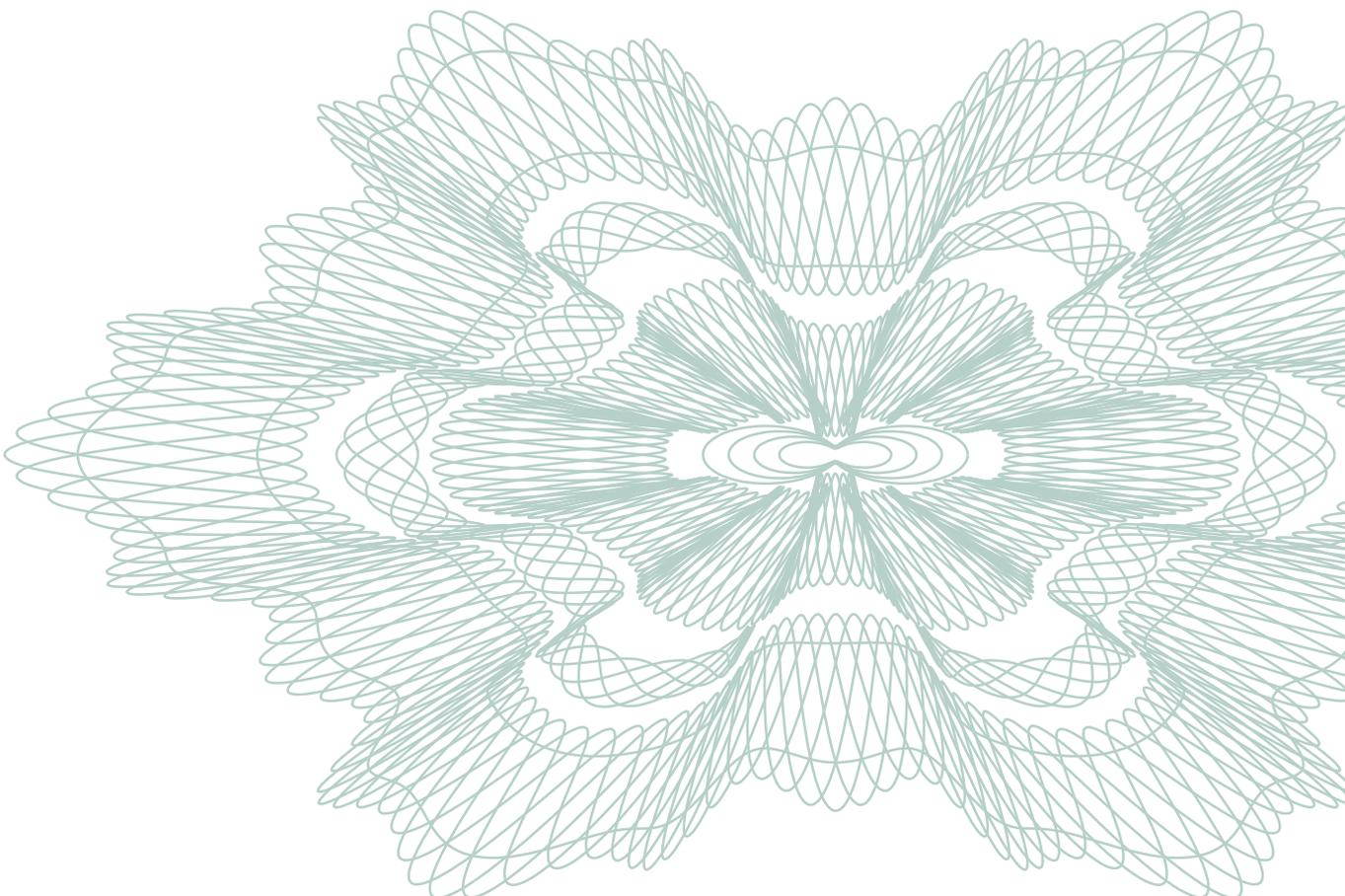




Annual report on payment systems

2002

June
2003



Foreword

The Central Bank Act gives Norges Bank a broad mandate to promote an efficient payment system domestically and vis-à-vis other countries. In the years immediately after 1985, when the Act entered into force, Norges Bank worked with the banking industry to remove any barriers to the efficient use of resources in the payment system. This included practical work such as developing standardised forms for the two giro systems which existed at the time: bankgiro and postgiro. The banking industry later took over the main responsibilities, but Norges Bank still participates as the banks' settlement bank.

The Annual Report on the Payment System has been published since 1987 and the preparation of the report is an important part of Norges Bank's oversight of the payment system. The report provides an annual update of prices and transactions in the payment system. This year, it is also based on the results of the survey of costs in the payment system published by Norges Bank in November last year. Norway has unique information about prices, costs and transactions in the retail payment system. No other country has corresponding information about such a key element of its financial infrastructure.

This year's report shows that the transition to electronic payment instruments has continued and that prices largely reflect differences in production costs. Overall, this contributes to a more efficient payment system. As is pointed out in the report, some features also have the opposite effect. Loyalty programmes and free services disturb price signals and may serve to reduce the efficiency of the payment system. Norges Bank is of the view that prices for payment services should reflect cost differences in the production of such services.

Payment services are a core activity for banks, but participation exposes them to both liquidity and credit risk. Norges Bank and the banking industry have worked to reduce risk in the Norwegian payment system for several years. The Act relating to the Payment System, which entered into force in 2000, gives Norges Bank authorisation and supervisory responsibility for interbank systems (where banks' claims on each other are settled). Three interbank systems have been authorised and are subject to supervision by Norges Bank. According to plan, the Norwegian krone will be included in the international multi-currency settlement system, CLS, in 2003 and Norwegian banks will participate in the system. Participation in CLS will reduce settlement risk in both the Norwegian interbank system and the international payment system.

Payment systems are becoming increasingly complex and time-critical. Incidents involving operational disruptions in the Norwegian payment system and in neighbouring countries show that the work on limiting operational risk is important. Norges Bank will prioritise this work in the period ahead, not only through the continuous supervision of authorised systems, but also those parts of the payment system for which it is responsible as the settlement bank for commercial and savings banks.

Svein Gjedrem

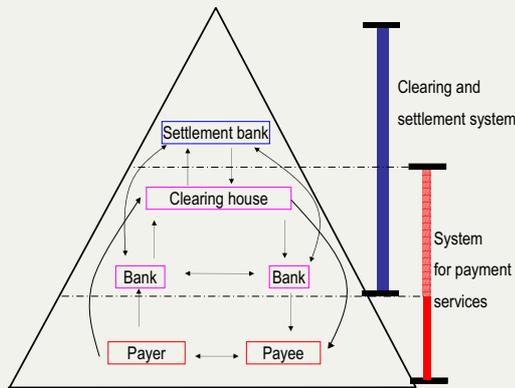
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The cut-off date for this report was 16 April 2003

1 | An efficient payment system

Chart 1.1 The Norwegian payment system



Source: Norges Bank

The payment system in Norway comprises *systems for payment services* and *interbank systems* (see Chart 1.1). Systems for payment services include the provision and use of card services, giros, cheques and cash, whereas interbank systems involve the clearing and settlement of customer payments and interbank transactions. Pursuant to §1 of the Norges Bank Act, the central bank has been given a mandate to promote an efficient payment system in Norway and vis-à-vis other countries. For a payment system to be efficient, payment has to be effected *quickly, securely* and at *low cost*. The importance attached to each of these three elements depends on the type of payment. When members of the public want to pay for goods or services, they often draw on their bank deposits, or "deposit money". A large number of smaller transactions are carried out in the payment system daily. For such transactions, speed and cost-effectiveness are essential. Transactions undertaken by banks on behalf of business and industry, or to settle their own trades, tend to be fewer and larger. Customers often want these transactions to be executed quickly and securely. The banks build up substantial debt and credit positions vis-à-vis each another in the payment system, so that security is of particular importance in connection with large transactions.

Different types of risk in the payment system

Systemic risk is the risk that problems in one financial institution will spread to another, thus threatening financial stability. Systemic risk originates in other types of risk.

Settlement risk is the risk connected with participating in a settlement and consists of credit and liquidity risk.

Credit risk is the risk of losses when another bank does not meet its payment obligations.

Liquidity risk is the risk that payment obligations are not settled at the agreed time and that refinancing is necessary.

Legal risk arises when the legal framework is unclear and legal uncertainties result in unexpected financial exposure for a market participant, which can in turn lead to losses.

Operational risk is the risk of losses due to malfunctions in computer systems, telecommunication systems or operational errors.

Efforts are being made to reduce risk in the payment systems in several areas and the industry and Norges Bank are focusing on contingency measures. The central bank's own settlement system is under constant development. In accordance with the Payment Systems Act that entered into force in 2000, the most important settlement systems are now subject to authorisation. Securities settlement improved in March 2003 with the introduction of more stringent security requirements. Banks' currency settlement risk will be considerably reduced when, according to plan, the Norwegian krone is included in *Continuous Linked Settlement (CLS)* in the course of 2003. For a more detailed presentation, see Chapters 2 and 3.

The share of electronic payment transactions continues to rise. In 2002, there was particularly sharp growth in giro payments over the Internet. More and more goods and services are being purchased by payment cards, and cards accounted for over half of all non-cash payments in 2002. Prices for electronic services in the retail market have remained stable in recent years with only minor changes from 2002 to 2003. Following several years with sharp increases, the rise in prices for paper-based services in the retail market levelled off from 2002 to 2003. This is discussed in more detail in Chapters 4 and 5.

1.1. Is the payment system in Norway efficient?

In Norway, all payments are settled on the same day, thereby satisfying the requirement concerning *quick* settlement. The Norwegian payment system is characterised by a high degree of *security* and a low level of misuse and fraud (for more details see Chapter 3). This section looks at various aspects of the third criterion for efficiency, i.e. *low costs*.

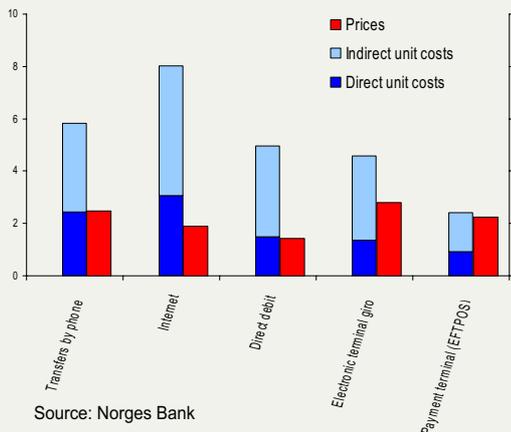
Competition

Competition in a market stimulates the development of new and more efficient solutions and promotes the efficient use of resources. A precondition for competition is that market participants have access to information. Correct and easily accessible information about prices, applications, terms and conditions for use and security of different payment services is therefore important to efficiency. Norges Bank seeks to increase the information flow through speeches and articles and the publication of "The Annual Report on the Payment System". Banks publish terms and prices for the services they offer on their websites. However, there is still room for improvement. The Norwegian Competition Authority's report, "Competition in Financial Markets", points out that it is often difficult for customers to obtain comprehensive and comparable price information from banks. However, Norwegian customers have better access to price information about bank products than consumers in many other countries.

Clear criteria for access to a market are important if new participants are to establish activities. New banks that establish activities in the Norwegian market have access to joint solutions if they so wish. However, access charges and other requirements also apply to new banks, which involve costs for the banks. Access charges are used to ensure that new banks also contribute to investment in the joint systems developed by existing banks. Norges Bank supports the principle that new banks should also contribute to investment through access charges. Complaints regarding individual agreements and organisational conditions were, however, submitted to the Norwegian Competition Authority in 2002. These complaints are discussed in Chapter 3.

In Norway, common standards for Norwegian payment products are ensured through agreements between the banks and the Banks' Standardisation Office (BSK). The payment services offered to customers in all banks are therefore homogenous, so that the choice between banks is based on price and service information rather than different technical solutions. Another important requirement for competition is that customers can choose between different bank service providers. There are a large number of banks in Norway and customers can switch banks without incurring major costs.

Chart 1.2 Electronic services 2001: direct and indirect costs and prices. NOK

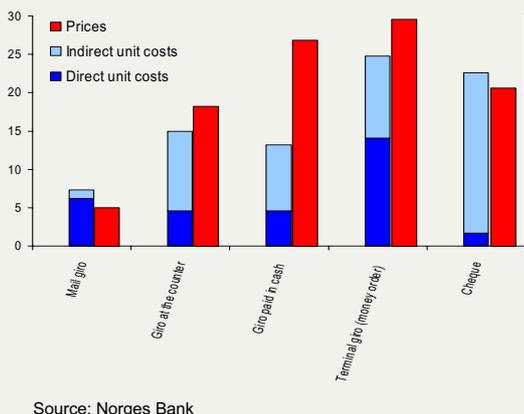


The broad range of Internet banking services has removed geographical barriers in the market and increased customer options. This has probably helped to increase competition in the market.

Economies of scale

Electronic payment services are characterised by economies of scale, i.e. the average unit cost decreases as the number of transactions increases. As most banks in Norway are small, it is necessary to participate in joint solutions in order to benefit from potential economies of scale. In the 1990s, banks and Norway Post agreed on joint standards and systems for payment cards and giro services in Norway, which enabled all parties to exploit economies of scale. These joint solutions may, in isolation, conflict with the need for competition in the payment system. The Norwegian Competition Authority stipulates that the expected efficiency gains from joint solutions must more than compensate for the subsequent loss of competition, if the solution is to be exempt from § 3-1 and § 3-4 of the Competition Act. Such dispensation has been granted for solutions in Norway. Norges Bank is of the opinion that this coordination has resulted in efficiency gains.

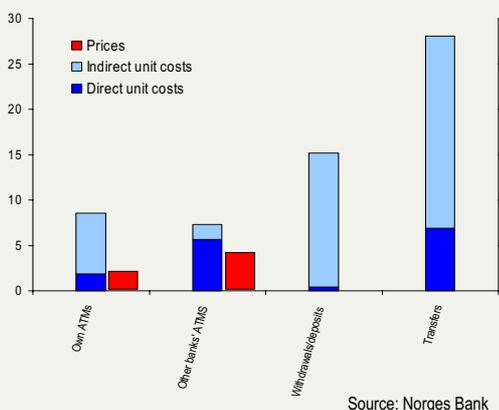
Chart 1.3 Paper-based services 2001: direct and indirect costs and prices. NOK



Network externalities

Network externalities can be defined as the benefit that each individual user of a system gains as a result of additional participants in the system. In the payment system, payment cards are a good example of an instrument with positive network externalities. The utility of each card user increases when the number of individuals with such cards increases, as more outlets will then invest in card terminals. And the more outlets there are, the more the card will be used. In the 1990s, banks invested considerable resources in accelerating the spread of terminals and card use. Costs were initially considerably higher than revenues in the system, but the cost survey for 2001 shows that banks can now more or less cover their costs for this type of payment service, due to lower unit costs.

Chart 1.4 ATM services and some over the counter services 2001: Direct and indirect costs and prices. NOK



Price and cost structure in Norway

Price plays an important part in bank customers' choice of payment services. Norwegian banks have priced the various payment instruments in a way that reflects the cost of producing these instruments.¹ Charts 1.2, 1.3 and 1.4 show banks' unit costs for producing different payment instruments and average prices for these instruments in 2001. Prices for paper-based services are higher than for electronic services, reflecting differences in costs. Prices for some payment instruments, primarily paper-based services, exceed banks' production costs.

¹ Gresvik and Øwre (2002)

Services showing rapid growth, such as card services and electronic giro services, are generally priced below the service's unit cost. This is probably an indication of strategic pricing where banks hope to influence customers, so that they choose cost-effective solutions that allow banks to exploit economies of scale. Banks' pricing strategies reflect the cost of producing payment services, a feature that contributes to the efficiency of the payment system in the long term.

For some payment services, the economies of scale lie in the production process, as is the case for electronic giro products and payment cards in particular. Norges Bank's latest cost survey shows that the cost of producing a card transaction fell from around NOK 4.50 in 1994 to NOK 2.50 in 2001; the number of card transactions increased fivefold in the same period. Developments in payment card use reflect positive network externalities and are characterised by a rise in the number of point-of-sale terminals, card issues and transactions. The cost structure for giro services over the Internet indicates that economies of scale can also be achieved in this service as the volume increases.

Banks' production costs for payment services were estimated at NOK 5.9bn in 2001. Earnings from charges for these services covered around 70% of costs. Norges Bank's previous surveys of costs in the payment system showed that 39% of costs were covered by service charges in 1994 and 26% in 1988. It is advantageous when pricing covers a high share of costs. Elements that distort prices such as cross-subsidisation and float serve to conceal the cost of transactions. The earlier cost surveys showed that a considerable share of costs was covered by banks' float income. The remainder was partly covered by a higher interest rate margin than today. This cross-subsidisation meant that customers paid a higher price than necessary for other banking services in order to cover the deficit in the payment system.

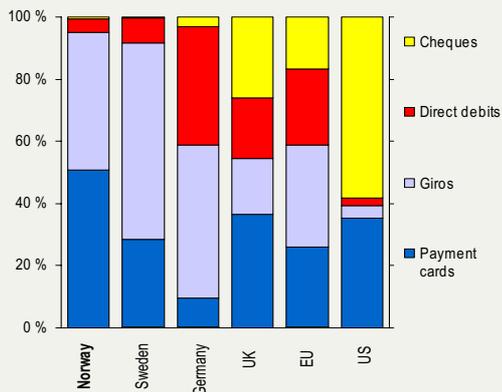
In the past ten years, prices for the least cost-effective (paper-based) services have in relative terms increased more than for electronic services. Customers have responded by switching to lower-priced electronic services. As a result, the payment system has become more cost-efficient, faster and more secure. Customers also switch banks more frequently than before. It appears that competition is functioning satisfactorily in terms of bank customers. The introduction of loyalty programmes and free services in the payment system may, however, diminish the ability of prices to reflect cost differences between different services and providers. This may threaten efficiency in the payment system.

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 the payer or the payee for a period. The Financial Agreements Act that entered into force on 1 July 2000 contains provisions that eliminate float in Norway.

Direct debit is a collective term for giro services where the payer has given the payee authority to debit an account. In Norway, the two most important direct debit services are Avtalegiro (for retail customers) and Autogiro (for corporate customers). The advantage of direct debit facilities is that they allow electronic processing of transactions at all stages of payment. Direct debit is therefore deemed to be one of the most efficient payment alternatives. **Credit transfer** is a collective term for giro services where the payer takes the initiative to effect the payment. In Norway, this service includes mail giro, giros paid via the Internet, giros paid in cash at the counter, etc. Electronic giro services are deemed to be just as efficient as direct debit services.

1.2. Payment services in Europe

Chart 1.5 Use of payment instruments in selected countries in 2000. Per cent



Source: Norges Bank, BIS, ECB

Giros, payment cards and cheques are the most important payment instruments for retail payments in the EU (see Chart 1.5). The use of the different instruments varies substantially from country to country. For example, payment cards and credit transfers are very popular in the Nordic countries, whereas direct debits and credit transfers are the dominating instruments in Germany and the Netherlands. Cheques are a frequently used payment instrument in France, the UK and Italy.

The size of cash holdings can be used as an indicator of the population's use of other payment instruments. A low share of GDP may indicate the existence of good alternatives to cash. Cash holdings were 3.7% of GDP in Norway and 4.3% of GDP in Sweden in 2000, whereas the corresponding figure in Denmark was 2.9%. The average in the EU was 4.9%.

Cheques and payment cards are alternatives to cash when settlement is effected at the point of sale. In Norway, the use of cheques is very low and the use of cards is high compared with nearly all EU countries. Norwegians are also offered a cashback facility in connection with the purchase of goods using cards, a facility that is not particularly widespread outside the Nordic countries. Cheques are used very little in Norway, Finland and Sweden, whereas in France, for example, cheques are used for more than one out of three payments. It is generally relatively expensive for banks to offer cheque services and the use of cheques is declining in most European countries. In many countries (including Norway), the use of cheques is paper-based. Electronic cheques, which are similar to payment by giro over the Internet, do exist in some countries. But even with such modern solutions, cheques are still deemed to be less efficient than cards or electronic giros. The production of cheque services does not benefit from economies of scale, as is the case with card services.

