: http://www.rba.gov.au/PaymentsSystem/PaymentsPolicy/CreditCardSchemes/index.html

Solheim, Jon A and Helge Strømme (2003): ”Modernisering og utkontraktering av Norges Banks oppgjørssystem”. *Penger og Kreditt* no. 4/2003 (vol. 31), pp. 206-211.

Sparebankforeningen (2004): ”Nær to millioner bruker nå nettbank”. *Sparebankbladet* no. 3/2004.

US Payment Risk Committee (2003): “Managing Payment Liquidity in Global Markets: Risk Issues and Solutions”, March 2003.

7 Tables and guide to tables

A General data

Table 1: Basic statistical data: Norway

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Population (per 1 Jan., million)	4,32	4,35	4,37	4,39	4,42	4,45	4,48	4,50	4,52	4,55
GDP market value (billion NOK)	873,4	937,4	1 026,9	1 111,3	1 132,1	1 233,0	1 469,1	1 526,2	1 522,2	1 570,3
Mainland GDP, market value (billion NOK)	742,1	798,9	843,1	908,2	981,3	1 035,5	1 101,5	1 167,2	1 213,8	1 247,3
GDP per capita (NOK)	202 178	215 583	234 386	252 284	255 476	276 341	327 112	338 132	335 389	343 979
1 USD in NOK (at year-end)	7,05	6,35	6,35	7,25	7,59	8,011	9,07	9,01	6,97	6,68
1 Euro in NOK (at year-end. ECU until-end-1998)	8,37	8,29	8,09	8,06	8,90	8,10	8,13	7,97	7,29	8,42

Table 2: Technological infrastructure in Norway

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003 (june)
Fixed network telephone subscribers	**2 394 303**	**2 443 585**	**2 484 173**	**2 474 964**	**2 475 490**	**2 445 734**	**2 386 446**	**2 316 950**	**2 295 257**	**2 260 126**
PSTN	2 392 042	2 431 271	2 440 185	2 325 010	2 165 530	1 913 657	1 682 603	1 548 142	1 484 344	1 457 109
ISDN 2B+D	2 087	11 580	41 819	146 005	304 636	524 999	696 289	760 643	801 971	793 903
ISDN 30B+D	174	734	2 169	3 949	5 324	7 078	7 554	8 165	8 942	9 114
Mobile telephone subscribers	**588 478**	**981 305**	**1 261 445**	**1 676 763**	**2 106 414**	**2 744 793**	**3 367 763**	**3 759 862**	**3 911 136**	**4 002 531**
Internet subscribers					**381 342**	**715 922**	**1 176 552**	**1 234 317**	**1 460 759**	**1 577 344**
Cable TV	**664 179**	**677 186**	**664 852**	**705 125**	**774 607**	**788 722**	**823 320**	**838 707**	**850 180**	**852 766**
Fixed network penetration-subscribers (%)	55	56	57	56	56	55	53	51	51	50
Mobile telephone penetration (%)	14	22	29	38	48	62	74	83	86	88

Source: Norwegian Post and Telecommunication Authority

B Settlement media in Norway

Table 3: Settlement media used by non-banks (at year-end, in millions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Notes and coins	37 954	39 074	39 865	42 215	42 142	43 366	42 523	42 038	40 282	41 687
Deposits in transaction accounts	172 153	178 653	208 073	227 382	237 047	300 128	328 816	344 110	360 341	387 309
Narrow money supply (M1)	210 107	217 727	247 938	269 597	279 189	343 494	371 339	386 148	400 623	428 996
Other deposits	286 082	296 799	294 741	278 741	292 820	295 820	326 350	370 171	409 704	407 337
Certificates of deposit	5 116	15 731	21 686	30 200	33 322	30 802	34 152	39 048	45 001	36 806
M1 + other short-term deposits (M2)	501 305	530 257	564 365	578 538	605 331	670 116	731 841	795 367	855 328	873 139

Table 4: Settlement media used by banks (at year-end, in millions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Banks' cash holdings	2837	3 340	3 893	4 240	4 395	5 116	4 879	5 290	5 063	4 980
Cash holdings, annual average	2823	3 095	3 568	3 835	3 940	4 519	4 431	4 817	4 675	4 409
Banks' sight deposits in the central bank	2742	1 498	9 597	8 139	4 716	18 330	11 540	17 438	33 348	22 117
Sight deposits (annual average)	3287	2 809	4 826	8 463	6 986	8 016	11 079	11 804	15 647	24 690
Banks' fixed-rate deposits in the central bank (F-deposits)	0	0	11 173	1 928	0	0	0	0	16 863	0
Central bank lending (F-loans + D-loans)	8763	8 312	98	547	6 918	13 600	14 160	12 443	19	10 460
Lending (F-loans + D-loans), annual average	2746	4 626	6 351	790	1 225	4 385	5 104	13 356	538	2 978
Banks' deposits from the money-holding sector	7695	7 442	14 153	14 828	13 421	13 594	15 774	16 633	16 027	19 982
Deposits from the money-holding sector, annual average	9357	11 097	15 595	16 107	15 830	18 538	18 173	20 420	16 737	23 148

Table 5: Notes and coins. Annual average (in millions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**36 953**	**38 359**	**39 588**	**41 221**	**43 578**	**43 837**	**43 571**	**42 947**	**41 767**	**41 562**
Denomination of banknotes:	**34 676**	**35 851**	**36 812**	**38 284**	**40 487**	**40 566**	**40 119**	**39 271**	**37 811**	**37 429**
1000- krone	24 833	25 522	25 985	26 711	27 773	27 290	26 336	24 713	22 599	22 167
500-krone	2 548	2 992	3 465	4 068	4 875	5 588	6 107	6 921	7 626	7 732
200-krone	106	1 025	1 771	2 630	3 650	3 949	4 275	4 446	4 573	4 674
100-krone	6 586	5 728	4 962	4 246	3 473	3 027	2 684	2 464	2 270	2 091
50-krone	604	585	629	629	717	712	717	727	744	765
Denomination of coins:	**2 277**	**2 508**	**2 776**	**2 937**	**3 090**	**3 271**	**3 452**	**3 676**	**3 955**	**4 132**
20-krone	34	369	532	655	779	873	966	1 124	1 387	1 561
10-krone	1 067	952	1 020	1 010	1 030	1 046	1 087	1 111	1 085	1 051
5-krone	388	388	401	415	440	474	487	497	505	515
1-krone	460	472	492	518	561	590	617	641	666	686
0.5-krone	124	128	134	142	150	157	165	174	182	191
0.25-krone	41	40	40	40	:	:	:	:	:	:
0.10-krone	137	134	132	131	131	130	130	130	130	129
Copper	26	26	26	26	:	:	:	:	:	

C Payments infrastructure

Table 6: Institutional infrastructure

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Number of institutions	:	148	146	146	144	143	143	144	144
Number of foreign banks' branches	:	3	6	6	8	9	8	8	8
Number of bank branches	1 537	1 500	1 477	1 468	1 457	1 429	1 414	1 376	1 348
Number of branches (Norway Post)	2 356	2 091	1 618	1 280	1 257	1 261	1 320	1 433	1 480
Number of accounts in all banks	11 494 535					11 534 617			

Table 7: Average daily turnover in NBO (in millions of NOK)