ATMs provide access to cash and the number of ATMs increased in Norway and the EU in the period 1996-2000. This, combined with the cashback facility (in some countries), has improved access to cash, which in turn has reduced the public's time and travel costs in connection with obtaining cash. This is positive for the efficiency of the payment system.

There has been a rapid increase in the number of point-of-sale terminals in outlets and the use and spread of payment cards in the EU and Norway. In the course of ten years, this service has developed from being one of the least used to being the most widely used form of payment in some countries. Figures for 2000 show that the number of point-of-sale terminals per million inhabitants varies from 4 953 in Austria to 20 104 in Spain. In Norway, the figure is 14 516 per million inhabitants, which is slightly higher than the EU

average of 11 302. Cards are used more frequently in Norway than in EU countries, with 87 transactions per inhabitant in 2000 compared with the EU average of 27. Only Denmark, Luxembourg and Portugal have a similar level of card use as Norway. It would appear that payment cards are used more in countries with smoothly functioning debit card solutions (such as BankAxept in Norway or the Danish Dankort) than in countries where credit cards are primarily used.

Credit transfers (giro) and direct debits are the most important payment instruments for cashless transactions in the EU, accounting for 58% of transactions and 89% of the total value of transactions. In Norway, these two instruments accounted for 49% of transactions and 96% of the total value of transactions in 2000. In France and the UK, cheques are still frequently used for payments that would be effected by giro in Germany, the Netherlands and the Nordic countries. Giro payments over the Internet are rising rapidly, but several countries lack the facilities for this type of payment. The Nordic countries are leaders in this area.

The use of efficient, electronic payment instruments is more widespread in the Nordic countries than in other European countries. In Europe, efforts are being made to promote the use of such payment solutions. This is discussed in more detail in Chapter 2.

	Belgium	Denmark	Finland	France	Italy	Netherlands	Switzerland	Sweden	Germany	UK	EU	US	Japan	Norway
Notes and coins as % of GDP	4.8	2.9	2.2	3.2	6.0	4.2	7.9	4.3	6.2	3.2	4.9	5.4	12.1	3.7
Balance in transaction accounts as % of GDP	20.0	26.6	28.2	23.5	35.7	32.9	24.0	40.0	22.2	60.4	34.3	5.8	36.3	30.7
No. of branches per million inhabitants	780	667	366	767	729	376	561	380	683	561	680	na	506.0	327
ATMs														
No. per million inhabitants	669	506	412	582	549	435	675	295	580	575	623	991	922	471
No. of withdrawals per year per inhabitant	20	na	47	18	9	30	18	36	20	34	21	48	3	23.5
Average withdrawal, US\$	115	na	76	66	178	95	117	109	159	99	121	68	532	110
EFTPOS terminals														
No. per million inhabitants	11355	14612	11978	13884	9884	9775	9375	9822	7196	12317	11302	10168	na	14516
No. of transactions per year per inhabitant	39.8	77.1	49.3	54.5	5.5	50.3	23.9	28.9	12.6	40	26.5	34.7	na	87
Average amount, US\$	55	51	35	43	79	51	90	72	68	59	63	44	427	53
Instruments' % share of no. of non-cash payments														
Cheques	5.0	6.7	0.1	37.9	23.8	0.5	1.3	0.2	3.0	26.1	16.9	58.3	7.3	0.5
Giros (credit transfers)	46.7	25.7	56.6	17.7	40.3	39.7	63.1	63.2	49.1	17.9	33.1	4.1	39.4	44.4
Direct debits	11.8	15.6	4.5	16.6	12.6	29.1	5.3	8.0	38.1	19.4	24.9	2.3	na	4.3
Payment cards	32.8	51.1	38.7	27.8	23.3	29.9	28.2	28.3	9.6	36.6	26.5	35.3	53.3	50.8
Card-based e-money	3.6	1.0	0.1	na	na	na	2.1	0.3	0.2	na	0.4	na	na	0

Sources: ECB, BIS and Norges Bank

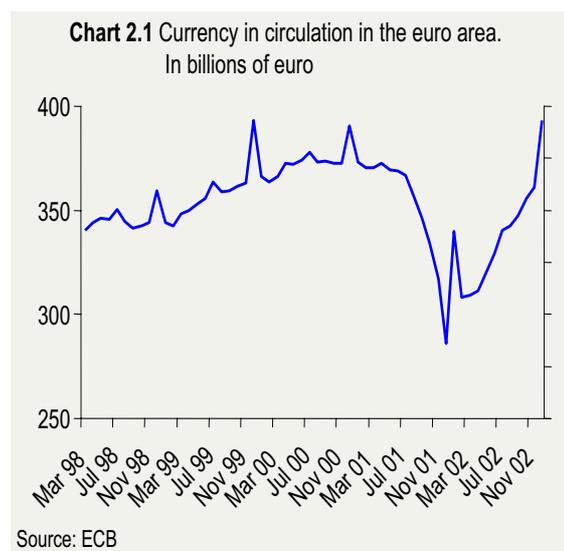
2 | Important international developments

2.1. Introduction of euro notes and coins

Cash	Notes	Coins
Value (in billions of EUR)	321	12
Value (% of GDP)	4.5	0.2
Number (in billions)	7.4	38.2
Value per inhabitant (EUR)	1063	39
Number per inhabitant	25	127
Most commonly used denominations:		
Of value in circulation	EUR 50	EUR 2
Share (%)	33	40
Of number in circulation	EUR 50	1 cent
Share (%)	29	17

Source: ECB

Cash holdings are the amount of notes and coins that participants in the economy wish to hold for transactions, and the extent to which cash is used as an investment instrument (for storing value).



On 1 January 2002, the 12 countries in the EU's Economic and Monetary Union (EMU) introduced euro banknotes and coins. On 1 March 2002, the euro became the sole legal tender for the more than 300 million inhabitants of these countries. It is now no longer possible to demand to use national currencies for cash payments. In 2001, considerable sums of accumulated cash in national currencies were handed in to banks. The value of cash in circulation in the euro area rose sharply in 2002, probably as a result of the rebuilding of such cash holdings (see Chart 2.1). The complex process of putting the euro into circulation at the same time as withdrawing national currencies is deemed to have been very successful. As early as end-March 2002, the value of euro-denominated notes accounted for 92% of all notes in circulation. A survey by the EU Commission shows that 85% of the population in the euro area found the changeover to the euro a straightforward process.

Some of the euro countries' former national currencies, particularly the Deutsche Mark, were also used extensively outside the euro area. Between December 2001 to June 2002, euro banknotes and coins equivalent to EUR 23bn were sent out of the euro countries, with Central and Eastern European countries accounting for a considerable share. When euro cash was introduced, businesses and individuals outside the euro area also converted cash holdings in European national currencies into bank deposits in euros. In the 28 countries surveyed, bank deposits in euros increased by around 40% in 2001. These deposits were largely maintained in 2002.²

Considerable attention has been given to the question of whether the introduction of the euro led to higher prices. The effect on the general price level appears to have been limited, however, and Eurostat estimates that the effect of the introduction of the euro on the consumer price index HICP (Harmonised Index of Consumer Prices) was between 0.0 and 0.2 percentage point.

2.2. Single euro payment area

The introduction of euro cash has created a means of payment that is valid across national borders in the euro area. However, it is not yet possible to pay bills or make cross-border transfers as efficiently as it is within national borders. Differences in technical solutions and legislation mean that it takes longer and costs more to effect cross-border payments than corresponding domestic transactions. In Norway, for example, prices for cross-border payments are between 10 to 100 times higher than for domestic payment services (see Chapter 5.6).

² European Central Bank (2003): "The demand for currency in the euro area and the impact of the euro cash changeover"

Surveys in the EU have also shown that cross-border payments take longer and are considerably more expensive than equivalent domestic payments. In order to achieve a single European market with freedom of movement of services, goods, labour and capital, it is necessary to create an efficient system for payments between the EU countries.

"Euroland – Our Single Payment Area"

In 2002, the European banking industry joined forces in a project aimed at reducing costs for cross-border payment services and creating a single euro payment area. The project is called "Euroland – Our Single Payment Area" (SEPA). SEPA involves the development of efficient euro payment services, including debit and credit cards, cash withdrawals and giro services. The strategic guidelines for the SEPA project were drawn up by the European Payments Council (EPC). The EPC comprises representatives of European banks and banking associations. The Norwegian banking industry is also represented in the EPC. In parallel with the industry's work on establishing an efficient euro payment system, the EU Commission is working on a common regulatory framework for payment services in the internal market. In this connection, a working group published a document in May 2002 that identifies the need for new legislation and discusses conditions relating to the preparation of a common regulatory framework.

One example of a new cross-border service is Visa EU's Visa Direct, the details of which were announced in November 2002. This service will make it possible for banks to offer customers a simple and cost-effective payment service for transactions between private individuals in different countries. The service uses the existing infrastructure for Visa transactions and users will be able to access the service by telephone, the Internet or by visiting a bank branch. Visa Norge does not yet offer this service.

EU regulation on lower prices for cross-border payments

One of the driving forces behind the industry's focus on establishing a more efficient payment system has been the EU Regulation on cross-border payments in euro. The Regulation entered into force on 1 January 2002 and the objective is to develop more efficient payments within the EU, thereby contributing to the efficiency of the single market and confidence in the euro. In order to achieve this, the Regulation stipulates, among other things, that in principle it shall not cost more to transfer money to a payee in another euro country than it does to transfer a payment domestically. From July 2002, this also applied to electronic transactions, such as e-money, card transactions and ATM withdrawals. Giro payments will also be covered from July 2003.

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:

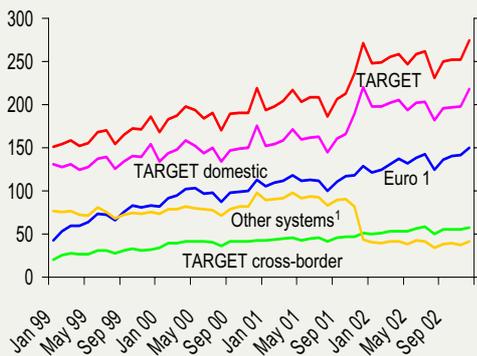
Regulations are binding on all member states and shall be applied directly.

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.

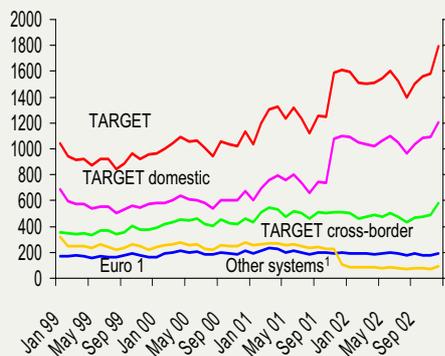
Chart 2.2 Clearing and settlement systems in euro.
Number of transactions daily (mill.). Monthly average



Source: ECB

¹EAF, PNS, SPI, POPS. The German EAF is included in TARGET from November 2001.

Chart 2.3 Clearing and settlement systems in euro.
Turnover per day (in billions of euro). Monthly average



Source: ECB

¹EAF, PNS, SPI, POPS. The German EAF is included in TARGET from November 2001.

Settlement systems for large value euro transactions:

TARGET: EU central banks' joint real-time gross settlement system (RTGS). Established to ensure the efficient implementation of monetary policy in the euro area.

Euro1: Privately owned and operated multilateral settlement system.

POPS: Pankkien On-line Pikasiirrot ja Sekitjärjestelmä – Finnish bilateral net settlement system.

PNS: Paris Net Settlement – French net settlement system.

SPI: Servicio de pagos interbancarios – Spanish net settlement system.

The euro's share of payment transactions to and from Norway has increased steadily since 1999. Statistics from Norges Bank show that the value of euro payments at end-2002 accounted for around 20% of total cross-border payments. The EEA Agreement regulates conditions linked to the internal market and some of the rules for the single euro payment area will also apply to the EEA. The Regulation on cross-border payments in euro was deemed to be EEA-relevant and will be incorporated into Norwegian legislation. In a letter to the Ministry of Finance dated 6 March 2002, Norges Bank pointed out that banks' costs for cross-border payments are higher than for corresponding domestic payments. The Regulation's requirement that charges should be the same therefore conflicts with the principle that prices in the payment system should reflect the cost of offering the service.

Strategy for the further development of TARGET

An efficient payment system requires an efficient and secure infrastructure for clearing and settlement. The EU central banks' joint gross settlement system, TARGET, and the banks' own system, Euro1, which is operated by the Euro Banking Association (EBA), are examples of settlement systems for large-value euro payments. Turnover in these systems and other settlement systems for large-value euro transactions is shown in Charts 2.2 and 2.3. TARGET comprises 15 national real-time gross settlement (RTGS) systems. In October 2002, the European Central Bank (ECB) announced the future strategy for the development of TARGET. The objective is to ensure that TARGET evolves towards a system that (i) better meets customers' needs by providing an extensively harmonised service level, (ii) guarantees cost-efficiency and (iii) is prepared for swift adoption to future developments, including the enlargement of the EU and the Eurosystem. The principle that national central banks are responsible for maintaining banks' accounts will remain unchanged. However, more central banks will be able to use shared components. It will therefore no longer be necessary for each national central bank to maintain its own system. The service level will be harmonised by means of a broadly defined core service with a single price structure based on the system with the lowest average cost per transaction. The next generation TARGET will not be fully implemented before the second half of this decade.

Clearing and settlement solutions for small to medium-sized payments in the EU are still predominantly national systems. The clearest evidence of this is the existence of over 20 national clearing systems in EU countries. The banking industry in the EU has expressed a wish for one pan-European clearing house to replace the many national houses. A possible alternative is the EBA's STEP2 initiative. STEP2 is a pan-European clearing house for euro payments. According to plan, STEP2 will start with a group of pilot banks in April 2003. From the start, the system will be geared

towards the efficient handling of cross-border payments. In order to achieve a volume that allows unit costs to be on a par with national systems, STEP2 will be designed to progressively integrate domestic traffic.

Enlargement of the EU

The EU may have 10 new members from May 2004. According to the criteria for membership, new members must demonstrate the ability to fulfil the obligations of membership, including the objectives of EMU. This means that future member states will be expected to participate in ERM and to switch to the euro once they satisfy the requirements of the Stability Pact. The ECB published a report in August 2002 that gave a detailed presentation of payment and settlement systems in the countries that have applied for membership (Blue Book, Payment and securities settlement systems in accession countries). The report showed that substantial restructuring has been carried out and is still taking place in these countries. This is important to ensure smoothly functioning payment systems when the countries become part of the EU and later when they start to use the euro. The countries will be given the opportunity to participate in TARGET when they become members of the EU. Chart 2.4 shows the use of different payment instruments in the applicant countries. Some countries have high card usage, whereas in other countries the use of cheques is still widespread.

2.3. International work on improving efficiency and reducing risk

International recommendations

The Bank for International Settlements' (BIS) *Committee on Payment and Settlement systems* (CPSS) published the report "Policy issues for central banks in retail payments" in March 2003. The report, which is based on a review of developments in the market for payment services, presents objectives for the authorities' work on this type of payment service, including recommended minimum measures. Central banks in different countries have chosen different approaches to the work on payment services. Norges Bank's work in this area is, however, fully in line with the recommendations in the report. Central banks in the EU have also focused on the need for standards for efficiency and security in systems for payment services. In July 2002, the ECB presented a proposal that recommends that six of the ten *Core Principles for Systemically Important Payment Systems* are used as a basis for the oversight of such systems in the euro area.

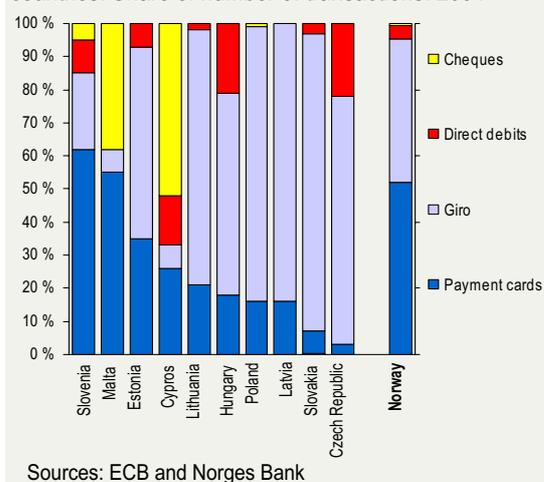
Efficiency and risk factors in the payment system are important in terms of the financial system's efficiency and stability and for general confidence in a currency. As part of the work aimed at stable international financial

Table 2.2 Possible new EU members
In December 2002, the EU Commission recommended completion of the accession negotiations with 10 applicant countries. Assuming the Accession Treaty is ratified in the EU and the applicant countries, these countries will be admitted as of May 2004.

	Inhabitants in millions (2001)	GDP per inhab. Avg. EU15=100 (2000)	Cash as a share of GDP (2001)
Estonia	1.4	40	7.3 %
Cyprus	0.8	78	6.1 %
Latvia	2.4	31	10.4 %
Lithuania	3.5	36	6.1 %
Malta	0.4	-	25.9 %
Poland	38.6	40	5.0 %
The Slovak Republic	5.4	46	8.3 %
The Republic of Slovenia	2.0	68	3.1 %
The Czech Republic	10.3	56	8.5 %
Hungary	10.2	51	7.0 %
EU 15	375	100	4.9 %

Sources: Eurostat and ECB

Chart 2.4 Use of payment instruments in accession countries. Share of number of transactions. 2001



“Policy issues for central banks in retail payments”

The report presents four objectives, including recommended minimum measures, for the authorities' work on payment services:

1. To address legal and regulatory impediments to market development and innovation.
 - Review the legal and regulatory framework to identify barriers to improvements in efficiency and/or safety;
 - Cooperate with relevant public and private entities so that the legal and regulatory framework keeps pace with changing circumstances and that impediments to improvements in efficiency and/or safety are addressed, where appropriate.
2. To foster competitive market conditions and behaviour.
 - Monitor developments in market conditions and behaviour relating to retail payment instruments and services, and assess their significance;
 - Cooperate with other public and private entities, as appropriate, to foster competitive market conditions and to address any significant public policy issues arising from market structures and performance.
3. To support the development of effective standards and infrastructure arrangements.
 - Monitor developments in security standards, operating standards and infrastructure arrangements for retail payment systems which the central bank judges to be important for the public interest and assess their significance;
 - Cooperate with relevant public and private sector entities to encourage market improvements in such standards and infrastructure arrangements, where appropriate.
4. To provide central bank services in the manner most effective for the particular market.
 - Review and, if appropriate, adapt its provision of settlement services in order to contribute to efficient and safe outcomes;
 - Be transparent in its provision of services.

Source: BIS/CPSS

systems, the IMF and World Bank introduced a programme for assessing the financial sector called Financial Sector Assessment Program (FSAP) in 1999. An FSAP identifies the strong and weak points of a country's financial system, including the clearing and settlement systems. The BIS' *Core Principles for Systemically Important Payment Systems* and recommendations for securities settlement systems from BIS/IOSCO (International Organization of Securities Commissions) are used as part of the assessment. The BIS/IOSCO recommendations were followed up in 2002 with guidelines on how to review and assess a country's securities settlement system. In cooperation with the Norwegian Banking, Insurance and Securities Commission, Norges Bank has started to review the Norwegian settlement system for securities.

Experiences from 11 September 2001

Following the terrorist attacks on 11 September 2001, US authorities have concluded that despite the substantial damage, the financial system, including the payment and settlement systems, managed to cope relatively well. The events did, however, highlight the systems' vulnerability, particularly with regard to geographical and market-based concentration. Based on the experience gained from these events, the authorities and banking organisations in several countries have increased their focus on operational risk and preparedness. In 2002, the Federal Reserve and supervisory authorities in the US presented a proposal for joint recommendations to strengthen the financial market's resilience in the face of extensive regional disasters. The recommendations set out guidelines for identifying critical activities, the resumption of these activities, access to resources in other geographical areas and testing.

The Financial Action Task Force (FATF) is an international organisation that was established to combat money laundering. The FATF has drawn up 40 recommendations with concrete measures that are looked upon as international standards in this field. Norway has joined the FATF and implemented the recommendations in Norwegian legislation. Following the events in the US on 11 September 2001, a number of governments advocated action to uncover and prevent any misuse of the world's financial systems for the financing of terrorism. The FATF adopted a set of supplementary recommendations in 2001 to prevent terrorists and their supporters from gaining access to and using the financial system for financing terrorist activities. One of the supplementary recommendations sets requirements for information about the payer and the payee in connection with payment transfers. In 2002, the Norwegian Ministry of Finance prepared a bill that follows up various international obligations in connection with money laundering and the financing of terrorism.³

³ Bill on preventive measures to combat money laundering of proceeds and financing of terrorism (see consultative paper of 8 October 2002).

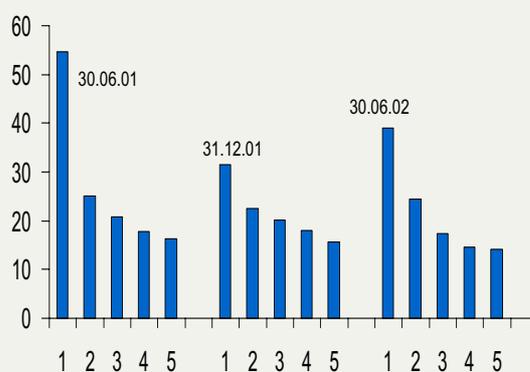
2.4. Lower risk in foreign exchange settlement

For several years, national and international authorities have focused on banks' risk in connection with the settlement of foreign exchange transactions. Studies in Norway and abroad show that banks' exposure to a single counterparty in a foreign exchange settlement can exceed a bank's core capital. Chart 2.5 shows a selection of Norwegian banks' exposure to important counterparties in foreign exchange settlement. The largest international foreign exchange banks have followed this issue up by establishing the foreign exchange settlement system Continuous Linked Settlement (CLS). The main principle of CLS is "payment versus payment" (PvP), where the currency sold is only delivered when the currency purchased is received. Participating banks pay their share of the obligation to CLS Bank, which then executes settlement when both parties have made their payments. If participation in the system is broad-based, CLS may help to eliminate most of the credit risk associated with banks' foreign exchange settlement.⁴ CLS was fully operational on 14 October 2002 and experience so far has generally been favourable. In one case, however, operational problems in CLS made it impossible to settle all the transactions that had been submitted for settlement. These were then settled the following day.

CLS is owned by 67 banks from 17 different countries. DnB is the only Norwegian bank on the ownership side. There are currently 49 participating banks and the remaining owners will become direct or indirect participants in the course of the next few months. Banks that do not have a stake in CLS will also participate to an increasing extent with their transactions. In March 2003, daily turnover in CLS amounted to around USD 800bn (see Chart 2.6). Turnover in CLS will increase as new currencies are gradually included. The seven currencies with the largest turnover are currently settled in CLS but, according to plan, the Scandinavian currencies will also be included in 2003. This is expected to result in a substantial reduction in foreign exchange settlement risk in Scandinavian banks. Member banks that will participate in settlement in NOK in CLS include Den norske Bank, Nordea, Danske Bank, Handelsbanken and SEB (Skandinaviska Enskilda Banken). As part of the work on including the Scandinavian currencies in CLS, the central banks in Sweden, Denmark and Norway have established a system for improving the efficiency of liquidity transfers between these currencies. The facility is called the Scandinavian Cash Pool and is based on the principle that a bank can furnish a special deposit in one central bank as security for a loan from another central bank.

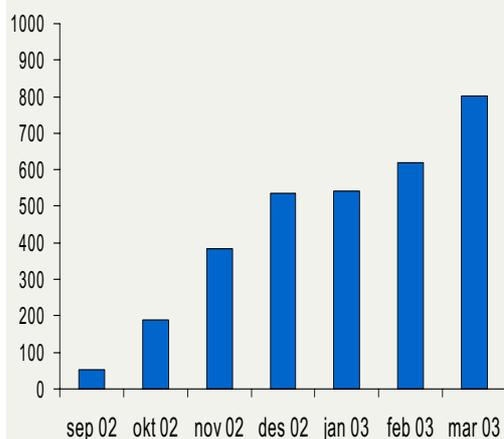
⁴ For more information about CLS, see Annual Report on Payment Systems 2001.

Chart 2.5 Exposures to the five most important counterparties. Percentage of core capital in ten banks



Sources: Banking, Insurance and Securities Commission and Norges Bank

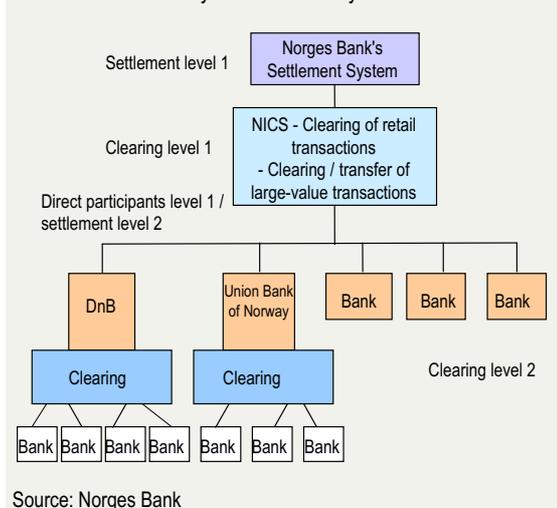
Chart 2.6 Daily turnover in CLS since start-up. In billions of USD



Source: CLS

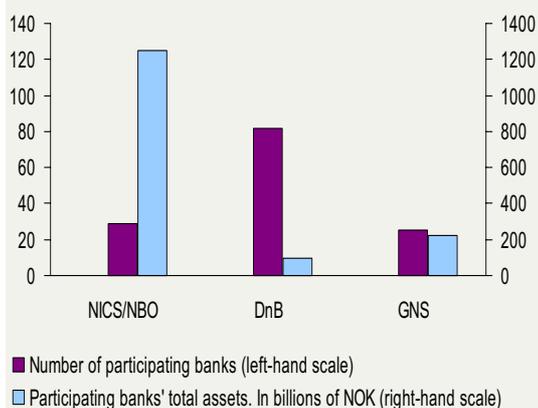
3 | Important domestic developments

Chart 3.1 Interbank systems in Norway



Source: Norges Bank

Chart 3.2 Norwegian settlement systems. Number of participating banks and total assets 2002



Source: Norges Bank

NBO: Different payments processed in different sub-systems

- Large payments (over NOK 100m) and specially earmarked transactions sent in SWIFT format are settled individually in real time (gross) in NBO. In principle, all banks have access to gross settlement in Norges Bank.
- Medium-sized payments are cleared in NICS in the SWIFT-clearing, which is carried out 4 times daily. Twenty banks are direct participants in these settlements.
- Small transactions, for example giro and ATM transactions, are sent for settlement via NICS retail clearing, in which 29 banks participate directly.
- Payments linked to securities and derivatives trades are settled in Norges Bank via VPS (Norwegian Central Securities Depository) and NOS (Norwegian Futures and Options Clearing House), respectively. Eighteen banks participate in securities settlement, whereas 7 participate in derivatives settlement. Banks participate partly on their own account and partly by furnishing guarantees for brokers.

3.1. General developments in infrastructure and regulations in Norway

The various settlement systems in the Norwegian payment system include Norges Bank's settlement system (NBO) and settlement systems in private settlement banks. Clearing systems include the banks' jointly-owned interbank clearing system (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). The structure of interbank systems is illustrated in Chart 3.1. All Norwegian banks participate in NICS and they can decide themselves whether they want to settle through an account in Norges Bank or in a private settlement bank. Most smaller banks settle their positions in one of the private settlement banks, whereas larger banks settle in NBO. Participation in the various settlement systems, measured by the number of participating banks and their total assets, is shown in Chart 3.2. For more information about participation in the different systems, see margin text and Chapter 4.5.

The Payment Systems Act provides Norges Bank with authorising and supervisory authority vis-à-vis interbank systems for the clearing and settlement of money transfers. 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 the Union Bank of Norway were granted authorisation in 2001 and are subject to supervision. Legal protection for clearing and settlement agreements only applies once Norges Bank has notified the EFTA Supervisory Authority (ESA) of systems falling within the scope of the Act. Those authorised must report annually on participation, turnover and financial exposure in the interbank system, testing of emergency solutions in the event of interruption and contingency measures. Following an operational failure in one of the clearing houses in autumn 2001, interbank systems were required to submit quarterly reports on interruptions in operations. In these reports, interruptions must be graded and appropriate remedial measures presented. In addition to reporting, supervision also involves following up the system owners' obligation to give notification of any substantial changes in ownership, organisation, operation, etc., and of meetings and other contact with operators regarding the terms of authorisation.

Outsourcing of Norges Bank's settlement system (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. As a

settlement bank, primary central bank functions include offering banks settlement in a risk-free payment instrument, i.e. claims on Norges Bank, and ensuring that systems are organised in such a way that available liquidity is used efficiently, which, in Norway, means that the central bank offers liquidity against collateral.

In 2001, Norges Bank and the banking industry initiated a joint project to assess the design of services offered to individual banks by the clearing and settlement system and to evaluate the division of responsibility and work between the central bank and the banking industry. They concluded that the division of responsibility for functions in the settlement system between banks and the central bank should remain more or less unchanged. In other words, banks should continue to be responsible for clearing and Norges Bank should continue to be responsible for settlement. However, Norges Bank's responsibility for settlement could be fulfilled without the Bank being directly involved in the technical operation of the system. Norges Bank is currently assessing the possibility of outsourcing the operation and development of the settlement system. At end-2002, potential partners were invited to submit offers for operation and development services for the system. The question of outsourcing will, according to plan, be clarified by the end of the second quarter 2003.

Prices in NBO adjusted

Norges Bank introduced charges for settlement services in NBO on 1 July 2001. There are three price elements, with a connection fee for new participants, fixed monthly fees for participation in the system and in net settlements and a fixed price per transaction for sending gross transactions to Norges Bank. Norges Bank increased the charges on 1 January 2003. The new charges are presented in Table 42 in Chapter 7. The decision entails a 25% rise in fixed annual fees for participation in net settlements, whereas charges for processing manual gross transactions and for participation in net settlements have doubled. When prices were introduced in NBO, Norges Bank's cost coverage was lower than for most other central banks. The adopted increases will raise cost coverage for NBO operations from around 30% to roughly 40%, which is more in line with other countries.

New securities settlement

In the interest of financial stability, Norges Bank wishes to contribute to low risk and high efficiency in securities settlement (VPO). Cash positions that arise as a result of clearing securities transactions in the Norwegian Central Securities Depository (VPS) are settled in Norges Bank. The Act relating to the registration of financial instruments (the Securities Registration Act), which entered into force on 1 January 2003, permits the continuous transfer of rights

to securities, i.e. the rights to and thereby ownership of a security can be changed several times a day. The new Act, combined with new technical solutions developed by VPS and Norges Bank, allows for several securities settlements daily. The arrangement with several net settlements was introduced on 7 March 2003 and means that, initially, Norges Bank will carry out settlement on the basis of previous clearing in VPS twice a day (compared with once a day previously). As is currently the case, settlement requires that banks have cover for their own (and the brokers') debit positions. Should market trends or other considerations so warrant, the number of settlements per day can be increased.

Money limits for clearing have been introduced in the new facility. Previously, VPS checked that the seller had the securities that were to be sold, whereas Norges Bank checked that the buyer had the money. In the new system, VPS will check both the securities and the cash cover simultaneously. This means that the clearing result should only contain transactions that are guaranteed to be settled, i.e. the seller has the securities in his account and the buyer has the money to cover his net position. This solution should eliminate situations where settlement has to be reversed because one participant has insufficient cover for his cash position in the securities settlement.

Competition in the payment system

The Norwegian Competition Authority's report, "Competition in Financial Markets" concludes that competition between banks appears to function satisfactorily. However, it does point out that many feel that the markets for various payment services are unclear. One suggested way of improving clarity is giving bank customers the opportunity to define their own product packages on banks' websites and then get a price for that package. The report also points out that access charges for the banks' joint systems may be an obstacle to new start-ups. These rules were drawn up by the Norwegian Financial Services Association (FNH) and the Norwegian Savings Banks' Association. Cooperation on the rules requires exemption from the Competitions Act. The Norwegian Competition Authority granted such an exemption because the cooperation was seen to be of greater benefit to society at large than if the banks competed in this field. Skandiabanken has appealed to the Norwegian Competition Authority and requested that the rules for calculating access charges for banks' joint systems be reassessed.

On the basis of a complaint from POS System, the Norwegian Competition Authority rejected an agreement between the FNH, the Savings Banks' Association and the Banks' Payment and Central Clearing House (BBS) on 28 March 2003. The agreement contained clauses that would bind banks to using BBS for collecting card transaction data from shops. The Competition Authority's decision means that banks are free

Access fee for banks' joint systems

Access fees for banks' joint card-user systems 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, when they are linked to the system. Banks that increase their capital during the first five years and/or have a card base of more than 17 500 cards two years after joining the system have to pay additional fees.

to choose the service provider they want to gather such transaction data. The decision does not require banks to choose a provider other than the one they currently use, nor does it prevent banks from cooperating on the purchase of data collection services.

Contingency planning in the financial sector

Operational risk in the payment system has been the focus of increased attention both in Norway and abroad. This is partly because the financial sector is increasingly using IT-based solutions where operational problems could easily have serious ripple effects. In Norway, contingency planning in the financial sector has been adapted in recent years to the potential vulnerability of a modern payment system. The Contingency Committee for Financial Infrastructure (BFI) is a joint coordinating body for key participants in the financial sector. In 2002, BFI discussed issues linked to operational stability and vulnerability in the financial infrastructure. Experiences of abnormal situations and contingency exercises in the financial sector have been assessed and cooperation between key participants on regular joint contingency exercises will continue.

Central banks and supervisory authorities in the Nordic countries work closely regarding contingency measures in relation to banks that are active in several Nordic countries. As part of this cooperation, the Nordic central banks and supervisory authorities carried out a detailed joint review of existing procedures and regulations in this area.

Electronic money

The use of electronic money is relatively limited in most countries, including Norway. It is possible, however, that e-money will gradually replace cash for paying small amounts. Central banks' interest in this area is linked to the possible effects on monetary policy and the central bank's responsibility for an efficient payment system. E-money is a payment instrument intended for the electronic payment of limited amounts and is not linked to a bank account at the time of payment. The Act relating to Electronic Money Institutions was passed by the Storting on 13 December 2002 and will implement provisions in the two EU directives on e-money from 2000, 2000/46/EC and 2000/28/EC. The Act applies to institutions that supply means of payment in the form of electronic money, with the exception of banks and other credit institutions. The Act stipulates that the Banking, Insurance and Securities Commission is responsible for supervising e-money companies.

A set of general requirements for e-money systems has been established in the central bank system within the euro area that functions as the basis for national banks' oversight of such systems. In March 2002, central banks in the EU

The Contingency Committee for Financial Infrastructure (BFI)

BFI is a joint coordinating body for contingency issues between key participants in the financial sector. BFI was established in October 2000. Norges Bank provides the chairmanship and secretariat functions of the Committee which has representatives from regulatory authorities and key participants in the financial sector. The Committee's main responsibilities are:

- i) 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.

Electronic money

Electronic money is defined as a monetary value represented by a claim on the issuer that is

1. stored in an electronic medium,
2. issued on the receipt of funds, and
3. recognised as a means of payment by enterprises other than the issuer.

The medium can, for example, be a card with an electronic chip or hard disk memory in a computer.

Source: Act relating to e-money institutions

presented a report that set out guidelines for security in these systems. The ECB also issued a report in November 2002 that focuses on the role of central banks in relation to electronic payment instruments for Internet shopping.

Status and plans for the smart card

The largest Norwegian banks have initiated a joint project for the development and testing of a smart card, with BBS as project coordinator. It is thought that over time, the smart card will replace the current debit/credit card with a magnetic stripe. A smart card is similar to existing debit/credit cards, but has an integrated chip on the surface of the card. The chip stores information, just like the magnetic stripe on a normal payment card, but is also able to hold more information and is secured against copying. The introduction of smart cards will thereby further increase security in connection with card payments. Two functions in particular will be included in the card. The first is the chip-based debit/credit card based on the international EMV standard (EuroCard, MasterCard and Visa) and the second is an e-money card function, where an amount is downloaded into the card's memory. This amount can then be used for payments. The introduction of smart cards in Norway will require an upgrading of payment terminals. No final time scale has been set for this upgrading.

3.2. Security in the payment system⁵

Efficiency in the payment system depends on how fast, securely and reasonably payments can be effected. Security requirements depend on the features of the means of payment and payment instruments being used. From an international perspective, the Norwegian payment system is characterised by a high degree of security and a low level of misuse and fraud. Most cases of misuse and fraud are resolved directly between the bank and the customer or through the Complaints Board for Consumers in Banking and Financial Matters. Very few cases have to be resolved in court.

Cash

Norges Bank is responsible for issuing banknotes and coins. In order 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 and be readily available. Cash processing also has to be efficient. 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 to make sure that these elements are widely recognised. In order to prevent counterfeiting, banknotes are redesigned in line with technological advances.

Security features

Several of the security features in banknotes issued by Norges Bank can be checked without technical aids. All Norwegian banknotes are printed on cotton paper that can be differentiated from normal paper by touch. The portrait and other elements of the front of the note are printed in intaglio, which gives a tangible relief. The new 100-krone and 200-krone notes, like the 500-krone and 1000-krone notes, have a hologram metal stripe that produces a play of colours when tilted in the light. The new 100-krone note was put into circulation on 25 March 2003. Other security features include watermarks, security threads, mother of pearl effects and transparent register marks. With the help of ultraviolet light it is also possible to check for special symbols (on some notes).⁶ Rules regarding the replication of cash have been drawn up in order to prevent counterfeiting, so that copies cannot be confused with legal tender.

⁵ Pursuant to the Payment Systems Act, systems for payment services shall be organised and operated in accordance with the Act's objective of security and efficiency. The Banking, Insurance and Securities Commission can issue more detailed rules on the standardisation of agreements, conditions, technical aspects, etc. for systems for payment services.

⁶ Detailed information about security features is available in special brochures from Norges Bank and on our website: www.norges-bank.no

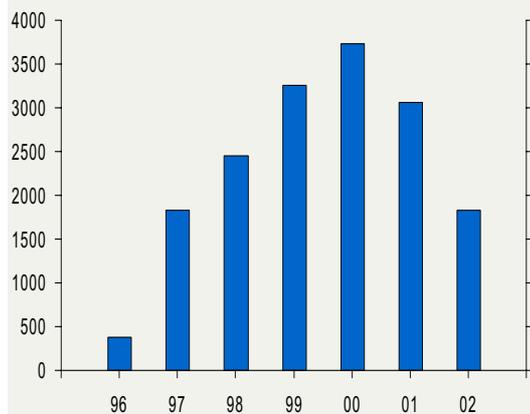
Complaints Board for Consumers in Banking and Financial Matters

The Complaints Board deals with disputes between consumers and banks. Procedures are free of charge.

The Complaints Board for Consumers in Banking and Finance 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 2002, the Complaints Board received 760 written complaints, of which 65% related to the misuse of payment cards. Section 37 of the Financial Agreements Act stipulates that financial institutions shall bear the legal cost of cases involving the misuse of cards.

Chart 3.3 Number of counterfeit notes confiscated



Source: The National Criminal Investigation Service in Norway

Counterfeit money

The widespread availability of colour photocopiers, PC scanners and printers led to an increase in the number of seized counterfeit banknotes at the end of the 1990s and the start of this decade. In 2002, however, the volume of counterfeit money was reduced (see Chart 3.3). With an average of 98.3 million banknotes in circulation, counterfeit notes accounted for roughly 19 per 1 million notes in 2002. 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 edition of the 200-krone, 500-krone and 1000-krone notes. This shows that the metallic features have had an effect. In connection with the introduction of the euro in 2002, the number of counterfeits in euro countries fell to less than one quarter of the total in national currencies one year earlier. Total counterfeit euro notes accounted for around 20 notes per 1 million. The 50-euro note accounts for over 80% of counterfeits.

Payment cards

Use of payment cards is the preferred means of payment for cashless transactions at points of sale in Norway. The general public has a high degree of confidence in payment cards as a payment instrument. This confidence is based on the public's experience, banks' assurances that cards can always be used, that payment is effected immediately and that the cardholder will not be exposed to fraud or misuse. The popularity of payment cards is enhanced by access opportunities and the fact that they are user-friendly.