	1999	2000	2001	2002	2003
Total	**147 232**	**144 017**	**172 119**	**169 167**	**206 811**
VPO	2 429	2 224	2 224	2 466	3 188
NICS retail transactions	ca. 4 000	5 480	6 816	6 929	6 672
NICS SWIFT net settlement	5 201	3 796	5 308	5 507	2 122
Total gross/RTGS	135 602	132 517	157 658	154 257	194 899
Of which					
SWIFT gross/RTGS	127 276	123 249	150 742	149 476	187 679
Other gross/RTGS	8 326	9 267	6 916	4 781	7 220

Table 8: Average daily turnover in NICS (number of transactions)

	1999	2000	2001	2002	2003
SWIFT Total	**4 589**	**4 626**	**5 022**	**5 237**	**5 751**
SWIFT gross/RTGS	331	282	303	301	596
SWIFT net settlement	4 258	4 344	4 719	4 936	5 155
NICS retail transactions (in millions)	2-3	3,0	3,4	3,7	4,0

Table 9: Average daily turnover in NICS (in billions of NOK)

	1999	2000	2001	2002	2003
SWIFT Total	**147**	**140**	**167**	**166**	**201**
SWIFT gross/RTGS	127	123	151	149	188
SWIFT net settlement	18	17	16	16	13
NICS retail transactions (approximately)	20-25	35	44	47	48
NICS total	165-170	175	211	212	249

Table 10: Participation in SWIFT

	2000		2001		2002		2003	
	Norwegian	Foreign	Norwegian	Foreign	Norwegian	Foreign	Norwegian	Foreign
Members	17	2 307	21	2 241	22	2 203	22	2 303
Sub-members/domestic users covered by members abroad	9	3 036	8	3 027	7	3 079	7	3 044
Participants	5	1 949	5	1 931	4	2 183	5	2 151
Total	**31**	**7 292**	**34**	**7 199**	**33**	**7 465**	**34**	**7 498**

Table 11: SWIFT message traffic to/from Norway (in thousands of transactions)

	1999	2000	2001	2002	2003
Total messages sent	8 124	9 238	10 521	11 239	12 931
Total messages received	6 051	6 920	8 163	8 747	10 391
Global SWIFT traffic	1 058 836	1 273 913	1 533 906	1 817 000	2 047 600

Table 12: Number of ATMs

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**1 741**	**1 792**	**1 861**	**1 896**	**1 944**	**2 007**	**2 119**	**2 144**	**2 188**	**2 035**
Commercial banks	750	775	796	808	867	900	1 026	1 018	992	985
Savings banks	991	1 017	1 065	1 088	1 077	1 107	1 093	1 126	1 196	1 050

Table 13: Use of ATMs (in millions of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**80,3**	**87,4**	**97,7**	**104,0**	**107,2**	**107,4**	**106,1**	**109,0**	**103,5**	**102,0**
Of which:										
Withdrawals from other banks' ATMs	:	:	:	50,5	52,1	51,3	49,0	47,3	48,5	50,7
Commercial banks' ATMs, total	**33,1**	**36,6**	**41,6**	**44,2**	**46,4**	**45,8**	**46,3**	**46,2**	**43,5**	**42,9**
Bank cards	:	35,4	39,7	41,9	43,6	42,5	42,1	42,1	39,4	39,0
Domestic credit cards	:	0,3	0,6	0,7	0,8	0,9	0,8	0,8	0,8	1,1
Payment cards issued by international credit card companies	:	0,9	1,3	1,6	2,0	2,4	3,4	3,3	3,4	2,9
Savings banks' ATMs, total	**47,2**	**50,8**	**56,1**	**59,8**	**60,8**	**61,6**	**59,8**	**62,8**	**60,1**	**59,1**
Bank cards	:	50,6	55,5	59,0	59,6	59,8	56,4	59,9	57,2	56,6
Domestic credit cards	-	-	-	-	-	0,0	0,2	0,3	0,3	0,3
Payment cards issued by international credit card companies	:	0,3	0,6	0,8	1,2	1,8	3,2	2,5	2,5	2,1

Table 14: Use of ATMs (in billions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**67,2**	**74,9**	**84,6**	**94,5**	**102,1**	**105,6**	**106,3**	**115,8**	**114,0**	**114,9**
Of which:										
Withdrawals from other banks' ATMs	:	:	:	46,0	47,6	48,1	45,4	46,1	48,4	51,4
Commercial banks' ATMs, total	**28,7**	**31,8**	**37,1**	**41,4**	**45,7**	**47,1**	**49,0**	**52,2**	**51,3**	**51,2**
Bank cards	:	30,3	34,9	38,5	42,2	42,9	43,7	47,0	45,8	45,6
Domestic credit cards	:	0,4	0,6	0,7	0,9	1,1	1,1	0,9	1,1	1,6
Payment cards issued by international credit card companies	:	1,1	1,7	2,2	2,6	3,1	4,3	4,3	4,3	4,0
Savings banks' ATMs, total	**38,5**	**43,1**	**47,4**	**53,1**	**56,4**	**58,5**	**57,2**	**63,6**	**62,8**	**63,6**
Bank cards	:	42,8	46,7	52,0	54,9	56,3	54,2	60,1	59,2	60,1
Domestic credit cards	-	-	-	-	-	0,0	0,3	0,5	0,3	0,5
Payment cards issued by international credit card companies	:	0,3	0,8	1,0	1,5	2,2	2,7	3,0	3,2	3,1

Table 15: Number of payment terminals (EFTPOS) and number of locations with payment terminals

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Payment terminals, total	**29 321**	**34 706**	**39 033**	**46 592**	**52 235**	**58 742**	**65 326**	**71 688**	**80 106**	**91 239**
Payment terminals owned by banks	23 668	28 897	33 679	41 299	46 849	51 618	55 208	59 184	65 374	66 207
Payment terminals owned by oil companies	5 653	5 809	5 354	5 293	5 386	7 124	7 093	6 752	6 439	6 554
Payment terminals owned by shops	:	:	:	:	:	:	3 025	5 752	8 293	18 478
Locations with payment terminals, total	**19 996**	**23 239**	**27 048**	**32 761**	**38 029**	**42 164**	**47 434**	**49 328**	**52 705**	**59 786**
With payment terminals owned by banks	17 827	21 081	24 841	30 607	35 861	39 978	44 468	45 573	47 995	51 041
With payment terminals owned by oil companies	2 169	2 158	2 207	2 154	2 168	2 186	2 050	2 129	2 024	1 997
With payment terminals owned by shops	:	:	:	:	:	:	916	1 626	2 686	6 748