Security elements

Most cards used in Norway have a magnetic stripe with on-line PIN code authorisation. These elements are used to identify both the card and cardholder on payment and provide a high degree of security. Card fraud and the misuse of payment cards are low in Norway compared with other countries. The PIN (personal identification number) code is a four-digit number generated by the issuing bank. It is a secret and personal code that cannot be deciphered from the information stored in the magnetic stripe. The user has to memorise the code and should not keep the card and code in the same place.

The card's physical format is standardised. The industry adheres to a standard that regulates the card's size and physical features, the position of the magnetic stripe and the raised lettering for the cardholder's name, card number and date of expiry. The standardised format helps to increase security, as it is easy to identify the card as an article of value. When the card is used in a payment terminal or ATM, the PIN code and magnetic stripe information is encrypted. The encrypted information is sent to the cardholder's bank for confirmation and the amount is reserved before notification of approval (or non-approval) of the amount is sent to the terminal owner.

Information stored in the magnetic stripe

The magnetic stripe on a card is the same on all cards. It comprises three tracks that contain different information.

- Track 1 contains a card number and the cardholder's name. This track is not used in the Norwegian BankAxept 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 Europay).
- Track 3 contains information that gives access to the bank account details so that the card can be used as a debit card. Most BankAxept transactions use Track 3 and a few use Track 2.

This encrypting is deemed to be very secure and there are no registered cases of the code being broken. When the card is used a number of checks are carried out, including the validity and format of the card, whether the card is blocked, whether the PIN code is correct, whether the limit for the card has been exceeded, if the amount is available in the account or as credit, and whether the card has been copied or forged. These checks reduce the possibility of misuse or fraud.

Box 3.1: Standards

Standards are rules or guidelines that govern behaviour, technology or interaction in a given area. A standard in the commercial sector is called a business standard. When a business standard is implemented at a technical level, it is called a technical standard. When two or more standards are applied together, the standards are said to be compatible. Standards change competition for a market to competition within a market in that they create a more level playing field for competitors in that market. Standards can be implemented in three different ways: through the marketplace, through cooperation or initiated by the authorities.

Standards are particularly important and useful in markets with network externalities. Network externalities arise as a result of network benefits, which are products or services where user utilisation of the product increases in tandem with the number of users. Payment systems are a good example of a network benefit. One advantage of using standards is that the market expands and becomes more transparent for the users. In addition, competition will generally increase. The introduction of standards will also increase stability in the production process and reduce the technological risk for users. One disadvantage of using standards is that there may be a lack of incentive for innovation. Established standards can hinder technological advances and other developments that are necessary to develop more efficient systems.

As regards payment systems, standardisation will typically include three elements: the payment type, the payment instrument and the processing cycle. In terms of payment type, it is usual to differentiate between large and small payments, interbank payments and payments on behalf of customers. Payment instruments may, for example, be different kinds of giro and card services. Bank cards are one example of how important standardisation is in order to ensure secure and efficient payment systems. Norwegian bank cards are magnetic stripe cards based on international standards. The coordinated card system in Norway means that all cards issued by a bank that are subject to common rules and regulations can be used in all point-of-sale terminals and/or ATMs included in the system. A processing cycle comprises a transaction between a customer and a business and the associated messages from the customer to the customer's bank, and between the customer's bank and the business' bank. If this involves cross-border payments, agreed standards are required across national boundaries in order to ensure an efficient transaction process. SWIFT is an example of an international message standard and is also a network for the exchange of information.

In Norway, international standards and rules are used for the exchange of payment transactions, unless special circumstances indicate otherwise. Standards are implemented through agreements between the bank associations and the Banks' Payment and Central Clearing House. Each bank is also party to such agreements. The purpose of the Banks' Standardisation Office (BSK) is to look after the administrative tasks in connection with payment and information systems in the banks' infrastructure. BSK was established by the bank associations in 1992 and is responsible for establishing, maintaining and developing Norwegian banking standards to be applied in the joint infrastructure. Standards are drawn up within the framework of overriding resolutions and regulate operational environments that are responsible for day-to-day operations. BSK can initiate and administrate joint projects that relate to banks' infrastructure as a whole.

Financial Agreements 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 a 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 made 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 limitations 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.

Misuse

Compared with other countries, the misuse of cards is not widespread in Norway. The majority of transactions are carried out using the Norwegian BankAxept facility and transactions are checked online with an identity confirmation in the form of the PIN code. This is a very secure way to use payment cards and cards are rarely misused.

PIN codes are not the usual identification solution for payment cards issued by international companies.⁷ With such cards, the cardholder usually has to sign a receipt for any transactions using the card, but uses a code for ATM withdrawals. Cards based on manual signatures are more exposed to misuse than the BankAxept solution. However, the level of fraud and misuse is still lower in Norway than in other countries. Among other things, this is evident from the fact that cardholders are more often victims of card fraud when cards are used abroad than when they are used in Norway.

Cards can be misused in several different ways. The most usual forms of misuse are theft or forgery. The copying of magnetic stripes is a problem that will be solved when card companies introduce chip cards by 2005, as a chip is more difficult to copy than a magnetic stripe. It is also possible to copy the raised text on cards, though this type of misuse is on the decline.

If anyone other than the cardholder uses a card with the PIN code, it is often the result of carelessness on the part of the cardholder with regard to the safekeeping and use of the code. Most cases of misuse are based on the card being used with a forged, hand-written signature (the BankAxept solution is not exposed to this type of fraud as long as terminals are online). The signature should be checked against another form of ID, but not all user-points perform this check. In some instances, the card is stolen in the post and misused before the cardholder even receives it.

Cards can also be misused by cardholders themselves. Cases where the customer acknowledges that a transaction has exceeded the limits on the card and settles the difference are not counted as misuse. But that does not always happen. Every year, a number of cases are registered where cardholders exceed the card credit limit. Cardholders' obligations and liabilities are regulated by §§ 34-35 of the Financial Agreements Act.

⁷ Norwegian VISA cards are normally debit cards and the cardholder is identified by means of a PIN code.

Giro

Together with cash and cards, the various giro services are the most widely used payment instruments in Norway. It is important to maintain the security aspect with regard to customer confidence in the instrument. Customers will want to be certain that security is satisfactory before starting to use new, efficient payment services.

Mail giro is a simple product for paying bills. The consumer signs a separate delivery note and sends this with a giro directly to BBS, where the giros are registered and the amounts are cleared with the banks. The product includes several security elements to prevent misuse, including elements in the delivery note and signature checks.

Direct Debit (AvtaleGiro) is a service for the automatic payment of regular, fixed bills. With Direct Debit, banks ensure that bills are paid directly from the account on the due date. The payer has to sign a direct debit agreement with the bank that is linked to a specific account. This agreement can then be used for one or more regular, standing payment orders. All orders from payees are checked, including a check to insure that they are from the correct payee. In this way, the bank can confirm that the payment is covered by the agreement between the payer and payee. The payer is always notified of imminent payments⁸ and has the opportunity to query payments falling due up to seven days in advance. The payer also has the option to stop payments. As with Mail Giro, the payer's account is checked to ensure there are sufficient funds to cover the payment.

Direct Remittance is an electronic standing order service for corporate payments. All payment transactions are sent to BBS via a closed line. The most important security element in connection with such transactions is the authentication of the sender.

eGiro is a payment and information concept that offers companies the possibility of sending and receiving all types of payment transactions electronically. eGiro is an open solution that functions for all banks in Norway. To ensure security, an electronic signature is generated and attached to all notices exchanged between parties. The electronic signature is based on the sender and recipient having different keys.

Internet banking allows a payer to generate standard electronic giros and direct debit giros. Various security elements exist to secure communication over the Internet and to authenticate the user.

⁸ This does not apply to payments between businesses, which use the Autogiro service.

Electronic signature

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

Information is generally encrypted so that it cannot be read by unauthorised persons. User authentication may be carried out using traditional methods such as code sheets and key generators, or more modern methods such as electronic signatures and smart cards. Norwegian banks have worked together on a solution called BankID, which among other things can be used as an electronic ID and signature in open, electronic networks. Authentication, i.e. the use and control of an electronic ID, can be carried out when the customer logs on to the Internet banking service or other Internet services. The use of BankID as an electronic identification on the Internet is comparable with the use of bank cards as traditional identification. BankID provides mutual authentication of both parties involved in communication. BankID will be issued by banks in Norway. The five largest banks and bank groups started work on integration, testing and a technical pilot for BankID in their own services in the second quarter of 2002. The first banks are expected to start using BankID in the course of 2003.

Cheques

Cheques are a means of payment regulated by law. When a cheque is used, the risk is divided between the payer, the payee and the bank. When using a cheque, the cheque holder has to show identification with a signature and use a separate code consisting of both letters and numbers. The signature is checked by the person receiving the cheque. If the cheque is approved, the account is debited and the transaction is completed.

4 | Main trends⁹

In line with the trend in recent years, growth in electronic transactions continued to be strong in 2002. There was a sharp rise in both the number of agreements for Internet banking services and the number of giros paid over the Internet. New point-of-sale terminals are being installed, which contributes to further growth in the use of payment cards. The increase in electronic-based services has led to a decline in the use of paper-based services. The value of notes and coins in circulation fell in 2002 and accounts for an increasingly smaller share of the value of the means of payment available to the public. This chapter looks at the main trends, whereas more detailed information is given in the tables in Chapter 7.

4.1. Cash

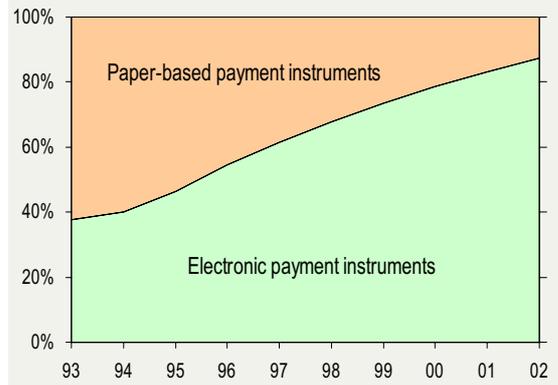
Several factors may help to explain changes in cash holdings and the way in which cash is used. The demand for notes and coins for transaction purposes is influenced, among other things, by trends in household consumption, by the costs involved in the acquisition of cash and costs linked to the use of competing means of payment. New payment solutions and other technological changes in the payment system 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 require substantial cash holdings.

Access to cash

At end-2002, there were 145 banks and 8 foreign bank branches in Norway. Chart 4.2 shows the number of branches and post offices offering over-the-counter cash services in Norway. The reorganisation of Norway Post resulted in a considerable decline in the number of post offices in the period 1995 – 1999. The number has risen again slightly since 1999 and in 2002 there were around 2 800 post offices. The reason for the increase is that Norway Post opened "Post in Shop" outlets more quickly than it closed down post offices. Around 1 200 such outlets have been established since the start-up in March 2001. Cash may also be withdrawn from 2 100 rural postal employees. Banks increasingly refer customers to ATMs, telebanking services and Internet terminals to carry out normal payment services. At end-2002, there were 2 300 ATMs in operation. The increase from 2001 is partly due to the fact that some ATMs, particularly in kiosks and other similar places, were not included in the statistics for previous years. Savings banks own more ATMs than commercial banks (see Chart 4.3).

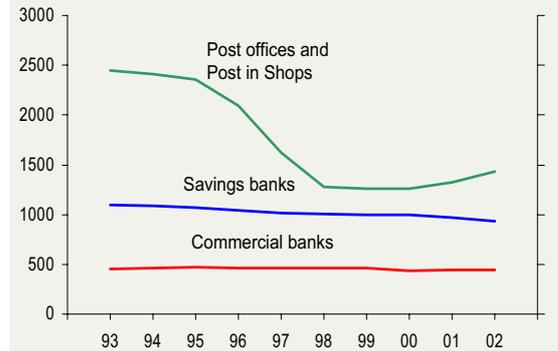
⁹ Unless otherwise specified, figures are based on average figures for transactions and turnover in 2002.

Chart 4.1 Use of paper-based and electronic payment instruments 1993-2002. Transactions in per cent



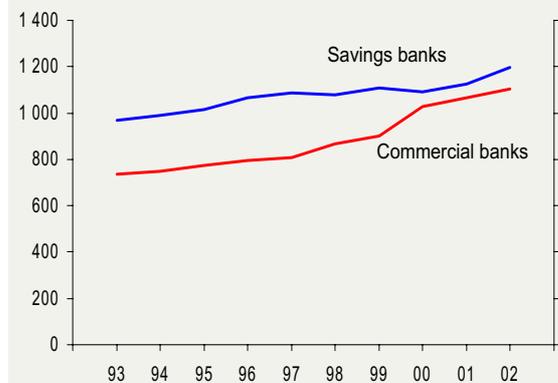
Source: Norges Bank

Chart 4.2 Number of bank and postal branch offices 1993-2002



Source: Norges Bank

Chart 4.3 Number of ATMs 1993-2002



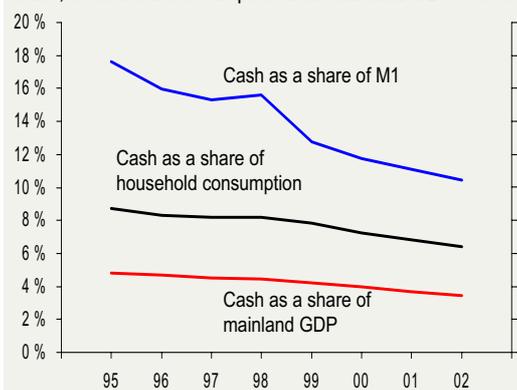
Source: Norges Bank

Chart 4.4 Number of EFTPOS Payment terminals 1994-2002



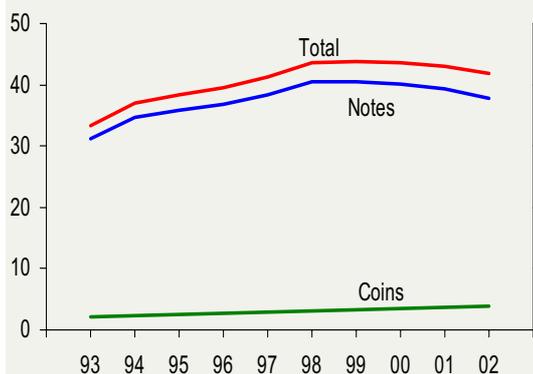
Source: Norges Bank

Chart 4.5 Value of notes and coins in circulation as a share of M1, household consumption and mainland GDP. Per cent



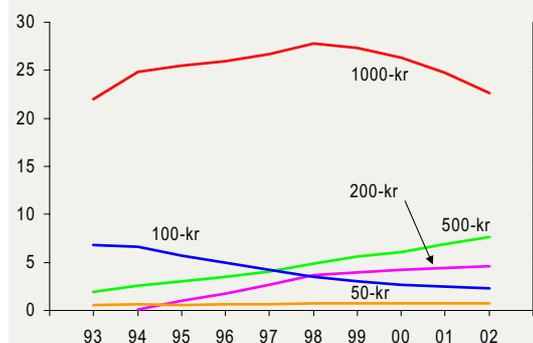
Sources: Statistics Norway and Norges Bank

Chart 4.6 Cash in circulation 1993-2002. Annual average. In billions of NOK



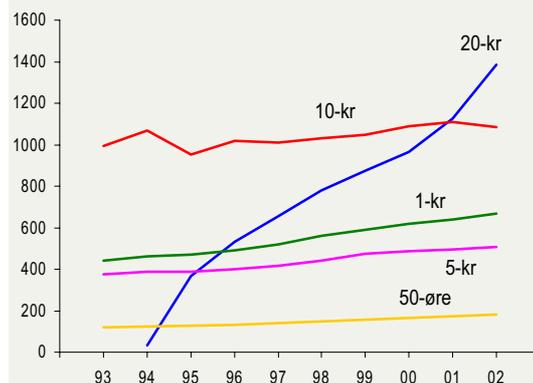
Source: Norges Bank

Chart 4.7 Denominations of notes in circulation 1993-2002. Annual average. In billions of NOK



Source: Norges Bank

Chart 4.8 Denominations of coins in circulation 1993-2002. Annual average. In millions of NOK



Source: Norges Bank

Around 130 withdrawals were made per ATM per day in 2002. The withdrawal of cash at point-of-sale terminals (cashback) in different outlets has become increasingly popular in recent years and at end-2002, there were over 80 000 point-of-sale terminals (see Chart 4.4).

Notes and coins in circulation

Cash as a share of the money supply (M1) has fallen in recent years (see Chart 4.5). The value of notes and coins in circulation therefore accounts for a steadily smaller share of the value of the means of payment available to the public. The value of cash in circulation as a share of GDP and consumption has also declined in the period. It is uncertain whether the decline in cash holdings is due to permanent changes in the demand for cash. The replacement of the 1000-krone note and very large cash holdings around the turn of the millennium may also have contributed to the decline over the past two years.

In 2002, notes accounted for 91% of the total value of cash (see Chart 4.6). The different denominations' share of the value of cash holdings has changed considerably in the past decade (see Chart 4.7). The most pronounced changes include the decline for 1000-krone and 100-krone notes and increase for 500-krone and 200-krone notes. However, in terms of value, 1000-krone notes account for the highest share of cash holdings, as the denomination is well suited as a store of value, but possibly also because it is used for transactions in the unregistered sector of the economy. Holdings of 1000-krone notes have fallen by NOK 3.7bn over the past two years. Part of the decline may be the result of the transition from the VI to VII banknote series. The value of 100-krone notes in circulation has fallen by around 70% in the course of ten years, but the decline in 2002 was not as marked as previously. The value of both 500-krone and 200-krone notes in circulation increased in 2002. This is probably because Norges Bank has encouraged the use of these notes in ATMs in order to reduce the number of notes necessary to meet demand. The 50-krone note accounts for a small, but stable share of notes in circulation. The value of coins in circulation has increased steadily each year for the last 20 years. The average value of coins in circulation was just under NOK 4bn in 2002, an increase of around 8% on 2001. The introduction of the 20-krone coin in 1994 is primarily responsible for the increase in the value of coins in circulation (see Chart 4.8).

Acquisition of cash

In 2002, around 270m cash withdrawals were registered, a 5% increase on 2001 (see Chart 4.9). The way in which people withdraw cash has changed considerably in recent years. In 2002, cashback in connection with goods purchases increased by 19% and for the first time accounted for over half of all cash withdrawals in Norway. The number of ATM

withdrawals fell in 2002 compared with 2001. Considerably fewer over-the-counter withdrawals were recorded in 2002 than in 2001. These now account for less than 7% of total cash withdrawals.

The higher number of cash withdrawals has not increased the total value of withdrawals. The value of cash withdrawals in Norway declined to around NOK 250bn in 2002, a fall of 3% on 2001 (see Chart 4.10). The value of ATM withdrawals remained more or less unchanged on one year earlier, whereas the value of cashback withdrawals rose by 15%. The value of over-the-counter cash withdrawals fell in 2002. The average value of over-the-counter withdrawals was around NOK 4 850 compared with an average of roughly NOK 1 100 for ATM withdrawals. Cashback generally involves lower amounts, with an average value of around NOK 350.

4.2. Access to deposits

Bank customers can access funds in their bank accounts (deposits) using various payment instruments. Different forms of giro and bankcards are the most widely used instruments in Norway. Cheques are also still used for a few transactions. There are also a number of different solutions for businesses and interbank transactions.

A giro payment (*credit transfer*) can be initiated by a visit to the bank, by sending a giro to the BBS (mail giros) or by means of telebanking or Internet banking services. Businesses are also offered facilities that use terminals or fixed telephone lines. No agreement is required to use basic giro services, but if customers want to use mail giros or electronically initiated giro services, a separate agreement with the bank is required. For direct debiting services another type of agreement is needed: the account holder has to authorise the payee to withdraw funds from the relevant account. In 2002, the number of agreements for Internet giro payments rose to 1.9m. Around a million new agreements have been drawn up in the past two years. The most widespread paper-based giro service is mail giro. There were 1.8m such agreements in 2002, a decline of 24% on 2001. This year, for the first time, it has been possible to omit "passive" agreements in the statistics, i.e. agreements that have not been used for the last 12 months. All Norwegian banks now offer direct debiting services. This service has increased steadily over the past couple of years and in 2002 there were 4.5m such agreements.

Bank cards are the most widely used payment card in Norway, with 4.4m bank cards issued at end-2002 (see Chart 4.11). Bank cards are online debit cards with automatic balance and authorisation checks. Most of these cards are combined cards, i.e. they have another function in addition to the bank card function, such as an international

Chart 4.9 Number of cash withdrawals in Norway 2000-2002. In millions of withdrawals

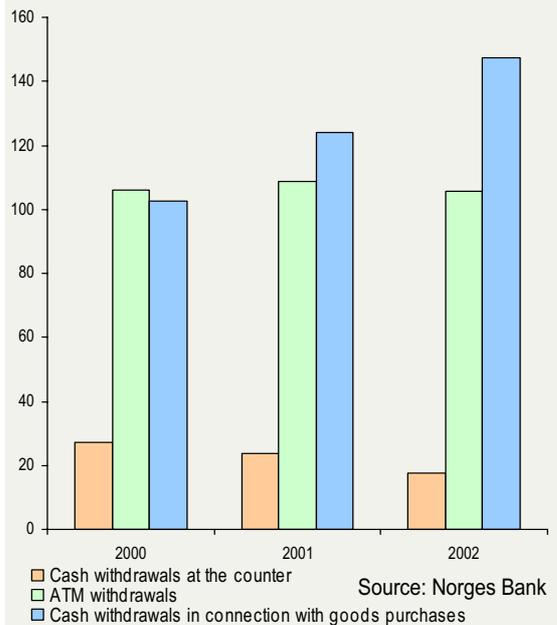


Chart 4.10 Value of cash withdrawals in Norway 2000-2002. In billions of NOK

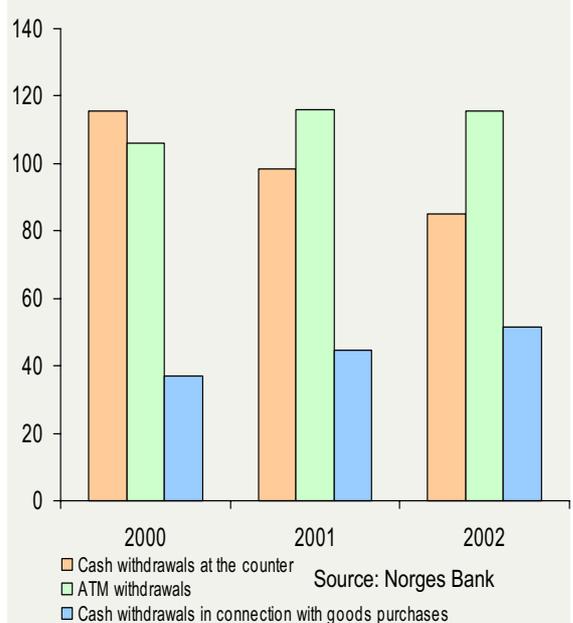


Chart 4.11 Number of payment cards issued at year-end 1993-2002. Measured in thousands of cards

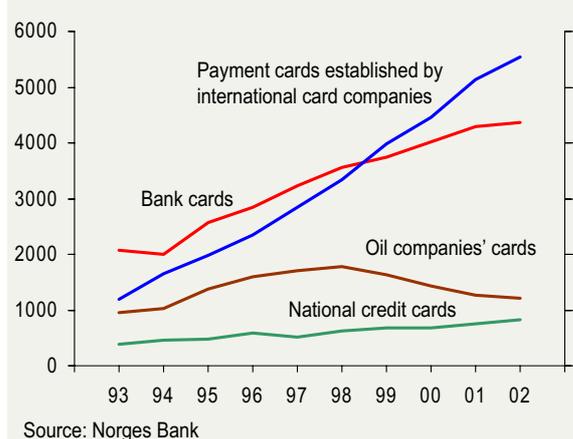


Chart 4.12 Number of payment terminals and number of locations with payment terminals 1993-2002

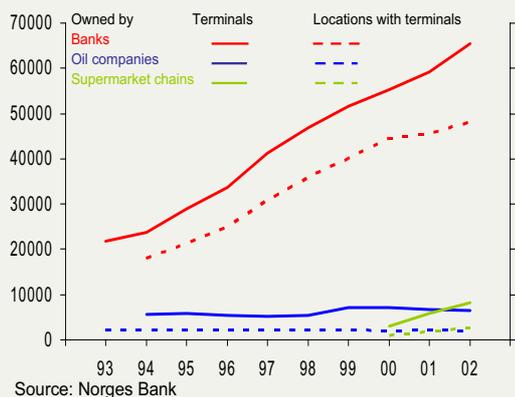
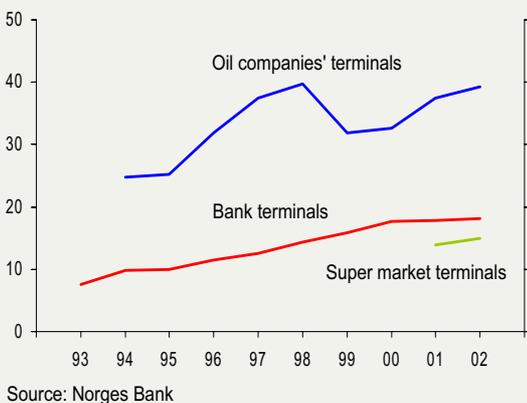


Chart 4.13 Average number of transactions per payment terminal per day 1993-2002



credit card. Whereas the bank card is used to access funds in the customer's account, including any credit linked to this account, neither credit cards nor charge cards are linked to a bank account. Credit cards have a credit limit agreed with the card issuer and charge cards are normally based on the principle that the entire amount is paid, for example at monthly intervals. In Norway, card companies and banks issue payment cards from four international companies: VISA, Europay, American Express and Diners Club. These companies have issued a total of 5.5m cards in Norway, an increase of 8% on 2001. The functionality of a combined BankAxept/VISA card is normally a VISA debit facility where the amount is withdrawn directly from the account. Domestic credit card companies have issued 825 000 cards, a rise of 9% in 2002. These cards are primarily issued by GE Capital Bank and Union Bank of Norway. Oil companies were the first to issue payment cards in Norway, but these cards can only be used in the individual oil company's terminals. At end-2002, 1.2m of these cards had been issued.

Bank cards can be used in over 80 000 terminals at just under 53 000 locations (see Chart 4.12). In 2002, the number of terminals and locations rose by 12% and 7%, respectively. Banks own 82% of terminals. However, in 2002 the number of point-of-sale terminals owned by grocery chains increased sharply, accounting for 10% of terminals at the end of the year. Oil company terminals accept bank cards and other cards in addition to their own card and account for 8% of terminals. Oil company terminals are used more frequently than bank or grocery chain terminals (see Chart 4.13).¹⁰ VISA owns a number of terminals, primarily located in restaurants/café's and taxis. These terminals accept VISA cards and most other international cards. The VISA terminals are not included in Norges Bank's statistics.

Cheques are a payment instrument well suited to payments between private individuals that require immediate settlement. Unlike cards and some giro facilities, cheques do not require a separate agreement in addition to the normal account agreement.

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 financial transactions. The format is used for transfers on behalf of customers and for pure interbank transactions, both through and outside the SWIFT network. In 2002, SWIFT had 2 203 members and 7 465 users worldwide. In Norway, SWIFT has 22 members and 7 branches of foreign banks that are members through the parent bank. In addition, 4 Norwegian institutions are registered as users, making a total of 33 SWIFT users in Norway at end-2002.

¹⁰ Figures based on 312 user days per year for bank and grocery chain terminals and 364 user days per year for oil company terminals.

4.3. Use of deposits

In 2002, a total of 915m transactions were carried out using different types of cashless payment instruments (see Chart 4.14), which is an increase of 8% on the previous year. Payment cards and different giro transactions account for most of these transactions. Cheques only account for a small share. In addition to transactions using cashless payment instruments, 38m pre-authorized payment orders were registered. Total turnover through the various payment instruments came to NOK 6 686bn, with a further NOK 146bn in pre-authorized payment orders.

Giro / Credit transfers

Giro payments account for 96% of the total value of payments and 43% of all transactions carried out with Norwegian payment instruments. The trend in recent years of switching from paper-based to electronic giro services continued in 2002. Chart 4.15 shows that 74% of all giro transactions were electronic in 2002. The most important reasons for the growth in the use of electronic services is that they are faster, easier to use and less expensive than paper-based services. The transition to more electronic processing and fewer manual operations has improved efficiency in the payment system. Electronic transactions are also seen to be less vulnerable to errors and problems than paper-based services.

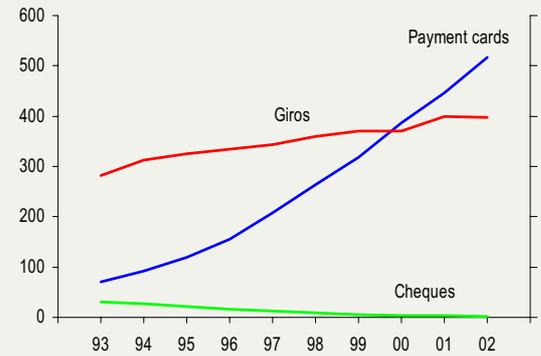
Electronic giro services

The number of payments effected by electronic giro facilities rose by 9% in 2002, with transactions totalling 293m. Electronic giro services include terminal payments via closed communication networks, Internet payments, telebanking payments and payments based on direct debit agreements. Charts 4.16 and 4.17 show the number of transactions and turnover distributed by payment instrument.

Terminal payments accounted for the largest share of electronic giro services, in terms of both the number of transactions and value. These terminals communicate via closed networks and it is primarily institutions and large and medium-sized companies that use this type of giro transaction. In 2002, 152m transactions were sent from such terminals and the market value increased to NOK 5 400bn. This type of payment accounted for 85% of turnover for all giro services.

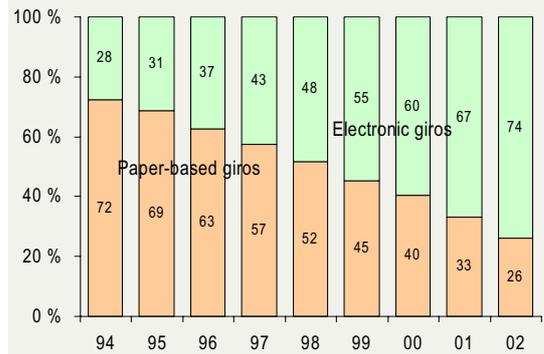
There was solid growth in the number of Internet giro payments in 2002 as well, with a 33% rise in this type of payment to 82m transactions. The value of Internet giro payments more than doubled last year, from NOK 197 to 418bn. Access to PCs and the Internet has increased sharply in recent years and as a result, Internet banking services are

Chart 4.14 Payment instruments 1993-2002. Millions of transactions



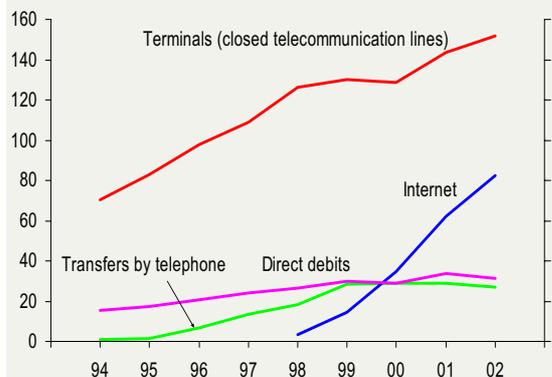
Source: Norges Bank

Chart 4.15 Giro transactions 1994-2002. Per cent



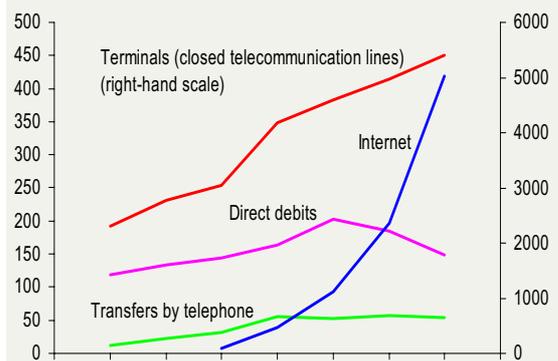
Source: Norges Bank

Chart 4.16 Use of electronic giro services 1994-2002. Millions of transactions



Source: Norges Bank

Chart 4.17 Use of electronic giro services 1996-2002. In billions of NOK



Source: Norges Bank

Electronic invoicing

With electronic invoicing, the invoice issuer can present a payment claim directly in the invoice receiver's Internet bank. The receiver can then pay the invoice by confirming that the information in the invoice is correct.

Chart 4.18 Use of paper-based giro services 1994-2002. Millions of transactions

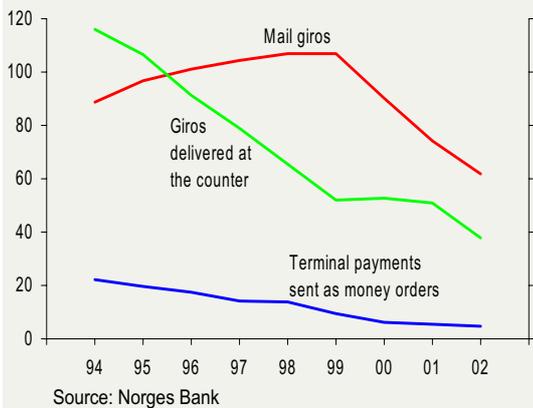


Chart 4.19 Use of "home-banking" services 1994-2002. Millions of transactions

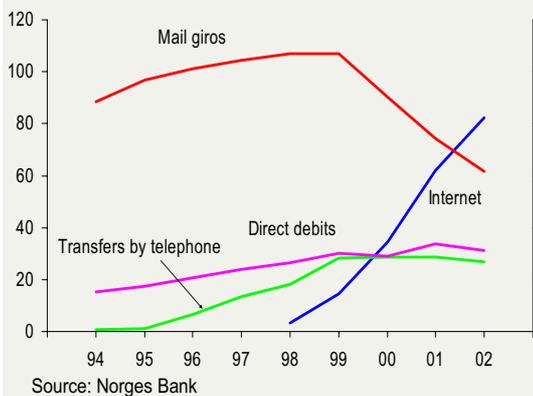
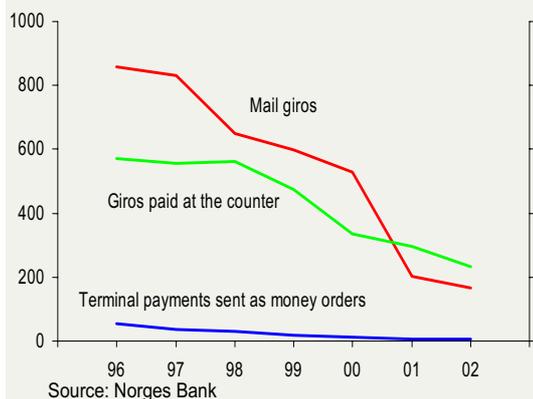


Chart 4.20 Use of paper-based giro services 1996-2002. In billions of NOK



now available to a growing proportion of the population. At end-2001, over 1.2m Internet subscriptions were registered in Norway. The use of Internet banking services is likely to continue expanding, but is also expected to depend on the spread of electronic invoicing.

One service that has been widely used in recent years is giro payment by telephone. However, the number of transactions fell to 27m in 2002. Whereas the number of direct debit agreements rose, the number of direct debits fell slightly, to 31m transactions in 2002. Turnover in direct debits declined by 19%. This is largely because the debit services previously offered by Postbanken were discontinued in 2001.

The largest payments are made via closed systems for business terminals. The average value of such transactions is over NOK 35 500. Payments over the Internet and direct debiting services have the highest average value per transaction of the electronic giro services used by households, at around NOK 5 100 and NOK 4 800, respectively. By way of comparison, amounts paid through telebanking average around NOK 2 000. The high average value of direct debiting services is peculiar to Norway. In other countries, direct debits are used to pay smaller bills.

Paper-based giro services

Paper-based giro services include giros sent by mail and giros delivered at the counter in banks or post offices and terminal payments when payment orders are issued. Use of paper-based services fell by 20% in 2002. Banks' higher charges for paper-based services and the development of user-friendly electronic giro services are probably the main reasons for this trend.

The number of mail giros declined by 17% in 2002 (see Chart 4.18). Due to the high degree of centralised processing, this is deemed to be a relatively efficient paper-based solution. More payments were effected over the Internet than by mail for the first time in 2002 (see Chart 4.19), with 1.3 Internet payments for every mail giro. Giros delivered at the counter are divided into cash payments and account debits. The number of giros delivered at the counter fell by 26% in 2002.

In 2002, turnover in paper-based giro services was 20% lower than in 2001 (see Chart 4.20). Following a very sharp fall in the value of mail giro payments from 2000 to 2001, turnover for this service decreased by a further 17% in 2002. The average amount for mail giros was around NOK 2 700 in 2002, whereas the corresponding figure for giros delivered over the counter was around NOK 6 200.

Payment cards

In 2002, payment cards accounted for 56% of all cashless payments. A total of 517m payment transactions for goods and services were completed by payment card last year, an increase of 16% on 2001. The use of cards has shown sharp growth for several consecutive years. The average value of card transactions is, however, considerably lower than for giro payments and card transactions therefore only account for 3% of turnover for cashless payment instruments. The value of goods purchases using cards totalled NOK 202bn in 2002, a rise of 11% compared with one year earlier. Electronic card payments dominate, with 98% of all card payments being made electronically. Electronic debiting requires a terminal that can check whether the card has been blocked and, in the case of debit cards, whether there are sufficient funds in the account. In Norway, these terminals are EFTPOS terminals and ATMs.

A special feature of payment card use in Norway is that the bulk of payments are made with debit cards (for definition of different card types, see explanation to tables in Chapter 7). In other countries, credit cards and charge cards have a relatively large share of the card market. Although one in three cards issued in Norway is a credit card or charge card, these account for a considerably lower share of transactions and turnover (see Charts 4.21 and 4.22).

The volume of card payments for goods purchased in shops and cash withdrawals from ATMs rose to around 630m transactions from 2001 to 2002 and the turnover value increased to NOK 380bn. Transactions with bank cards accounted for just under 88% of transactions (see Chart 4.23). Transactions registered by international card companies accounted for roughly 12% of transactions. The distribution between the different companies is shown in Chart 4.24. Domestic credit cards accounted for 0.5% of transactions.

The value of the average bank card purchase dropped to NOK 340 in 2002. This trend has been evident for several years. On average, each goods purchase with an international payment card came to NOK 720 in 2002, a reduction of around NOK 40 on 2001. The average amount for domestic credit card purchases was roughly NOK 2 600 in 2002, nearly NOK 600 lower than in 2001.