Tabell 16: Utnyttelse av betalingsterminalene (EFTPOS) (millioner transaksjoner)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**123,1**	**143,4**	**182,5**	**234,7**	**288,6**	**338,8**	**391,6**	**446,1**	**500,8**	**575,5**
Banks' payment terminals, total	**72,3**	**90,2**	**120,6**	**162,7**	**210,7**	**254,7**	**302,4**	**329,1**	**368,3**	**411,0**
Bank cards	:	86,6	116,5	156,8	202,9	244,8	291,8	317,8	357,2	398,3
Domestic credit cards	:	0,2	0,4	0,7	1,0	1,3	0,6	0,6	0,6	1,7
Payment cards issued by international credit card companies	:	3,4	3,8	5,2	6,8	8,5	10,0	10,7	10,5	11,0
Oil companies' payment terminals, total	**50,8**	**53,2**	**61,9**	**72,0**	**77,9**	**82,6**	**84,1**	**91,9**	**90,8**	**102,4**
Bank cards	14,2	17,2	21,1	27,4	31,9	36,4	45,6	51,8	57,2	64,9
Domestic credit cards	-	-	-	-	-	-	0,0	0,0	0,0	0,0
Payment cards issued by international credit card companies	:	0,4	1,5	1,8	2,2	2,5	3,1	3,0	3,1	7,1
Oil companies' cards	36,6	35,6	39,3	42,8	43,8	43,8	35,4	37,1	30,5	30,4
Use of bank cards in shops' terminals	-	-	-	-	-	**1,5**	**5,1**	**25,1**	**41,6**	**62,2**
Bank cards	-	-	-	-	-	1,5	5,1	25,1	37,3	56,2
Domestic credit cards	-	-	-	-	-	:	:	:	0,1	0,1
Payment cards issued by international credit card companies	-	-	-	-	-	:	:	:	4,2	5,8

Table 17: Use of payment terminals (EFTPOS) (in billions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**43,0**	**55,9**	**75,4**	**100,8**	**127,1**	**155,0**	**187,0**	**210,2**	**231,0**	**302,1**
Banks' payment terminals, total	**33,2**	**41,8**	**58,6**	**81,0**	**105,5**	**129,9**	**153,2**	**167,7**	**181,5**	**240,0**
Bank cards	:	38,5	54,6	75,4	98,6	121,5	143,5	156,8	171,4	228,6
Domestic credit cards	:	0,4	0,5	0,8	0,8	0,9	0,7	0,8	0,8	1,4
Payment cards issued by international credit card companies	:	2,9	3,4	4,7	6,1	7,5	9,0	10,1	9,3	10,1
Oil companies' payment terminals, total	**9,8**	**14,0**	**16,9**	**19,9**	**21,6**	**23,6**	**29,1**	**29,1**	**27,2**	**30,1**
Bank cards	1,6	4,3	5,4	7,3	8,6	10,1	13,7	14,6	15,2	16,8
Domestic credit cards	-	-	-	-	-	-	0,0	0,0	0,0	0,0
Payment cards issued by international credit card companies	:	0,1	0,2	0,3	0,3	0,4	0,5	0,4	0,5	1,3
Oil companies' cards	8,2	9,6	11,3	12,3	12,6	13,1	14,9	14,2	11,6	12,0
Use of bank cards in shops' terminals	-	-	-	-	-	**1,6**	**4,7**	**13,4**	**22,3**	**31,9**
Bank cards	-	-	-	-	-	1,6	4,7	13,4	18,1	26,6
Domestic credit cards	-	-	-	-	-	:	:	:	0,0	0,2
Payment cards issued by international credit card companies	-	-	-	-	-	:	:	:	4,1	5,1

Table 18: Number of payment cards (thousands)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**4 100**	**5 025**	**5 766**	**6 583**	**7 527**	**8 406**	**9 156**	**10 191**	**10 726**	**11 474**
Bank cards	1 999	2 561	2 835	3 227	3 561	3 734	4 020	4 287	4 362	4 527
Domestic credit cards	452	480	589	514	620	687	672	760	826	835
Payment cards issued by international credit card companies	1 649	1 984	2 343	2 842	3 346	3 985	4 464	5 145	5 539	6 112
Combined cards	1 041	1 597	1 879	2 287	2 759	3 186	3 497	4 083	4 291	4 556
Number of cards minus combination cards counted twice	**3 059**	**3 428**	**3 887**	**4 296**	**4 768**	**5 220**	**5 658**	**6 108**	**6 435**	**6 918**
Of which:										
Debit cards	:	2 630	2 912	3 320	3 563	3 733	4 020	4 287	4 362	4 527
Credit cards	:	798	976	976	1 205	1 487	1 638	1 822	2 073	2 391
Oil companies' cards	1 033	1 372	1 592	1 713	1 772	1 633	1 429	1 259	1 211	1 299

Table 19: Number of agreements

	2000	2001	2002	2003
E-banking agreements	933 335	1 340 661	1 934 318	2 553 458
Mail giro agreements	2 687 420	2 361 031	1 787 462	1 707 428
Number of direct debits	3 500 000	4 044 848	4 483 286	4 901 219
Number of direct debit beneficiaries	6 041	6 473	6 883	7 194
Direct debits where payees have power of attorney	558	541	534	548
Direct debits where payees have no power of attorney	616	659	731	684

D Cash withdrawals in Norway

Table 20: Cash withdrawals (in millions of transactions)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**87,4**	**126,3**	**128,6**	**129,0**	**144,5**	**236,1**	**256,9**	**256,2**	**270,3**
Cash withdrawals at the counter	**0,0**	**28,7**	**24,7**	**21,9**	**37,2**	**27,3**	**23,8**	**20,1**	**17,6**
Commercial banks	:	28,7	24,7	21,9	19,1	15,8	13,8	10,7	9,6
Savings banks	:	:	:	:	18,1	11,5	10,1	9,4	8,0
ATM withdrawals	**87,4**	**97,6**	**103,9**	**107,1**	**107,3**	**106,0**	**108,8**	**103,5**	**102,0**
Commercial banks	36,6	41,5	44,1	46,3	45,7	46,2	46,1	43,5	42,9
Savings banks	50,8	56,1	59,8	60,8	61,6	59,8	62,8	60,1	59,1
Cash withdrawals at payment terminals (EFTPOS)	**:**	**:**	**:**	**:**	**:**	**102,7**	**124,2**	**132,6**	**150,6**

Table 21: Cash withdrawals (in billions of NOK)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**74,9**	**202,7**	**194,3**	**191,8**	**192,4**	**258,7**	**259,1**	**253,8**	**254,3**
Cash withdrawals at the counter	**0,0**	**118,1**	**99,8**	**89,7**	**86,9**	**115,7**	**98,6**	**92,3**	**86,5**
Commercial banks	:	118,1	99,8	89,7	86,9	72,8	62,0	57,3	52,1
Savings banks	:	:	:	:	:	42,9	36,6	35,0	34,4
ATM withdrawals	**74,9**	**84,6**	**94,5**	**102,1**	**105,5**	**106,1**	**115,8**	**114,0**	**114,9**
Commercial banks	31,8	37,1	41,4	45,7	47,0	48,8	52,2	51,3	51,2
Savings banks	43,1	47,4	53,1	56,4	58,5	57,2	63,6	62,8	63,6
Cash withdrawals at payment terminals (EFTPOS)	**:**	**:**	**:**	**:**	**:**	**36,9**	**44,7**	**47,5**	**52,9**