Cheques

Cheque use has been falling for a number of years and continued to decline in 2002 (see Chart 4.25). Cheques accounted for only 0.2% of the total number of transactions made with cashless payment instruments. The few transactions that are still made by cheque primarily relate to large-value transactions by private individuals and some

Chart 4.21 Use of different payment cards for goods purchases and cash withdrawals 1994-2002. Millions of transactions

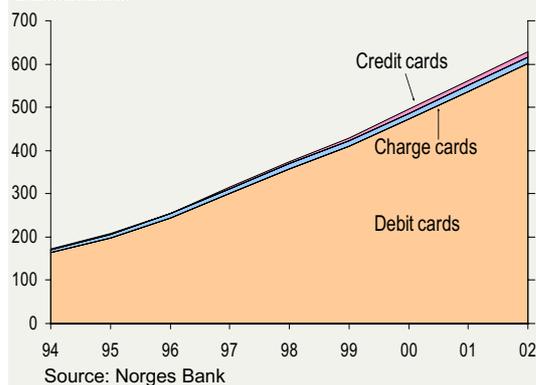


Chart 4.22 Use of different payment cards for goods purchases and cash withdrawals 1994-2002. In billions of NOK

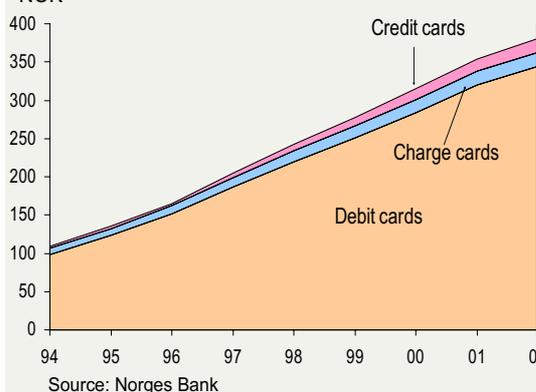


Chart 4.23 Use of Norwegian payment cards 1993-2002. Goods purchases and ATM withdrawals. Millions of transactions

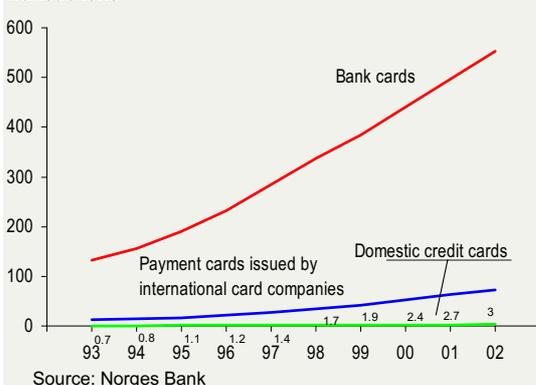


Chart 4.24 Use of payment cards issued by international card companies 1993-2002. Millions of transactions

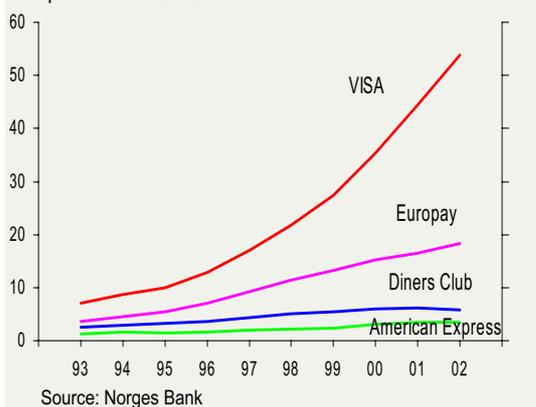
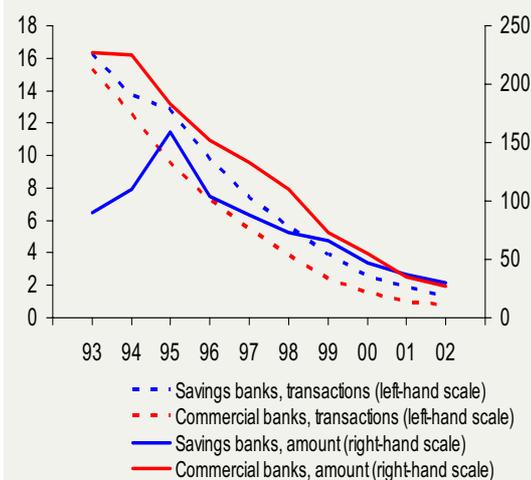


Chart 4.25 Use of cheques 1993-2002. Millions of transactions and billions of NOK



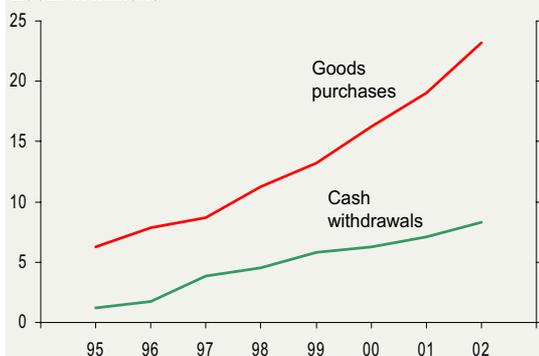
Source: Norges Bank

businesses. The average cheque amount rose to NOK 28 000 in 2002. It will probably take several years before these transactions can be replaced by other payment instruments, as cheques guarantee immediate settlement.

4.4. International payment transactions

Norwegians also largely use cards for payments abroad. The greatest share of card use is in connection with goods purchases (see Chart 4.26). Transactions using Norwegian payment cards abroad numbered nearly 32m in 2002, a good 20% increase on 2001. In 2002, 26% of Norwegians' card transactions abroad involved cash withdrawals, whereas they only accounted for 4% of the value. Norwegians used their cards abroad for a total value of NOK 29.3bn in 2002, an increase of 15% on the previous year. Growth in Norwegians' use of payment cards abroad is assumed to be related to increased travel and greater opportunities to use cards at most destinations. At the same time, cross-border shopping probably contributes to increasing the use of cards abroad. A relatively small share of cross-border card use may also be tied to Norwegians' purchases in Internet shops based in other countries.

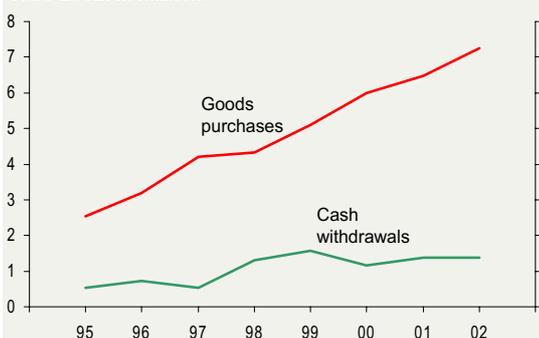
Chart 4.26 Norwegian card transactions abroad broken down by goods purchases and cash withdrawals 1995-2002. In millions



Source: Norges Bank

Foreigners use payment cards in Norway much less frequently than Norwegians use cards abroad. Foreigners used their cards for 8.6m transactions in 2002, a 10% rise on 2001. Around 16% of foreign card transactions in Norway were cash withdrawals (see Chart 4.27). The total value of foreigner's card use in Norway was NOK 5.9bn in 2002, an increase of 2% on the previous year. The value of foreigners' cash withdrawals accounted for 29% of their total card use in Norway

Chart 4.27 Non-residents' card transactions in Norway broken down by goods purchases and cash withdrawals 1995-2002. In millions



Source: Norges Bank

The SWIFT network is used for cross-border transfers, both for interbank transactions and for customer payments. In 2002, just under 13m messages were sent from Norwegian to foreign banks, an increase of 19% on 2001. Around 80% of these messages are related to payments. As one payment may generate two to three messages, it is difficult to estimate reliably the number of payments on the basis of the number of messages. There is no information available on the distribution of payment transactions by customer transactions and interbank transactions. Norwegian banks received just under 9m messages from foreign banks in 2002, an increase of 7% on the previous year. Total SWIFT traffic in 2002 came to 1.8bn messages, an 18% increase on 2001. About 60% of all messages worldwide are related to payments.

The number of transfers abroad using instruments such as cheques and giros has declined in recent years. Eurogiros were discontinued in 2001 and these services now only account for a minor share of foreign transactions.

4.5. Clearing and settlement

In principle, all of the 19 commercial banks and 128 savings banks with accounts in Norges Bank have access to Norges Bank's settlement system (NBO). However, most banks with accounts in Norges Bank do not participate in the settlements and only use the account for deposits and cash withdrawals. Larger Norwegian banks use NICS (Norwegian Interbank Clearing System) for clearing their transactions, which are then settled directly in Norges Bank via NBO, whereas most small and medium-sized banks carry out clearing and settlement in DnB or Union Bank of Norway (see Chart 3.1 in Chapter 3). This solution means that banks' positions in the private systems in relation to banks in other settlement hierarchies will be included in the settlement bank's position in NBO.

Ordinary customer transactions (giro, payment card and ATM transactions) are included in the NICS retail netting. This is multilateral netting in which all claims between banks are reduced to one set of positions from participating banks. Retail settlement is carried out twice daily in Norges Bank and 29 banks participate in these settlements. Table 4.1 shows that many transactions in NICS retail netting are relatively modest in size. Average daily turnover in retail netting came to roughly NOK 40bn in 2002, distributed over 2-3m transactions. The netting effect in this system is considerable. The daily value of transactions is reduced from around NOK 40bn before netting to roughly NOK 5bn in the settlement. Interbank transactions are settled through NICS-SWIFT net settlement or in SWIFT-RTGS, which is a real-time gross settlement system. In principle, all banks have access to gross settlement in Norges Bank. Twenty banks participate in NICS-SWIFT. Most SWIFT payments under NOK 100m are settled in one of 4 daily NICS-SWIFT nettings, with the net settlement taking place in Norges Bank. On average, NOK 16bn is cleared, whereas the amount that is settled in NBO is around NOK 5.5bn. Payments over NOK 100m and other specially earmarked transactions are settled immediately and on an individual basis in Norges Bank through SWIFT-RTGS. On average, around NOK 150bn is transferred daily in this settlement.

Trades in securities and options are settled in the Norwegian Central Securities Depository (VPS), while the cash leg of the settlement takes place in Norges Bank. VPS registers and clears transactions and positions for the settlement of securities trading, i.e. equities and primary capital certificates, bonds and short-term paper. In addition, VPS clears options trades on behalf of the Norwegian Futures and Options Clearing House (NOS). A total of 18 banks and 24 stockbroking firms participate in the securities settlement, whereas 7 banks and 20 stockbroking firms participate in the options settlement.

Clearing

A payment transaction between two customers in different banks means that the payee's bank has a claim on the payer's bank. When the payer and the payee have accounts in the same bank, the debiting and crediting of these accounts can in principle be carried out locally 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 or terminals are normally processed via a clearing house, regardless of whether the payer and the payee have accounts in the same bank.

Asset and debt 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 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 payments are settled individually without prior clearing.

Table 4.1 Main aggregates in the various payment settlements, 2002 (2001 figures in parentheses)*

	SWIFT-RTGS	SWIFT netting	NICS retail netting
No. of transactions per day, average	301 [303]	4 936 [4 719]	2-3 mill. [2-3 mill.]
Amount per day before netting (in billions of NOK)	150 [151]	16 [16]	40-45 [30-35]
Amount per day after netting (in billions of NOK)		5,5 [5,3]	4,5-5,5 [4,5-5,5]
Average amount per transaction (in 1000s of NOK)	498 340 [498 350]	3 200 [3 400]	15-20 [12-15]
*In addition, about NOK 2.5bn is sent daily for settlement in Norges Bank from the securities settlements in VPS and NOS.			
Sources: Norges Bank, NICS and VPS			

5 | Prices and income in the payment system

Sight deposits are deposits (in NOK or another currency) that can be immediately converted into 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.

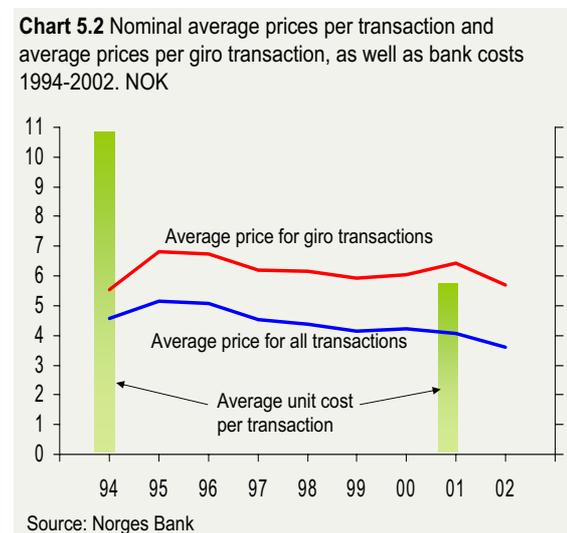
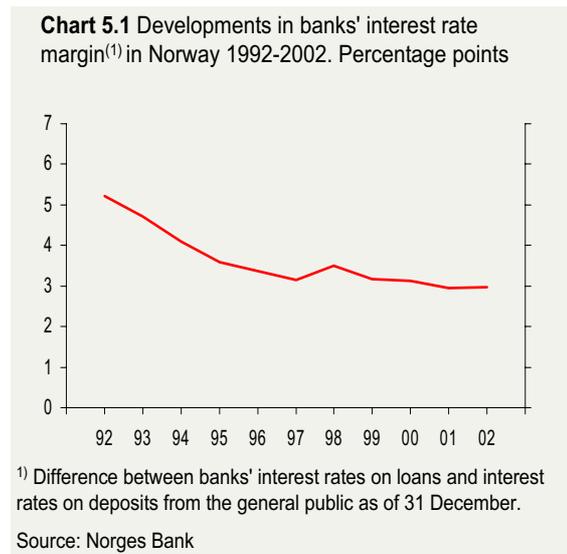
Norges Bank has gathered data on price trends in the payment system since 1989. The statistics for 2003 are based on 8 commercial banks and 18 savings banks. At end-2002, these banks accounted for 91% and 76%, respectively, of the two bank groups' total share of NOK deposits in transaction accounts. Prices for 2003 were collected from the price lists on banks' websites in the third week of January and by direct inquiry.

5.1. General trends

To compare prices over time, Norges Bank calculates average prices for all payment services. Prices for electronic payment services remained more or less unchanged on 2002, whereas prices for paper-based services rose moderately in 2002.

The statistics show a steady rise in prices for payment services over time. Customers respond to these price changes and to an increasing extent use the cheapest alternatives. Banks' earnings from transaction prices do not cover all costs in connection with producing and supplying payment services, but the shortfall has been reduced over time. This trend has been accompanied by a narrowing of the interest margin, the difference between banks' lending and deposit rates (see Chart 5.1). In other words, banks' subsidisation of the payment system with income from other activities has been reduced.

Despite the increase in prices for payment services, the price a normal bank customer has to pay for an average transaction has fallen in recent years. Chart 5.2 shows changes in average prices for all payment services, average prices for giro payments and banks' average unit costs for producing payment services in 1994 and 2001. Measured in nominal NOK, the average price fell through the period, from NOK 4.56 in 1994 to NOK 3.62 in 2002. The reason for this is that customers choose low-cost alternatives when selecting payment services. There has been an increase in the use of low-cost, electronic payment services, accompanied by a fall in the use of paper-based instruments (see Chapter 4). Chart 5.2 also shows that the average price for giro services has not declined in the period. Price trends for giro services are important, as this is the public's preferred instrument for paying bills. Price increases for paper-based giro services have been frequent and substantial, whereas prices for electronic giro services have remained stable and low.



The **weighted average prices in Chart 5.2** 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 paying habits.

Banks' costs in connection with the payment system were charted in three surveys by Norges Bank in 1988, 1994 and 2001. Average costs were halved in the period from 1994 to 2001. At the same time, demand shifted towards cheaper payment services, which has resulted in a fall in real average prices of around 34% from 1994 to 2002. The interest margin

has also narrowed and banks have had no income from float since 2001. This shows that the production of payment services has become more efficient.

The degree of self-service in most payment services has increased. The number of payment terminals has also risen, Internet banking services have spread rapidly and it is now possible to execute many payment services in retail outlets via "Post in Shop". These developments have improved access to payment services, even though the number of bank branches is being cut. It must be assumed that the public's costs in terms of time and travel have also been reduced, due to greater availability and more automated payment services.

5.2. Income from the payment system

Banks' reported income from the payment system came to around NOK 5.7bn in 2002 (see Chart 5.3). Earnings from domestic payment services totalled NOK 4.4bn, distributed more or less equally between savings banks and commercial banks. Income from transfers abroad and other income from the payment system both came to around NOK 0.7bn.

Savings banks have higher earnings from payment systems using cards and cheques than commercial banks, whereas commercial banks earn more on giro services and other services. However, savings banks generate more transactions and higher income in relation to their total assets than commercial banks. This distribution of income has been the same for several years and is probably due to savings banks' having a higher share of small business and private customers. Large corporate customers tend to use remittance and company terminal giro services, which have relatively low unit prices per transaction. Though many banks offer these services, most transactions of this type are carried out via the large banks.

Chart 5.4 shows that a substantial part of banks' income in the payment system is derived from the public's use of payment cards. Income is generated by transaction charges, annual fees and earnings from renting out terminals. Earnings generated by the public's use of giro services account for 34% of total income, distributed on electronic giro (15%) and paper-based giro (19%). Payment cards are the most widely used instrument in Norway, followed by giro services, which is reflected in the composition of banks' earnings. Payment card and electronic giro transactions are priced relatively low and account for a smaller share of income than the number of transactions might indicate. The contrary is true of paper-based giros and cheques, where unit prices are high and transaction volumes are low.

Average prices in Table 40 and Chapters 5.2 and 5.3 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, then the average prices for the bank group are weighted with the group's market shares for the use of payment services.

Chart 5.3 Banks' income from payment services. 1995-2002. In millions of NOK

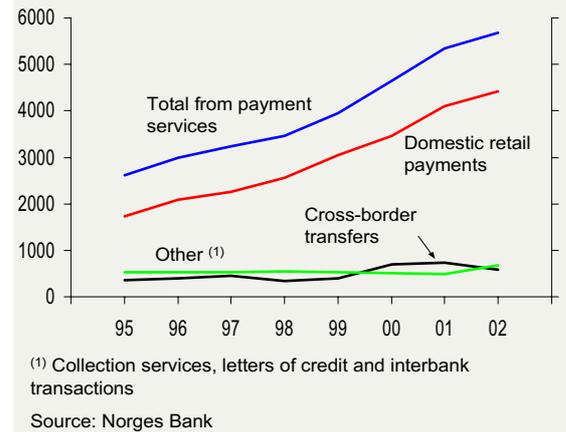


Chart 5.4 Income from retail payment services by type of service 2002. Per cent

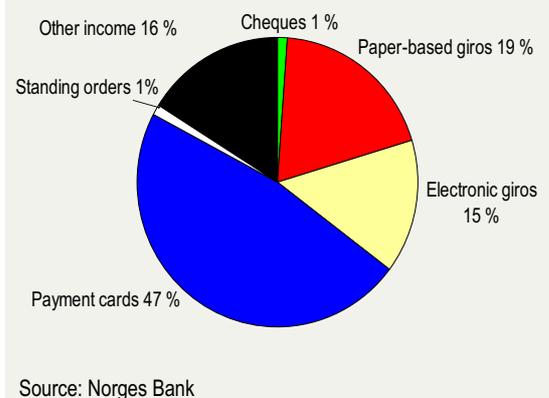
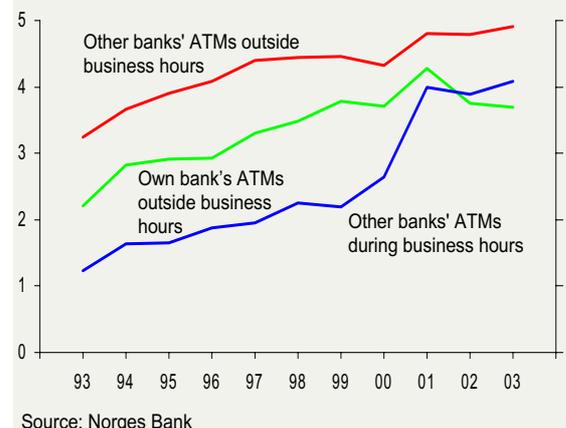


Chart 5.5 Prices for ATM withdrawals 1993-2003. Average for all banks. Prices in NOK



Some definitions:

Giro: Payment instrument based on joint standard for all banks. The customer receives a giro, often with an invoice attached, request the bank to pay it and the money is transferred. There are several electronic and paper-based variants. Can be used with KID (Customer Identification code).

Direct remittance: This service, established by the Banks' Payment and Central Clearing House (BBS), is used to transmit funds to payees, with and without bank accounts, when payment is initiated by a company terminal (i.e. a closed communication channel between the company and the bank/BBS). Direct remittance may include a customer identification number (KID), with or without notification and with money orders.

Company terminal giro: Collective term for company terminal payment solutions that were established by someone other than the BBS.

Money order: A paper-based giro without the payee's account number which must be presented in the bank in order to receive payment.

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

OCR: Paper-based giro with a special code that makes it possible to register the amount and allows the payee to demand payment electronically.

OCR file: The bank keeps the form.

OCR return: The form is returned to the payee.

EFTPOS: Electronic funds transfer at point of sale. Purchase of goods with payment card.

SWIFT: A message standard that facilitates the quick transfer of funds all over the world.

See also Chapter 7: Explanation of tables for further definitions.

5.3. Prices for cash withdrawals

Banks do not currently charge their own customers for cash withdrawals at the counter. It is also possible to withdraw cash at the counter in other banks where the customer does not have an account, for a charge of up to NOK 50, but this facility is not often used. There is no charge for cashback in connection with goods purchases other than the fee connected to the actual purchase.

ATM withdrawals

Prices for ATM withdrawals vary depending on the time of day and whether the withdrawal is from an ATM owned by the customer's bank or an ATM owned by other banks. In general, withdrawals from one's own bank are free of charge during opening hours. Outside business hours, customers are generally charged for such withdrawals. The average price for this service edged down to NOK 3.69 in the course of 2002. The average charge for withdrawals from other banks' ATMs both during and outside business hours rose slightly to NOK 4.09 and NOK 4.91, respectively (see Chart 5.5).

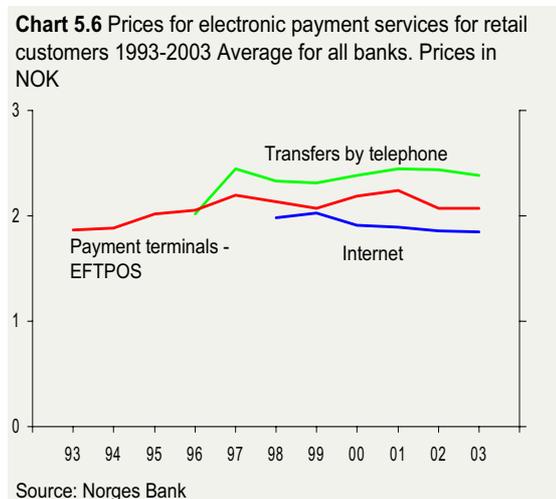
In Norway, ATMs can be used by all bank customers. Each ATM is owned or leased by a specific bank, but can be used by all cardholders. The cost of having this facility available to all cardholders is divided between the banks by means of an interbank fee. The fee is intended to cover the ATM owner's costs in connection with withdrawals. The interbank fee is a net cost for small banks with only a few ATMs, whereas it constitutes net income for large banks with many ATMs. The interbank fee was NOK 4.50 from 1995 to 2001. In February 2002, the rate was increased to NOK 6.50. Thus far, the increase has not been reflected in the price that customers have to pay for using other banks' ATMs.

5.4. Prices for domestic payment services

Electronic payment services

Prices for electronic services geared towards the retail market have remained stable in recent years, with only minor changes from 2002 to 2003 (see Chart 5.6). The average price for purchases at payment terminals (EFTPOS) and for giro payments via the Internet remain unchanged at around NOK 2, whereas the price for telephone giros fell marginally. On average, a direct debit cost NOK 2.09 at the start of 2003. Use of EFTPOS and Internet services continues to rise, whereas there has been a decline in the use of telephone and direct debit giros, despite falling prices.

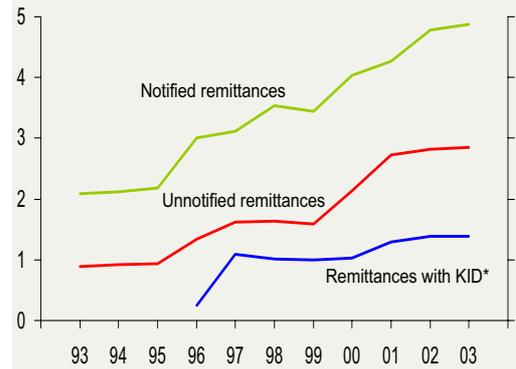
Prices for electronic payment services targeted at the corporate market (see Charts 5.7 and 5.8) have moved on a stronger upward trend than services offered to the retail market in recent years. In 2002, however, prices for these services also



levelled off somewhat. There was no change in prices for services other than Direct Remittance and company terminal giros with notification, which both increased by 2%.

When notification is sent to the payee, the payer's bank is charged a special interbank fee of NOK 2 by the payee's bank. Services with notification are therefore more expensive for customers than corresponding services without notification. The price differential between services with and without notification is generally no more than NOK 2. Giro services that employ a customer identification number (KID) are also less expensive than services without notification, as the KID number enables both the bank and the payee to track the transaction more efficiently.

Chart 5.7 Prices for remittances 1993-2003. Average for all banks. Prices in NOK



Source: Norges Bank *KID = Customer Identification code

Box 5.1: Discounts and loyalty programmes in the payment system

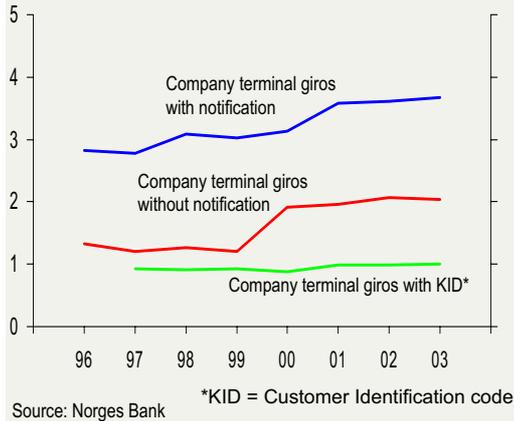
Most banks offer discounts on payment services. The discounts are usually linked to different *loyalty programmes*, which are available to customers who fulfil certain conditions. The loyalty programmes offered by the 26 banks used as a basis for the price calculations in Chapter 5 can be divided into three main groups:

- Programmes where customers pay a fixed monthly fee. Discounts then take the form of free use of 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. Other services within the financial group could for example include securities trading, insurance and estate agency services.
- Programmes where customer groups are given discounts, for example, young people under 18, students, young adults (approx. 18-25) or pensioners. Some banks also operate with the requirement that customers use certain payment solutions, for example, Internet banking or certain account types (student accounts, etc.).

Banks' loyalty programmes are designed in such a way that most bank customers will be given discounts on payment services. By calculating the difference between total income based on average prices and the income recorded by banks, we find that discounts are worth around 10%. Discounts appear to have fallen slightly over time and the differential between recorded income and income based on average prices has narrowed in the past few years. The average discount varies considerably from bank to bank. The real price that customers pay for payment services is therefore lower than the average price presented in this report, and in some cases is in fact zero. The programmes are designed to reward customers for loyalty and for using several financial services within the same group. Loyalty programmes may make it more difficult for customers to compare prices between banks. At the same time, the incentive to change banks is reduced, particularly if the customer also uses other services on which the loyalty programme offers discounts. In recent years, however, Norwegian customers have switched banks more frequently than before.

The media focus on prices in the payment system. Banks with low or no charges are profiled positively in the media. There are websites where you can calculate how much each bank charges for its payment services by keying in how frequently you use the payment service. You can compare prices in most Norwegian banks on these websites. In the last year, there have been cases where banks have introduced "anti-charges", i.e. customers receive money for using certain payment services (e.g. withdrawals from their own bank's ATMs within opening hours). Some banks offer free payment services to all customers. Norges Bank has for some time emphasised the importance of banks having direct prices for the use of payment instruments and that price levels should reflect the cost of producing the different payment services. When prices stand at zero or are negative, the cost of producing payment systems will no longer be reflected in the price the customer pays.

Chart 5.8 Prices for company terminal giros 1996-2003. Average for all banks. Prices in NOK



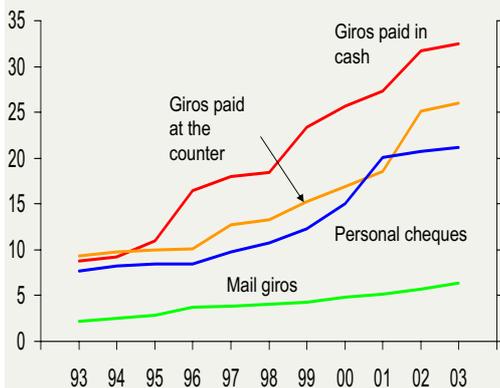
Source: Norges Bank

Paper-based payment services

Compared with the sharp increases recorded for most paper-based services last year, prices for services geared towards both the retail market and corporate market rose moderately in 2002.

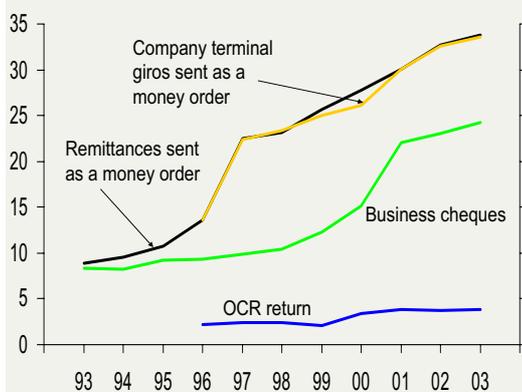
The rise in prices for paper-based services in the retail market levelled off from 2002 to 2003, following several years of sharp increases (see Chart 5.9). Prices for giros paid in cash at the counter, giros paid by account debit initiated at the counter and personal cheques have not risen as much as in recent years. The price for giros paid in cash at the counter is now NOK 32.50, whereas giros paid by account debit cost NOK 26. The upward trend in prices for mail giros seen in recent years continued, with a 12% increase in 2002. The average price is now NOK 6.36.

Chart 5.9 Prices for paper-based services for retail customers 1993-2003. Average for all banks. Prices in NOK



Source: Norges Bank

Chart 5.10 Prices for paper-based services for business customers 1993-2003. Average for all banks. Prices in NOK



Source: Norges Bank

Chart 5.10 shows developments in prices for paper-based services targeted at the corporate sector. The rise in prices for these services appears to have stabilised, following several years of sharp increases. The price for corporate cheques rose by 5% to NOK 24.29 in 2002, whereas prices for company terminal giros and remittance with notification both edged up by 3% to NOK 33.58 and NOK 33.75, respectively. Prices for OCR-archive and OCR-return both increased by 4% to NOK 1 and NOK 3.85, respectively.

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 BankAxept and, for example, Visa or Mastercard functionality). At the start of 2003, the average annual fee was NOK 245, a 5% increase on the year before. Of the 26 banks in the survey, 15 charge an annual fee of NOK 250. Only one bank has a higher annual fee. A joint agreement among the banks stipulates that newly established banks shall pay a one-off fee of NOK 250 for each new card issued (bank card/BankAxept). This fee 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 2003, a total of 13 banks in the survey charged a monthly/annual fee for such access. The average price charged by these 13 banks was NOK 153.50 per year. Three 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 services is intensifying.

5.5. Price spread

Average prices for payment services can conceal large variations in actual prices between banks. The price spread may indicate how competition in the market is functioning.

Price spread for some services¹¹

Measured in NOK, the price spread for electronic services is generally lower than for paper-based services. The price spread for ATM services is somewhere in between. All banks, with the exception of one, offer their customers free withdrawals from their own ATMs during business hours. Eight banks also offer this service free of charge outside business hours, whereas the others on average charge NOK 3.80 (see Chart 5.11). Eight banks do not charge for withdrawals from other banks' ATMs during business hours, but the remainder charge on average NOK 4.70 (see Chart 5.12).¹²

Prices for payment card use in connection with goods purchases show little variation. Most banks have chosen to price this service at NOK 2 (see Chart 5.13). One bank does not charge for this service. Five banks offer services for giro payment via the Internet free of charge to their customers (see Chart 5.14). The majority charge around NOK 2 per giro, but the price spread for this service is somewhat wider than for goods purchases with a payment card. The service is still relatively new and several banks changed their prices from 2002 to 2003.

The price spread for paper-based services targeted at the retail market is relatively low (see Chart 5.15 for mail giros - the same applies for giros paid at the counter and by cash). This may possibly be explained by the fact that from 2002, the banks only have one supplier of mail giros, which is the most widely used paper-based service in the retail market. Changes in banks' prices over time are very similar, with increases generally coinciding in time. Price levels do vary somewhat from bank to bank.

Price spread and banks by size and organisation form

When grouped by size, 8 of the 26 banks in the survey qualify as large. In this context, *large banks* are banks that have a 2% share or more of banks' combined total assets and deposits in NOK. If the share of total assets or share of deposits in NOK is lower than 2%, the bank is deemed to be *small*.

¹¹ All references to average figures in this section apply to unweighted average prices, in contrast to the other sections in Chapter 5.

¹² Two of the banks in the survey do not charge for any ATM withdrawals.

Chart 5.11 Price spread for withdrawals from customers' own bank's ATMs outside business hours in 2003. Prices in NOK

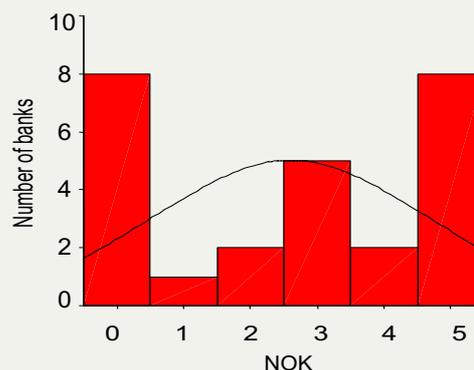


Chart 5.12 Price spread for withdrawals from other banks' ATMs during business hours in 2003. Prices in NOK

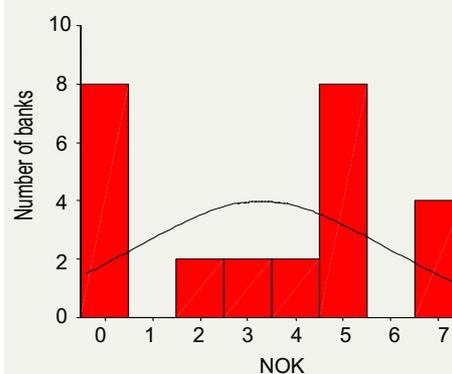


Chart 5.13 Price spread for use of payment cards in payment terminals (EFTPOS) in 2003. Prices in NOK

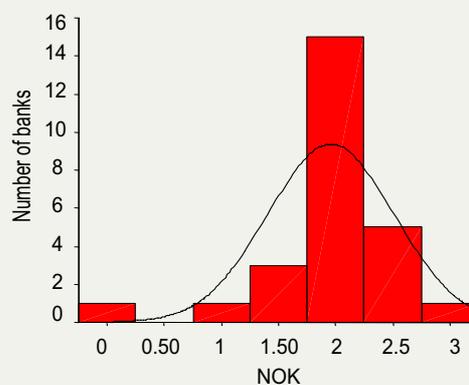


Chart 5.14 Price spread for giros paid via the Internet in 2003. Prices in NOK

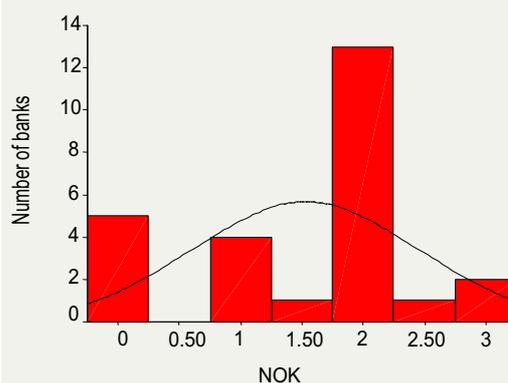
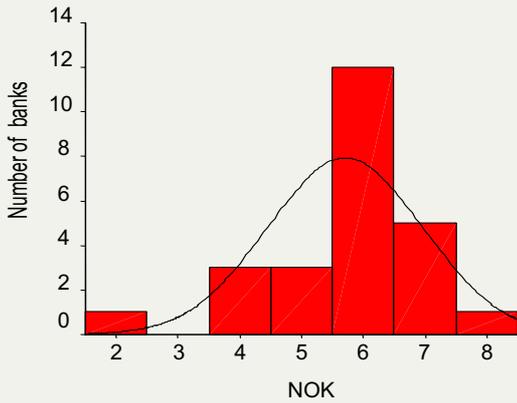


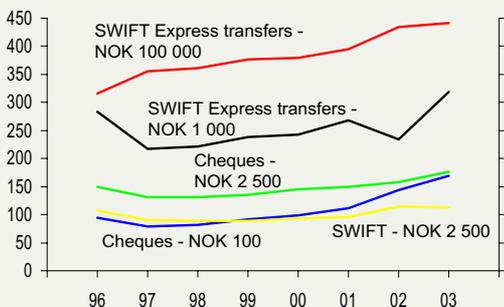
Chart 5.15 Price spread for mail giro in 2003. Prices in NOK



Charts 5.11 – 5.15

The shape of the curve in the charts gives an indication of the price spread for the service in question. Steep, narrow curves indicate a small price spread and fairly high concentration of prices around the unweighted average. Low, broad curves indicate a large price spread. The highest point on the curve represents the unweighted average of prices for all banks in the survey.

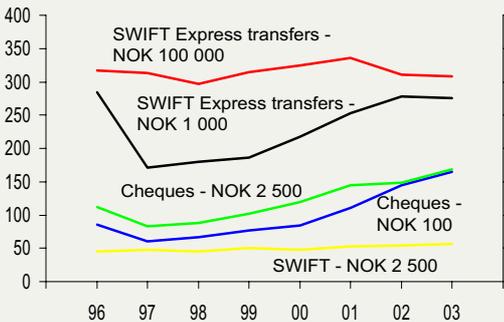
Chart 5.17 Prices for cross-border payments⁽¹⁾. Paper-based transfers 1996-2003. Prices in NOK



⁽¹⁾ Unweighted average of prices from 26 banks

Source: Norges Bank

Chart 5.16 Prices for cross-border payments⁽¹⁾. Electronic transfers 1996-2002. Prices in NOK



⁽¹⁾ Unweighted average of prices from 26 banks

Source: Norges Bank

Price surveys for 2001 and 2002 showed that large banks as a group had a tendency to charge higher prices than small banks. In the 2003 price survey, however, the difference between prices in large and small banks is no longer significant (tested on a 5% level of significance). If banks are grouped into commercial and savings banks, the price surveys for 2001, 2002 and 2003 show that commercial and savings banks do not price differently (8 banks are *commercial banks*, but only half of these qualify as being *large banks*). In other words, there is no significant difference in prices between commercial and savings banks.

Unweighted average prices rose slightly from 2002 to 2003 because many of the small banks included in the survey raised their prices for most payment services. There were few large banks that increased their prices in the past year. The price differential between large and small banks in the price surveys for 2001 and 2002 was thereby eliminated in 2003.

5.6. Transfers abroad

Prices for cross-border payments have received increased attention in recent years. This is due to the work on preparing for an integrated market for payment services in the EU and in particular, the EU Regulation on cross-border euro payments issued in 2001. The Regulation stipulates that prices for domestic and cross-border euro payments shall be the same within the internal market (see Chapter 2). Increased Internet trade has also resulted in greater interest in payments across national boundaries. In 2002, the Nordic Council studied the range of fees and transaction times for cross-border payments in the Nordic countries, by effecting a number of actual transfers between these countries. The results indicated relatively high prices and long transfer times. The Nordic Council ministers have therefore recommended that the banking sector reduce the fees and transaction times for such payments.

Prices for transfers abroad depend on the amount to be transferred and whether the transaction is paper-based or electronic (see Charts 5.16 and 5.17). Paper-based payment services are as a rule more expensive than corresponding electronic services. Prices for cross-border payments are between 10 to 100 times higher than prices for corresponding domestic payment services in Norway. The main reason for this is the lack of payment systems that can handle cross-border retail payments efficiently. Banks therefore use expensive solutions that involve one or more correspondent banks and extensive manual work in order to complete the transfer abroad. Most banks in the survey had an additional charge for sending confirmation to the payee. In a number of banks, customers are also charged for incoming cash payments and conversions in third-country currencies. Customers' real costs in connection with cross-border payments may therefore be higher than the prices indicated by our statistics.

The statistics show that unweighted average prices for transfers abroad in 2003 were largely unchanged on 2002, with the exception of paper-based and electronic cheques for a value of NOK 100 and paper-based SWIFT Express transfers for a value of NOK 1 000, which both saw a sharp rise in prices. The price spread for international payment services has remained narrow throughout the period from 1996-2003, with the exception of electronic and paper-based SWIFT Express transfers for amounts between NOK 100 000 and NOK 1 000 000. Here the price spread has narrowed in the past two years, following a number of years with considerable variation. There is still a substantial spread in prices for paper-based and electronic SWIFT Express transfers for amounts in excess of NOK 1m (not shown in the charts).