E Use of payment services

Table 22: Use of Norwegian payment services (in millions of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**:**	**:**	**:**	**:**	**:**	**:**	**:**	**:**	**942,2**	**1037,2**
Payment instruments:	**431,1**	**465,7**	**508,4**	**564,3**	**634,1**	**695,3**	**760,3**	**848,6**	**919,6**	**1013,8**
Giros	313,5	324,5	335,2	343,9	360,0	371,3	370,4	398,8	404,3	420,0
Payment cards	91,3	118,8	156,1	207,5	264,6	317,7	385,9	446,9	513,3	592,2
Cheques	26,3	22,4	17,1	12,9	9,4	6,3	4,0	2,9	2,0	1,5
Payment orders:	:	:	:	:	:	:	:	:	**22,6**	**23,4**
Standing orders	:	:	:	:	:	:	:	:	22,6	23,4

Table 23: Use of Norwegian payment services (in billions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**:**	**:**	**:**	**:**	**:**	**:**	**:**	**:**	**6 149,6**	**6 972,2**
Payment instruments:	**2 237,2**	**2 474,5**	**4 257,4**	**4 683,4**	**4 781,9**	**5 837,0**	**6 088,6**	**6 176,7**	**5 993,3**	**6 819,2**
Giros	1 859,4	2 074,8	3 921,5	4 358,8	4 464,6	5 534,0	5 823,5	5 921,7	5 724,7	6 502,6
Payment cards	41,9	57,8	80,4	104,1	134,6	164,1	162,8	182,4	204,2	270,4
Cheques	335,8	342,0	255,5	220,5	182,7	138,9	102,4	72,5	64,4	46,3
Payment orders:	:	:	:	:	:	:	:	:	**156,3**	**153,0**
Standing orders	:	:	:	:	:	:	:	:	156,3	153,0

Table 24: Use of Norwegian payment instruments (in millions of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**431,1**	**465,7**	**508,4**	**564,3**	**634,1**	**695,3**	**760,3**	**851,6**	**919,6**	**1 013,8**
Giros total	**313,5**	**324,5**	**335,2**	**343,9**	**360,0**	**371,3**	**370,4**	**401,8**	**404,3**	**420,0**
Electronic giros	86,7	101,7	125,1	146,5	173,9	202,7	221,0	268,1	292,8	326,1
Paper-based giros	226,7	222,9	210,1	197,4	186,2	168,5	149,3	133,7	111,5	93,9
Payment cards total	**91,3**	**118,8**	**156,1**	**207,5**	**264,6**	**317,7**	**385,9**	**446,9**	**513,3**	**592,2**
Electronic use	86,5	113,8	151,5	200,9	256,0	307,3	377,5	437,8	503,4	581,8
Manual/paper-based use	4,8	5,0	4,5	6,6	8,6	10,4	8,3	9,1	10,0	10,4
Cheques total	**26,3**	**22,4**	**17,1**	**12,9**	**9,4**	**6,3**	**4,0**	**2,9**	**2,0**	**1,5**

Table 25: Use of Norwegian payment instruments (in billions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**2 237,2**	**2 474,5**	**4 257,4**	**4 683,4**	**4 781,9**	**5 837,0**	**5 860,3**	**5 921,0**	**5 993,3**	**6 819,2**
Giros total	**1 859,4**	**2 074,8**	**3 921,5**	**4 358,8**	**4 464,6**	**5 534,0**	**5 595,1**	**5 666,0**	**5 724,7**	**6 502,6**
Electronic giros	1 121,9	1 309,3	2 440,6	2 935,6	3 223,2	4 444,4	4 720,0	5 156,0	5 290,9	6 091,6
Paper-based giros	737,5	765,5	1 480,9	1 423,2	1 241,4	1 089,5	875,2	510,0	433,8	411,0
Payment cards total	**41,9**	**57,8**	**80,4**	**104,1**	**134,6**	**164,1**	**162,8**	**182,4**	**204,2**	**270,4**
Electronic use	34,8	49,3	74,6	97,4	125,3	151,2	153,9	172,7	193,9	261,1
Manual/paper-based use	7,1	8,4	5,8	6,7	9,3	12,9	8,9	9,7	10,3	9,3
Cheques total	**335,8**	**342,0**	**255,5**	**220,5**	**182,7**	**138,9**	**102,4**	**72,5**	**64,4**	**46,3**

Table 26: Giro services (in millions of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Giros total	**313,6**	**324,6**	**335,1**	**343,9**	**360,0**	**371,3**	**370,4**	**407,4**	**404,3**	**420,0**
Electronic giros total	**86,7**	**101,7**	**125,1**	**146,5**	**173,9**	**202,7**	**221,0**	**268,1**	**292,8**	**326,1**
Terminal payments (closed network)	70,6	83,0	97,8	109,1	126,1	129,9	128,7	143,8	153,2	169,9
Terminal payments over the Internet	-	-	:	:	3,2	14,5	34,6	62,0	81,4	96,1
Payments by phone	0,9	1,3	6,7	13,4	18,2	28,3	28,8	28,7	26,8	25,5
Direct debits	15,3	17,4	20,6	24,0	26,3	30,0	29,0	33,6	31,3	34,7
Paper-based giros total	**226,9**	**222,9**	**210,0**	**197,4**	**186,2**	**168,5**	**149,3**	**139,3**	**111,5**	**93,9**
Mail giros	88,6	96,9	101,1	104,3	106,9	107,0	90,2	74,3	61,7	52,1
Giros delivered at the counter	116,1	106,5	91,4	78,8	65,6	52,2	52,9	59,4	44,8	37,7
Of which:										
Cash payments	72,0	62,5	46,3	37,1	28,1	22,9	20,4	20,8	14,1	13,3
Account debits	25,0	25,0	27,1	27,4	24,5	29,2	32,4	37,7	30,5	24,3
Various giros registered in banks	19,1	19,1	18,1	14,2	13,0	-	0,0	0,8	0,3	0,0
Terminal payments sent as money orders	22,1	19,5	17,5	14,3	13,7	9,4	6,3	5,6	4,9	4,2

Table 27: Giro services (in billions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Giros total	**1 859,4**	**2 074,9**	**3 921,5**	**4 358,8**	**4 464,6**	**5 534,0**	**5 595,1**	**5 673,0**	**5 724,7**	**6 502,6**
Electronic giros total	**1 121,9**	**1 309,3**	**2 440,6**	**2 935,6**	**3 223,2**	**4 444,4**	**4 720,0**	**5 156,0**	**5 290,9**	**6 091,6**
Terminal payments (closed network)	1 051,7	1 233,6	2 310,6	2 779,2	3 041,1	4 185,7	4 372,2	4 716,2	4 678,4	5 382,4
Terminal payments over the Internet	-	-	:	:	7,3	39,7	93,3	197,3	409,1	493,6
Payments by phone	1,5	2,1	11,3	22,8	31,0	55,6	52,5	57,6	54,3	51,0
Direct debits	68,7	73,6	118,7	133,6	143,8	163,5	202,0	184,8	149,2	164,6
Paper-based giros total	**737,5**	**765,6**	**1 480,9**	**1 423,2**	**1 241,4**	**1 089,5**	**875,2**	**517,0**	**433,8**	**411,0**
Mail giros	181,0	214,9	858,0	830,2	649,8	597,6	527,7	201,5	166,5	148,8
Giros delivered at the counter	549,0	544,6	569,7	557,2	561,0	473,9	336,1	308,5	261,2	257,1
Of which:										
Cash payments	183,4	175,4	188,4	179,1	126,5	143,8	111,5	107,8	78,2	85,2
Account debits	175,3	175,2	206,5	247,8	308,5	330,1	224,6	200,7	179,0	171,9
Various giros registered in banks	190,3	194,0	174,8	130,3	126,0	-	0,0	12,9	3,9	0,0
Terminal payments sent as money orders	7,5	6,1	53,2	35,8	30,6	18,1	11,4	7,0	6,1	5,2

Table 28: Total use of Norwegian payment cards. Cash withdrawals and goods payments (in millions of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total card use	**171,7**	**207,8**	**255,4**	**314,4**	**374,7**	**429,1**	**496,3**	**562,4**	**624,5**	**702,1**
Banks	**156,2**	**189,7**	**232,8**	**285,1**	**337,9**	**385,0**	**441,1**	**496,7**	**548,3**	**615,0**
Domestic credit cards	**0,8**	**1,1**	**1,2**	**1,4**	**1,7**	**1,9**	**2,4**	**2,7**	**3,0**	**3,0**
GE Capital Finans AS	:	:	:	:	:	0,7	0,8	0,9	0,9	0,8
DnB Kort AS	:	:	:	:	:	0,2	0,0	0,0	0,0	0,0
Gjensidige NOR (Union Bank of Norway)	:	:	:	:	:	1,0	1,5	1,8	2,1	2,2
Payment cards issued by international credit card companies	**14,7**	**16,9**	**21,4**	**27,9**	**35,1**	**42,2**	**52,8**	**63,0**	**73,2**	**84,2**

Table 29: Total use of Norwegian payment cards. Cash withdrawals and goods payments (in billions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total card use	**109,2**	**135,8**	**166,4**	**204,6**	**242,6**	**277,1**	**314,6**	**353,7**	**377,7**	**450,3**
Banks	**92,1**	**116,0**	**141,5**	**173,3**	**204,4**	**232,3**	**259,8**	**291,8**	**309,7**	**377,7**
Domestic credit cards	**2,5**	**3,2**	**3,8**	**4,2**	**4,5**	**5,1**	**5,4**	**5,9**	**5,9**	**4,2**
GE Capital Finans AS	0,8	1,1	1,4	1,5	1,7	1,9	2,1	2,4	2,5	1,0
DnB Kort AS	0,2	0,3	0,3	0,4	0,4	0,4	0,1	0,0	0,0	0,0
Gjensidige NOR (Union Bank of Norway)	1,5	1,9	2,1	2,2	2,4	2,8	3,1	3,5	3,4	3,2
Payment cards issued by international credit card companies	**14,6**	**16,6**	**21,1**	**27,1**	**33,7**	**39,7**	**49,4**	**56,0**	**62,0**	**68,4**

Table 30: Total use of payment cards issued by international credit card companies (in millions of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total use of payment cards issued by international credit card companies	**17,7**	**19,9**	**25,2**	**32,5**	**40,4**	**48,5**	**59,6**	**70,5**	**81,3**	**93,0**
American Express	1,6	1,4	1,6	2,0	2,2	2,4	3,0	3,4	3,4	3,8
Diners Club Norge AS	2,9	3,2	3,7	4,3	5,1	5,4	5,9	6,2	5,8	6,0
Europay Norge AS	4,5	5,4	7,1	9,3	11,4	13,3	15,3	16,5	18,3	22,1
VISA Norge AS	8,8	9,9	12,8	17,0	21,7	27,3	35,3	44,4	53,9	61,1
Of which:										
Non-residents' use of payment cards issued by international credit card companies	**3,0**	**3,0**	**3,8**	**4,6**	**5,3**	**6,2**	**6,7**	**7,5**	**8,1**	**8,8**
Use of Norwegian payment cards issued by international credit card companies	**14,7**	**16,9**	**21,4**	**27,9**	**35,1**	**42,2**	**52,8**	**63,0**	**73,2**	**84,2**

Table 31: Total use of payment cards issued by international credit card companies (in billions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total use of payment cards issued by international credit card companies	**17,1**	**19,1**	**24,3**	**30,9**	**38,1**	**45,2**	**54,8**	**61,9**	**68,0**	**75,3**
American Express	1,7	1,9	2,6	3,1	3,5	4,3	4,2	4,7	4,6	4,6
Diners Club Norge AS	3,4	3,7	4,1	4,8	5,6	6,0	6,8	7,1	7,0	6,8
Europay Norge AS	4,4	5,2	7,1	9,6	12,1	14,0	16,8	18,1	19,5	22,5
VISA Norge AS	7,6	8,3	10,5	13,4	16,9	20,8	27,0	32,0	36,9	41,4
Of which:										
Non-residents' use of payment cards issued by international credit card companies	**2,5**	**2,5**	**3,2**	**3,8**	**4,4**	**5,5**	**5,4**	**5,8**	**5,9**	**6,9**
Use of Norwegian payment cards issued by international credit card companies	**14,6**	**16,6**	**21,1**	**27,1**	**33,7**	**39,7**	**49,4**	**56,0**	**62,0**	**68,4**

Table 32: Purchase of goods and services with Norwegian payment cards (in millions of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Purchase of goods and services, total	**13,0**	**118,8**	**156,1**	**207,5**	**264,6**	**317,7**	**385,9**	**446,9**	**513,3**	**592,2**
Bank cards	:	103,8	137,6	184,2	234,8	282,7	342,5	394,7	451,7	519,4
Domestic credit cards	0,3	0,4	0,5	0,4	0,7	0,8	0,9	1,2	1,4	1,4
Payment cards issued by international credit card companies	12,7	14,5	18,1	22,9	29,1	34,2	42,4	51,1	60,2	71,4

Table 33: Purchase of goods and services with Norwegian payment cards (in billions of NOK)*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Purchase of goods and services, total	**13,1**	**57,8**	**80,4**	**104,1**	**134,6**	**164,1**	**162,8**	**182,4**	**204,2**	**270,4**
Bank cards	:	42,9	60,0	82,8	107,2	133,1	125,0	140,1	157,2	219,1
Domestic credit cards	1,4	1,8	2,1	1,9	3,1	3,5	3,3	3,7	3,7	1,9
Payment cards issued by international credit card companies	11,8	13,1	18,3	19,4	24,3	27,5	34,5	38,7	43,3	49,4

**) Figures up to 1999 include cashback at payment terminals*

Table 34: Cheques (in millions of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total use of cheques	**26,3**	**22,4**	**17,1**	**12,9**	**9,4**	**6,3**	**4,0**	**2,9**	**2,0**	**1,5**
Savings banks	13,7	12,8	9,8	7,4	5,6	3,9	2,5	1,9	1,3	1,0
Commercial banks	12,6	9,6	7,3	5,5	3,8	2,4	1,5	1,0	0,8	0,5

Table 35: Cheques (in billions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total use of cheques	**335,8**	**342,0**	**255,5**	**220,5**	**182,7**	**139,0**	**102,4**	**72,5**	**64,4**	**46,3**
Savings banks	110,5	159,4	103,9	87,8	72,6	65,9	47,1	37,1	29,7	21,9
Commercial banks	225,3	182,6	151,6	132,7	110,1	73,1	55,3	35,5	34,7	24,4

Table 36: Cross-border use of payment cards (in thousands of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**9 603**	**10 607**	**13 483**	**17 280**	**21 419**	**25 647**	**29 702**	**34 003**	**40 125**	**45 729**
Use of Norwegian cards abroad	**6 560**	**7 534**	**9 573**	**12 530**	**15 800**	**18 986**	**22 560**	**26 153**	**31 480**	**36 188**
Domestic credit cards	:	0	0	1	1	2	1	0	0	0
American Express	650	520	610	750	844	968	722	714	708	691
Diners Club	629	669	725	816	899	900	927	893	874	1 128
MasterCard/Maestro	1 176	1 465	1 936	2 747	3 500	3 983	4 393	4 514	4 988	5 496
VISA	4 105	4 782	6 168	8 042	10 326	12 805	16 132	19 638	24 704	28 496
Eufiserv	0	98	134	174	230	328	385	394	206	377
Of which:										
Cash withdrawals	:	1 244	1 752	3 845	4 528	5 806	6 286	7 129	8 299	9 187
Use of non-residents' payment cards in Norway	**3 043**	**3 073**	**3 910**	**4 750**	**5 618**	**6 661**	**7 142**	**7 850**	**8 645**	**9 541**
American Express	400	209	246	279	289	605	578	758	768	415
Diners Club	153	156	186	231	256	269	260	246	220	198
MasterCard/Maestro	1 050	1 130	1 508	1 730	1 983	2 096	2 266	2 412	2 541	3 105
VISA	1 440	1 501	1 872	2 359	2 798	3 262	3 627	4 089	4 576	5 118
Eufiserv	:	77	98	151	293	429	411	345	540	705
Of which										
Non-residents' cash withdrawals in Norway	:	527	717	539	1 296	1 561	1 155	1 304	1 384	1 418

Table 37: Cross-border use of payment cards (in millions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**8 862**	**9 797**	**12 463**	**16 109**	**20 294**	**24 980**	**28 708**	**31 390**	**35 273**	**40 557**
Use of Norwegian cards abroad	**6 366**	**7 254**	**9 269**	**12 336**	**15 846**	**19 484**	**23 280**	**25 557**	**29 341**	**33 640**
Domestic credit cards	:	0	0	1	1	2	2	0	0	0
American Express	600	637	718	861	905	1 490	977	952	870	878
Diners Club	661	708	769	892	1 033	1 038	1 135	1 095	1 243	1 483
MasterCard/Maestro	1 174	1 436	1 958	2 794	3 725	4 301	4 905	4 883	5 214	5 851
VISA	3 931	4 473	5 824	7 788	10 182	12 653	16 261	18 627	22 014	25 428
Of which:										
Cash withdrawals	:	1 871	2 515	5 333	6 490	8 388	9 509	10 598	11 917	13 287
Use of non-residents' payment cards in Norway	**2 496**	**2 543**	**3 194**	**3 773**	**4 448**	**5 496**	**5 428**	**5 833**	**5 932**	**6 917**
American Express	450	420	467	513	560	1 159	594	623	504	508
Diners Club	121	122	141	170	187	201	198	186	167	149
MasterCard/Maestro	803	860	1 196	1 387	1 615	1 694	1 928	2 078	2 133	2 670
VISA	1 122	1 141	1 390	1 703	2 086	2 442	2 708	2 946	3 128	3 590
Of which										
Non-residents' cash withdrawals in Norway	:	675	915	716	1 478	1 504	1 518	1 700	1 708	1 923

Table 38: Transfers from Norway to abroad with foreign currency cheques, foreign currency giros and Eurogiros (in thousands of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**1 177**	**1 101**	**1 116**	**976**	**688**	**588**	**452**	**239**	**80**	**71**
Foreign currency cheques	**272**	**210**	**271**	**198**	**136**	**144**	**101**	**74**	**48**	**27**
Giros total	**905**	**891**	**845**	**778**	**547**	**435**	**337**	**165**	**0**	**0**
Foreign currency giros (discontinued in 1998)	-	48	113	130	1	0	0	0	0	0
Eurogiro	905	843	732	648	546	435	337	165	0	0
Of which:										
Giros (account to account transactions)	541	488	419	341	287	194	135	119	0	0
Incoming and outgoing payments	364	355	313	307	259	242	202	46	0	0

Table 39: Transfers to Norway from abroad with foreign currency cheques and Eurogiros (in thousands of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total	**303**	**283**	**233**	**206**	**191**	**578**	**392**	**299**	**158**	**234**
Foreign currency cheques	**:**	**:**	**:**	**:**	**:**	**398**	**227**	**169**	**156**	**230**
Eurogiro	**303**	**283**	**233**	**206**	**191**	**179**	**161**	**130**	**0**	**0**
Of which										
Giros (account to account transactions)	178	174	180	136	115	102	88	68	0	0
Incoming and outgoing payments	125	109	53	70	76	77	73	62	0	0

F Prices in the payments system

Table 40: Prices in NOK for payment transactions, receipt of payments and cash withdrawals. Weighted averages for all banks

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Payment transactions										
Giros										
Electronic giro services										
Phone giro	:	2,02	2,45	2,33	2,31	2,38	2,45	2,44	2,38	2,14
Terminal payments over the Internet				1,98	2,03	1,91	1,89	1,86	1,85	1,88
Direct debit	:	:	:	:	:	:	:	:	2,09	2,09
Unnotified remittance	0,93	1,34	1,62	1,64	1,59	2,07	2,73	2,82	2,85	3,01
Notified remittance	2,18	3,00	3,12	3,53	3,44	4,02	4,26	4,78	4,88	5,21
Remittance with customer identification	:	0,25	1,09	1,02	0,99	1,03	1,31	1,39	1,38	1,48
Unnotified company terminal giro	:	1,33	1,20	1,26	1,20	1,91	1,96	2,07	2,03	1,47
Notified company terminal giro	:	2,83	2,78	3,08	3,03	3,14	3,58	3,61	3,68	3,84
Company terminal giro with customer ident.	:	:	0,93	0,91	0,92	0,88	0,98	0,99	1,01	1,08
Paper-based services										
Mail giro	2,88	3,76	3,88	4,04	4,25	4,84	5,14	5,67	6,36	6,53
Giro, account debits	9,98	10,14	12,73	13,30	15,28	16,92	18,59	25,10	26,01	30,19
Giro, cash payment	11,00	16,51	17,95	18,46	23,40	25,67	27,37	31,69	32,50	41,68
Remittance sent as a money order	10,77	13,57	22,52	23,12	25,72	27,78	30,07	32,70	33,75	35,71
Company terminal giro sent as a money order	:	13,57	22,35	23,41	25,01	26,06	30,11	32,61	33,58	35,38
Payment cards										
Payment terminal (EFTPOS)	2,02	2,05	2,20	2,13	2,07	2,19	2,24	2,07	2,07	2,10
Cheques										
Personal cheques	8,40	8,50	9,79	10,72	12,30	15,00	20,07	20,70	21,13	20,67
Business cheques	9,23	9,28	9,82	10,46	12,31	15,13	22,05	22,79	23,94	24,03
Receipt of payments										
Giro										
Electronic giro services										
Direct debit	:	:	1,52	1,60	1,51	1,38	1,42	1,42	1,42	1,53
Optical character recognition (OCR) - File	:	0,80	0,82	0,80	0,79	0,93	1,15	1,15	1,17	1,15
GiroFax	:	:	:	:	:	:	:	:	0,12	0,16
GiroMail	:	:	:	:	:	:	:	:	0,04	0,06
Paper-based giro services										
Optical character recognition (OCR) - Return	:	2,15	2,38	2,40	2,12	3,39	3,81	3,70	3,85	3,84
Cash withdrawals										
ATM withdrawals										
Own bank's ATMs outside business hours	2,91	2,93	3,31	3,49	3,79	3,78	4,28	3,76	3,69	3,89
Other banks' ATMs during business hours	1,65	1,87	1,95	2,25	2,19	2,64	4,00	3,89	4,09	4,72
Other banks' ATMs outside business hours	3,91	4,08	4,40	4,44	4,46	4,32	4,81	4,79	4,91	5,49

Table 41: Prices in NOK for transfers to other countries. Weighted averages for all banks

	Paper-based			Electronic			Min. price electronic	Max. price electronic
	01.01.2002	01.01.2003	01.01.2004	01.01.2002	01.01.2003	01.01.2004	01.01.2004	01.01.2004
Cheques to other countries								
NOK 100	144,03	169,73	160,48	144,83	164,76	156,11	45	200
NOK 2 500	158,67	176,97	178,59	148,53	168,04	159,00	45	200
SWIFT								
Ordinary transfer								
NOK 100	102,66	105,13	113,23	52,46	54,72	55,41	25	80
NOK 2 500	113,67	113,42	120,74	54,11	57,12	58,94	35	130
Express transfer								
NOK 1 000	233,54	318,83	323,78	278,09	275,59	273,18	40	425
NOK 100 000	356,57	356,75	354,33	310,23	308,37	302,42	40	540
NOK < 1 000 000	434,58	441,79	413,84	376,87	382,99	355,13	170	1655

Table 42: Price list for participation in Norges Bank Settlement System (NBO), prevailing from 1 January 2004 (in NOK)

Participants	Access fee for new participants	Annual fees						
					NOS settlements			
		SWIFT settlement	Retail settlement	Securities settlement	Options	Credit insurance	Futures	Infrastructure fees (1)
Norwegian banks with total assets > NOK 4bn and branches of foreign banks	50.000,-	57.500,-	57.500,-	57.500,-	29.000,-	14.500,-	14.500,-	23.000,-
Norwegian banks with total assets < NOK 4bn	50.000,-	29.000,-	29.000,-	29.000,-	14.500,-	7.500,-	7.500,-	23.000,-
Brokers	50.000,-	-	-	72.000,-	43.000,-	-	-	23.000,-

	Transaction prices (2)			
	Manual - Gross transactions	Electr. - Gross transactions(3)	Net settlement	Cheques
Norwegian banks with total assets > NOK 4bn and branches of foreign banks	45,-	7,- / 5,50/ 4,-	45,-	115,-
Norwegian banks with total assets < NOK 4bn	45,-	7,- / 5,50/ 4,-	45,-	115,-
Brokers	70,-	7,- / 5,50/ 4,-	45,-	115,-

A penalty fee of NOK 10 000 accrues in the event of inadequate cover at the end of the business day. The fee is the same for all participants.

(1) Per account for settlement, option and securities accounts. There are no fees for F-loan accounts. Indirect participants, i.e. banks which do not participate in any of the net settlements, only pay the infrastructure fee.

(2) There are no transaction fees for transactions where Norges Bank is the counterparty (cash, F-loans, F-deposits, currency swaps etc.).

(3) Gross transactions sent via NICS-SWIFT or directly to Norges Bank. Transaction prices fall with increasing volume. Transaction volume is divided into three, with the intervals 0-100, 101-1000 and over 1000 transactions per month. Transaction prices are NOK 7.00, NOK 5.50 and NOK 4.00 respectively.

Guide to tables

The statistics about trends in Chapter 2 provide an overview of the infrastructure and use of different payment instruments in Norway. The information about *giros, cheques, bank cards, ATMs and payment terminals owed by banks and retail chains* has been obtained from the Norwegian Financial Services Association (FNH), the Norwegian Savings Banks Association, Entercard A/S, the Banks' Payment and Central Clearing House (BBS), Nordea, DnB and A/S EDB with associated banks and American Express Co AS. Information about *payment cards, other than bank cards, and about oil companies' payment terminals* has been obtained from Teller A/S, Europay Norge A/S, Diners Club Norge A/S, DnB Kort A/S, GE Capital Bank, Union Bank of Norway, Statoil ASA, Esso Norge A/S, A/S Norske Shell, Hydro Texaco AS and Conoco Jet Norge A/S. Information about clearing and settlement has been obtained from Norges Bank, the Norwegian Central Securities Depository and the Norwegian Interbank Clearing System (NICS). Information has also been obtained from Statistics Norway, the Norwegian Post and Telecommunications Authority and the FSA of Norway.

Information about *prices* in Chapter 3 and 5 is based on a survey comprising 18 savings banks and eight commercial banks. The prices obtained from the banks are standard prices in accordance with price lists start of year. The information about banks' income related to payment services has been obtained from Norges Bank's data base for bank statistics (ORBOF) and is thus based on the banks' official accounts.

Definitions and concepts in the statistics:
Mail giros: These are sent to BBS and until 2002, Postbanken.
Miscellaneous giros registered in the bank: Cash payments and account debits using giro forms registered in data processing centres other than BBS.
Money orders: Paper-based giros without the payee's account number which must be presented at a bank in order to receive payment.
Use of terminals over the Internet: Home-banking services and use of company terminals (company terminal giros) over the Internet, including net bank etc.
Terminal payments – closed network: Services include direct remittance and company terminal giros that do not use the Internet. *Direct remittance:* A service established by BBS for transferring funds using a terminal to payees with or without a bank account. Used primarily by companies to effectuate individual payments, large-scale payments, account adjustments etc. *Company terminal giro:* Collective term for company terminal payment solutions with payment services corresponding to direct remittance, net bank etc. that have been established by someone (bank or data processing centre) other than BBS.
Transfers by telephone: Transfers from one account to another, initiated by telephone.
Direct debits: This service allows the payee to debit the payer's account directly in accordance with a special agreement between the payer, payee and their bank connections and, in some cases, BBS.

OCR: Paper-based giros with a special bar code that makes it possible for the payee to register the amount and to invoice electronically. *OCR File:* The bank keeps the form. *OCR Return:* The form is returned to the payee.

KID: Customer identification that may be received electronically by the payee whether the payment is effectuated electronically or in paper-based form.

EFTPOS (Electronic Funds Transfer at Point Of Sale): Payments and cash withdrawals (cashback) in connection with the use of payment cards in electronic payment terminals.

Debit cards are directly linked to the user's bank account. The card is used to make payments from the funds available in the cardholder's account, including any overdraft facility. The amount is debited immediately from the user's account.
Charge cards are not linked to a bank account. The user receives an invoice from the card issuer for use during a certain period (e.g. the previous month). The invoice is then paid by means of another payment instrument. The user has a certain amount of credit in the form of delayed payment, whereas the point of sale/payee receives settlement from the card company.
Credit cards are charge cards which grant the user a certain amount of credit which is repaid in instalments according to a repayment plan.
Bank cards are debit cards issued by banks and attached to a bank account.
Domestic credit cards, which are designed for use in Norway, are issued by or in cooperation with DnB Kort A/S (through 2000), GE Capital Bank and Union Bank of Norway.
Payment cards established by international card companies are debit cards and charge cards which are issued by or in cooperation with VISA Norge A/S, Europay Norge A/S, Diners Club Norge A/S, American Express Company A/S and American Express Card Services DnB Kort A/S.
Combined payment cards combine a bank card and a domestic credit card or payment card from an international card company.
The oil companies' cards may only be used in the oil companies' own payment terminals and are not considered payment cards.

SWIFT (Society for Worldwide Interbank Financial Telecommunications) is an electronic network (system) for transmitting messages. Used extensively in connection with large-value domestic transfers, e.g. between banks, and for cross-border transfers in particular.

NBO: Norges Bank's Settlement System
NICS - Norwegian Interbank Clearing System: A system for clearing and providing liquidity information. The system is jointly owned by the banks and operated by BBS.
NOS: Norwegian Futures and Options Clearing House
VPS: The Norwegian Central Securities Depository
VPO: Securities settlement system

Comments on tables:

Tables 7 - 9. Average daily turnover in NBO and NICS: The figures for 1999 cover only the period May to December 1999. There is some uncertainty about the statistics on NICS retail settlement.

Table 15. Number of payment terminals (EFTPOS) and number of locations with payment terminals: The number of payment terminals owned by oil companies through 1998 does not include terminals owned by FINA, whereas figures after 01.01.99 include these terminals. Locations with payment terminals: Shops, post offices, petrol stations, restaurants and cafés, hairdressers, dentists, etc. Terminals that only accept payment cards issued by international card companies and/or domestic credit cards are not included.

Table 18. Number of payment cards: Through 1997, information about bank cards was unavailable from 8% of commercial banks measured by the banks' share of site deposits.

Tables 20 and 21. Cash withdrawals:
Cash withdrawals at the counter: The share of commercial banks that provided information represented approximately 90% of the commercial bank market measured by sight deposits through 1999. From 2000, the information about the number of withdrawals refers to all commercial and savings banks, while the volume figures have been estimated by Norges Bank on the basis of information from a number of banks.
Cash withdrawals in connection with goods purchases: Cash withdrawals in connection with payment card use at terminals that accept bank cards and are owned by banks, retail chains and oil companies. In some cases, the distribution between commercial and savings banks and the volume for the period 2000 – 2003 have been estimated by Norges Bank.

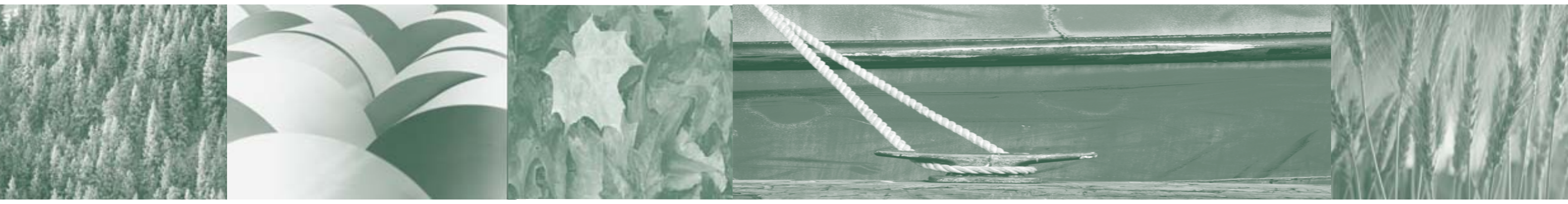
Tables 22 and 23. Use of Norwegian payment services, Tables 24 and 25. Use of Norwegian payment instruments; and Tables 26 and 27. Giro services:
Giro: Figures through 1994 contain transactions between BBS and Postbanken that have been counted twice and do not include giros registered by anyone other than BBS and Postbanken. From 01.01.95 transactions that had been counted twice have been omitted, while giros registered in other data processing centres have been included. The giro amounts shown in italics do not include Postbanken's figures due to substantial uncertainty about the information gathered through 1995. Turnover figures for electronic giros, including terminal payments - closed networks, have in some cases been estimated by Norges Bank and are uncertain. *Payment cards:* Payments, including goods purchases, with Norwegian cards in Norway and abroad. *Electronic card use:* Figures through 1994 include payment card use in ATMs and in banks' and oil companies' payment terminals. Figures from 01.01.95 also refer to electronic card use in other payment terminals than those owned by banks and oil companies. Bank card turnover through 1999 includes withdrawals from payment terminals, while the figures from 01.01.00 only include goods purchases.

Tables 13, 14, 16, 17, 28-33, 36 and 37. Use of ATM network and payment terminals and use of payment cards:
Tables 13-17 refer to the use of Norwegian and foreign payment cards in Norwegian ATMs and payment terminals, while Tables 28-33 refer to the use of Norwegian payment cards in Norway and abroad. The tables also include the use of combined cards (e.g. combined bank/payment cards issued by international credit card companies). The use of combined cards is broken down according to different card groups (such as bank card, VISA card etc.), depending on which part of the card has been used. Information about withdrawals from other banks' ATMs (*Tables 13 and 14*) are estimates from Norges Bank. Figures through 1999 for bank card turnover in connection with goods purchases include cash withdrawals (*Table 31).* Since 01.01.00, cash withdrawals have been presented in a separate table (*Table 21)* so that turnover only applies to goods purchases. The use of Norwegian payment cards abroad (*Tables 34 and 35*) refer primarily to the use of payment cards from the international credit card companies. To a certain extent, i.e. in less that 1% of cases, bank cards are also used in the EUFISERV network. Some foreign transactions in Norway registered as MasterCard/Maestro-transactions are JCB transactions. So far the number has been negligible. The breakdown of cash withdrawals, goods purchases and cross-border payments for American Express has been estimated by Norges Bank so that the figures are uncertain.

Tables 34 and 35. Cheques: Some of the figures for commercial banks through 1994 are estimates and are uncertain due to incomplete data.

Tables 40 and 41. Prices for domestic payment transactions, receipt of payments and cash withdrawals and prices for transfers to other countries: The price statistics provide an overview of average prices per payment transaction. The bank groups' average prices are calculated by weighting the price per transaction in each bank according to the bank's share of deposits in transaction accounts. The average price for all banks in the survey is calculated by weighting the commercial banks' and savings banks' average prices according to the bank groups' real market shares for payment services, measured by number of transactions. For domestic payments, the fees charged to the payee come in addition to the fees charged to the payer. In connection with transfers to another country, prices often vary with the size of the payment and the manner in which the customer sends the payment order to the bank (paper-based or electronically). Prices also vary according to the destination of payment. Prices in the survey refer to transfers of a fixed amount in Europe. Prices do not include additional costs for cash payments, third country currency, confirmations or costs that the payer must cover for the payee.
Mail giros: Average prices for mail giros refer to each individual giro. Postage for each sending is an additional charge. *Terminal payments over the Internet:* Prices refer to payments with KID. *Direct debit:* Prices per payment receipt refer to direct debits without notification.

General comments
Some figures have been revised in relation to previous years' reports. Norges Bank should be cited as source when referring to figures from this report.



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