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A General data

Table 1: Basic statistical data: Norway

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Population (million)	4,30	4,32	4,35	4,37	4,39	4,42	4,45	4,48	4,50	4,52
GDP current prices (billion NOK)	830,4	873,4	937,4	1 026,9	1 111,3	1 132,1	1 233,0	1 469,1	1 526,6	1 531,1
Mainland GDP, market value (billion NOK)	702,1	742,1	798,9	843,1	908,2	981,3	1 035,5	1 101,5	1 162,5	1 205,9
GDP pr capita (NOK)	193 165	202 178	215 583	234 996	252 998	256 278	277 379	327 919	339 245	338 752
1 USD in NOK (at year-end)	7,11	7,05	6,35	6,35	7,25	7,59	8,011	9,07	9,01	6,97
1 euro in NOK (at year-end. ECU until end-1998)	8,31	8,37	8,29	8,09	8,06	8,90	8,10	8,13	7,97	7,29

Table 2: Technological infrastructure in Norway

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002 (June)
Fixed network telephone subscribers	2 334 836	2 394 303	2 443 585	2 484 173	2 474 964	2 475 490	2 445 734	2 386 446	2 316 950	2 322 177
PSTN	2 334 836	2 392 042	2 431 271	2 440 185	2 325 010	2 165 530	1 913 657	1 682 603	1 548 142	1 512 910
ISDN 2B+D		2 087	11 580	41 819	146 005	304 636	524 999	696 289	760 643	800 375
ISDN 30B+D		174	734	2 169	3 949	5 324	7 078	7 554	8 165	8 892
Mobile telephone subscribers	371 403	588 478	981 305	1 261 445	1 676 763	2 106 414	2 744 793	3 367 763	3 759 862	3 911 011
NMT	362 500	460 009	488 528	444 614	387 751	310 582	216 272	133 272	70 616	60 883
GSM	8 903	128 469	492 777	816 831	1 289 012	1 795 832	2 528 521	3 234 491	3 689 246	3 850 128
Internet subscribers						381 342	715 922	1 176 552	1 235 596	na
Cable TV	626 451	664 179	677 186	664 852	705 125	774 607	788 722	823 320	838 707	838 707
Fixed network penetration-subscribers (%)	54	55	56	57	56	56	55	53	51	51
Fixed network penetration-channels (%)	54	55	57	59	62	66	71	73	73	74
Mobile telephone penetration (%)	9	14	22	29	38	48	62	75	84	na

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)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Notes and coins	35 744	37 954	39 076	39 865	42 217	42 142	43 365	42 524	42 038	40 158
Deposits in transaction accounts	149 615	172 154	178 690	208 072	227 382	237 046	300 131	328 816	344 109	360 553
Narrow money supply (M1)	185 359	210 108	217 766	247 937	269 599	279 188	343 496	371 340	386 147	400 711
Other deposits	288 396	286 081	296 778	294 741	278 741	292 820	295 822	326 351	370 172	409 355
Certificates of deposit	2 260	5 116	15 731	21 686	30 200	33 321	30 803	34 152	38 899	44 576
M1 + other short-term deposits (M2)	476 015	501 305	530 275	564 364	578 540	605 329	670 121	731 843	795 218	854 642

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Banks' cash holdings	2 584	2 837	3 340	3 893	4 240	4 395	5 116	4 879	5 290	5 063
<i>Cash holdings, annual average</i>	2 537	2 823	3 095	3 568	3 835	3 940	4 519	4 431	4 817	4 675
Banks' site deposits in the central bank	801	2 742	1 498	9 597	8 139	4 716	18 330	11 540	17 438	33 348
<i>Site deposits (annual average)</i>	1 590	3 287	2 809	4 826	8 463	6 986	8 016	11 079	14 164	18 776
Banks' fixed-rate deposits in the central bank (F-deposits)	0	0	0	11 173	1 928	0	0	0	0	16 863
Central bank lending (F-loans + D-loans)	15 044	8 763	8 312	98	547	6 918	13 600	14 160	13 356	538
<i>Lending (F-loans + D-loans), annual average</i>	13 595	2 746	4 626	6 351	790	1 225	4 385	5 104	12 443	19
Banks' deposits from the money-holding sector	7 104	7 695	7 442	14 153	14 828	13 421	13 594	15 774	16 633	16 027
<i>Deposits from the money-holding sector, annual average</i>	10 951	9 357	11 097	15 595	16 107	15 830	18 538	18 173	20 420	16 737

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total notes and coins outstanding	33 407	36 953	38 359	39 588	41 221	43 578	43 837	43 571	42 947	41 767
<i>Denomination of banknotes:</i>	31 264	34 676	35 851	36 812	38 284	40 487	40 566	40 119	39 271	37 811
1000-krone	22 010	24 833	25 522	25 985	26 711	27 773	27 290	26 336	24 713	22 599
500-krone	1 890	2 548	2 992	3 465	4 068	4 875	5 588	6 107	6 921	7 626
200-krone	:	106	1 025	1 771	2 630	3 650	3 949	4 275	4 446	4 573
100-krone	6 778	6 586	5 728	4 962	4 246	3 473	3 027	2 684	2 464	2 270
50-krone	587	604	585	629	629	717	712	717	727	744
<i>Denomination of coins</i>	2 144	2 277	2 508	2 776	2 937	3 090	3 271	3 452	3 676	3 955
20-krone	:	34	369	532	655	779	873	966	1 124	1 387
10-krone	995	1 067	952	1 020	1 010	1 030	1 046	1 087	1 111	1 085
5-krone	375	388	388	401	415	440	474	487	497	505
1-krone	440	460	472	492	518	561	590	617	641	666
0.5-krone	119	124	128	134	142	150	157	165	174	182
0.25-krone	41	41	40	40	40	:	:	:	:	:
0.10-krone	148	137	134	132	131	131	130	130	130	130
Copper	26	26	26	26	26	:	:	:	:	:

Table 6: Institutional infrastructure

	1995	1996	1997	1998	1999	2000	2001	2002
Norges Bank								
Number of branches/NOKAS branches from 2001	13	13	13	13	13	13	11	11
Number of accounts	:	:	:	:	:	320	299	275
All banks (including Norway Post)								
Number of institutions	:	148	146	146	144	143	144	145
Number of foreign banks' branches	:	3	6	6	8	9	8	8
Number of bank branches	1 537	1 500	1 477	1 468	1 457	1 429	1 414	1 376
Number of branches (Norway Post)	2 356	2 091	1 618	1 280	1 257	1 261	1 320	1 433
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
Total (approximately)	148 000	143 000	175 000	165 000
VPO	2 429	2 224	2 224	2 466
NICS retail transactions	4 000-5 000	4 000-5 000	4 500-5 500	4 500-5 500
NICS SWIFT	5 201	3 796	5 305	5 487
Total gross/RTGS	135 602	132 516	163 348	153 471
<i>Of which</i>				
SWIFT gross/RTGS	127 276	123 249	156 369	148 692
Other gross/RTGS	8 326	9 267	6 979	4 779

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

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

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

	1999	2000	2001	2002
SWIFT Total	145	140	167	166
SWIFT gross/RTGS	127	123	151	150
SWIFT net settlement	18	17	16	16
NICS retail transactions	20-25	20-25	30-35	40-45
NICS total (approximately)	165-170	160-165	197-202	206-211

Table 10: Participation in SWIFT

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

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

	1999	2000	2001	2002
Total messages sent	8 124	9 238	10 521	12 487
Total messages received	6 051	6 920	8 163	8 747
Global SWIFT traffic	1 058 836	1 273 913	1 533 906	1 817 000

Table 12: Number of ATMs

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	1 707	1 741	1 792	1 861	1 896	1 944	2 007	2 119	2 192	2 300
Commercial banks	738	750	775	796	808	867	900	1 026	1 066	1 104
Savings banks	969	991	1 017	1 065	1 088	1 077	1 107	1 093	1 126	1 196

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	74,6	80,3	87,4	97,6	103,9	107,1	107,3	106,0	108,8	105,5
<i>Of which:</i>										
Withdrawals from other banks' ATMs	:	:	:	:	50,5	52,1	51,3	49,0	47,3	49,3
Commercial banks' ATMs, total	30,7	33,1	36,6	41,5	44,1	46,3	45,7	46,2	46,1	45,5
Bank cards	:	:	35,4	39,7	41,9	43,6	42,5	42,1	42,1	41,2
Domestic credit cards	:	:	0,3	0,5	0,6	0,7	0,8	0,7	0,7	0,6
Payment cards issued by international credit card companies	:	:	0,9	1,3	1,6	2,0	2,4	3,4	3,3	3,7
Savings banks' ATMs, total	43,9	47,2	50,8	56,1	59,8	60,8	61,6	59,8	62,8	60,1
Bank cards	:	:	50,6	55,5	59,0	59,6	59,8	56,4	59,9	57,2
Domestic credit cards	-	-	-	-	-	-	0,0	0,2	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

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	60,2	67,2	74,9	84,6	94,5	102,1	105,5	106,1	115,8	115,4
<i>Of which:</i>										
Withdrawals from other banks' ATMs	:	:	:	:	46,0	47,6	48,1	45,4	46,1	48,6
Commercial banks' ATMs, total	25,8	28,7	31,8	37,1	41,4	45,7	47,0	48,8	52,2	52,7
Bank cards	:	:	30,3	34,9	38,5	42,2	42,9	43,7	47,0	47,0
Domestic credit cards	:	:	0,4	0,6	0,7	0,9	1,0	0,9	0,9	0,9
Payment cards issued by international credit card companies	:	:	1,1	1,7	2,2	2,6	3,1	4,3	4,3	4,8
Savings banks' ATMs, total	34,4	38,5	43,1	47,4	53,1	56,4	58,5	57,2	63,6	62,8
Bank cards	:	:	42,8	46,7	52,0	54,9	56,3	54,2	60,1	59,2
Domestic credit cards	-	-	-	-	-	-	0,0	0,3	0,5	0,3
Payment cards issued by international credit card companies	:	:	0,3	0,8	1,0	1,5	2,2	2,7	3,0	3,2

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Payment terminals, total	:	29 321	34 706	39 033	46 592	52 235	58 742	65 326	71 688	80 106
Payment terminals owned by banks	21 727	23 668	28 897	33 679	41 299	46 849	51 618	55 208	59 184	65 374
Payment terminals owned by oil companies	:	5 653	5 809	5 354	5 293	5 386	7 124	7 093	6 752	6 439
Payment terminals owned by shops	:	:	:	:	:	:	:	3 025	5 752	8 293
Locations with payment terminals, total	:	19 996	23 239	27 048	32 761	38 029	42 164	47 434	49 328	52 705
With payment terminals owned by banks	:	17 827	21 081	24 841	30 607	35 861	39 978	44 468	45 573	47 995
With payment terminals owned by oil companies	2 136	2 169	2 158	2 207	2 154	2 168	2 186	2 050	2 129	2 024
With payment terminals owned by shops	:	:	:	:	:	:	:	916	1 626	2 686

Table 16: Use of payment terminals (EFTPOS) (in millions of transactions)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	97,4	123,1	143,4	182,5	234,7	288,6	338,8	391,6	446,1	499,7
Banks' payment terminals, total	51,8	72,3	90,2	120,6	162,7	210,7	254,7	302,4	329,1	368,3
Bank cards	:	:	86,6	116,5	156,8	202,9	244,8	291,8	317,8	357,2
Domestic credit cards	:	:	0,2	0,4	0,7	1,0	1,3	0,6	0,6	0,6
Payment cards issued by international credit card companies	:	:	3,4	3,8	5,2	6,8	8,5	10,0	10,7	10,5
Oil companies' payment terminals, total	45,6	50,8	53,2	61,9	72,0	77,9	82,6	84,1	91,9	92,1
Bank cards	13,1	14,2	17,2	21,1	27,4	31,9	36,4	45,6	51,8	58,4
Domestic credit cards	-	-	-	-	-	-	-	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
Oil companies' cards	32,49	36,62	35,61	39,32	42,84	43,83	43,79	35,35	37,11	30,53
Use of bank cards in shops' terminals	-	-	-	-	-	:	1,5	5,1	25,1	39,3

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	31,7	43,0	55,9	75,4	100,8	127,1	155,0	187,0	210,2	228,9
Banks' payment terminals, total	21,8	33,2	41,8	58,6	81,0	105,5	129,9	153,2	167,7	181,5
Bank cards	:	:	38,5	54,6	75,4	98,6	121,5	143,5	156,8	171,4
Domestic credit cards	:	:	0,4	0,5	0,8	0,8	0,9	0,7	0,8	0,8
Payment cards issued by international credit card companies	:	:	2,9	3,4	4,7	6,1	7,5	9,0	10,1	9,3
Oil companies' payment terminals, total	9,8	9,8	14,0	16,9	19,9	21,6	23,6	29,1	29,1	27,9
Bank cards	3,1	1,6	4,3	5,4	7,3	8,6	10,1	13,7	14,6	15,4
Domestic credit cards	-	-	-	-	-	-	-	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
Oil companies' cards	6,7	8,2	9,6	11,3	12,3	12,6	13,1	14,9	14,2	12,0
Use of bank cards in shops' terminals	-	-	-	-	-	-	1,6	4,7	13,4	19,5

Table 18: Number of payment cards (thousands)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	3 667	4 100	5 025	5 766	6 583	7 527	8 406	9 156	10 191	10 725
Bank cards	2 082	1 999	2 561	2 835	3 227	3 561	3 734	4 020	4 287	4 362
Domestic credit cards	389	452	480	589	514	620	687	672	760	825
Payment cards issued by international credit card companies	1 196	1 649	1 984	2 343	2 842	3 346	3 985	4 464	5 145	5 539
Combined cards	:	1 041	1 597	1 879	2 287	2 759	3 186	3 497	4 083	4 290
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
<i>Of which:</i>										
Debit cards	:	:	2 630	2 912	3 320	3 563	3 733	4 020	4 287	4 362
Credit cards	:	:	798	976	976	1 205	1 487	1 638	1 822	2 073
Oil companies' cards	948	1033	1372	1592	1713	1772	1633	1429	1259	1211

Table 19: Number of agreements

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

D Cash withdrawals in Norway

Table 20: Cash withdrawals (in millions of transactions)

	1995	1996	1997	1998	1999	2000	2001	2002
Total	:	126,3	128,6	129,0	144,5	236,1	256,9	270,4
Cash withdrawals at the counter	:	28,7	24,7	21,9	37,2	27,3	23,8	17,6
Commercial banks	:	28,7	24,7	21,9	19,1	15,8	13,8	10,3
Savings banks	:	:	:	:	18,1	11,5	10,1	7,3
ATM withdrawals	87,4	97,6	103,9	107,1	107,3	106,0	108,8	105,5
Commercial banks	36,6	41,5	44,1	46,3	45,7	46,2	46,1	45,5
Savings banks	50,8	56,1	59,8	60,8	61,6	59,8	62,8	60,1
Cash withdrawals at payment terminals (EFTPOS)	:	:	:	:	:	102,7	124,2	147,4

Table 21: Cash withdrawals (in billions of NOK)

	1995	1996	1997	1998	1999	2000	2001	2002
Total	:	84,6	194,3	191,8	192,4	258,7	259,1	252,0
Cash withdrawals at the counter	:	:	99,8	89,7	86,9	115,7	98,6	85,1
Commercial banks	:	118,1	99,8	89,7	86,9	72,8	62,0	54,0
Savings banks	:	:	:	:	:	42,9	36,6	31,1
ATM withdrawals	74,9	84,6	94,5	102,1	105,5	106,1	115,8	115,4
Commercial banks	31,8	37,1	41,4	45,7	47,0	48,8	52,2	52,7
Savings banks	43,1	47,4	53,1	56,4	58,5	57,2	63,6	62,8
Cash withdrawals at payment terminals (EFTPOS)	:	:	:	:	:	36,9	44,7	51,5

E Use of payment services

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	:	:	:	:	:	:	:	:	:	953,4
Payment instruments:	384,2	431,1	465,7	508,4	564,3	634,1	695,3	760,3	848,6	915,4
Giros	282,2	313,5	324,5	335,2	343,9	360,0	371,3	370,4	398,8	396,8
Payment cards	70,4	91,3	118,8	156,1	207,5	264,6	317,7	385,9	446,9	516,5
Cheques	31,6	26,3	22,4	17,1	12,9	9,4	6,3	4,0	2,9	2,0
Payment orders:	:	:	:	:	:	:	:	:	:	38,0
Standing orders	:	:	:	:	:	:	:	:	:	38,0

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	:	:	:	:	:	:	:	:	:	6 831,8
Payment instruments:	1 885,4	2 237,2	2 474,5	4 257,4	4 683,4	4 781,9	5 837,0	6 088,6	6 176,7	6 685,5
Giros	1 543,3	1 859,4	2 074,8	3 921,5	4 358,8	4 464,6	5 534,0	5 823,5	5 921,7	6 427,0
Payment cards	24,9	41,9	57,8	80,4	104,1	134,6	164,1	162,8	182,4	201,9
Cheques	317,2	335,8	342,0	255,5	220,5	182,7	138,9	102,4	72,5	56,6
Payment orders:	:	:	:	:	:	:	:	:	:	146,3
Standing orders	:	:	:	:	:	:	:	:	:	146,3

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	384,2	431,1	465,7	508,4	564,3	634,1	695,3	760,3	848,6	915,4
Giros total	282,2	313,5	324,5	335,2	343,9	360,0	371,3	370,4	398,8	396,8
Electronic giros	79,7	86,7	101,7	125,1	146,5	173,9	202,7	221,0	268,1	292,5
Paper-based giros	202,5	226,7	222,9	210,1	197,4	186,2	168,5	149,3	130,7	104,4
Payment cards total	70,4	91,3	118,8	156,1	207,5	264,6	317,7	385,9	446,9	516,5
Electronic use	64,9	86,5	113,8	151,5	200,9	256,0	307,3	377,5	437,8	506,5
Manual/paper-based use	5,5	4,8	5,0	4,5	6,6	8,6	10,4	8,3	9,1	10,0
Cheques total	31,6	26,3	22,4	17,1	12,9	9,4	6,3	4,0	2,9	2,0

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	1 885,4	2 237,2	2 474,5	4 257,4	4 683,4	4 781,9	5 837,0	6 088,6	6 176,7	6 685,5
Giros total	1 543,3	1 859,4	2 074,8	3 921,5	4 358,8	4 464,6	5 534,0	5 823,5	5 921,7	6 427,0
Electronic giros	999,7	1 121,9	1 309,3	2 440,6	2 935,6	3 223,2	4 444,4	4 948,3	5 415,8	6 021,7
Paper-based giros	543,6	737,5	765,5	1 480,9	1 423,2	1 241,4	1 089,5	875,2	506,0	405,3
Payment cards total	24,9	41,9	57,8	80,4	104,1	134,6	164,1	162,8	182,4	201,9
Electronic use	24,9	34,8	49,3	74,6	97,4	125,3	151,2	153,9	172,7	191,6
Manual/paper-based use	:	7,1	8,4	5,8	6,7	9,3	12,9	8,9	9,7	10,3
Cheques total	317,2	335,8	342,0	255,5	220,5	182,7	138,9	102,4	72,5	56,6

Table 26: Giro services (in millions of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Giros total	313,6	324,6	335,1	343,9	360,0	371,3	370,4	398,8	396,8
Electronic giros total	86,7	101,7	125,1	146,5	173,9	202,7	221,0	268,1	292,5
Terminal payments (closed network)	70,6	83,0	97,8	109,1	126,1	129,9	128,7	143,8	151,9
Terminal payments over the Internet	-	-	:	:	3,2	14,5	34,6	62,0	82,4
Payments by phone	0,9	1,3	6,7	13,4	18,2	28,3	28,8	28,7	26,8
Direct debits	15,3	17,4	20,6	24,0	26,3	30,0	29,0	33,6	31,3
Paper-based giros total	226,9	222,9	210,0	197,4	186,2	168,5	149,3	130,7	104,4
Mail giros	88,6	96,9	101,1	104,3	106,9	107,0	90,2	74,3	61,7
Giros delivered at the counter	116,1	106,5	91,4	78,8	65,6	52,2	52,9	50,8	37,7
<i>Of which:</i>									
Cash payments	72,0	62,5	46,3	37,1	28,1	22,9	20,4	12,2	7,0
Account debits	25,0	25,0	27,1	27,4	24,5	29,2	32,4	37,7	30,5
Various giros registered in banks	19,1	19,1	18,1	14,2	13,0	-	0,0	0,8	0,3
Terminal payments sent as money orders	22,1	19,5	17,5	14,3	13,7	9,4	6,3	5,6	4,9

Table 27: Giro services (in billions of NOK)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Giros total	1 859,4	2 074,9	3 921,5	4 358,8	4 464,6	5 534,0	5 823,5	5 921,7	6 427,0
Electronic giros total	1 121,9	1 309,3	2 440,6	2 935,6	3 223,2	4 444,4	4 948,3	5 415,8	6 021,7
Terminal payments (closed network)	1 051,7	1 233,6	2 310,6	2 779,2	3 041,1	4 185,7	4 600,5	4 976,0	5 400,0
Terminal payments over the Internet	-	-	:	:	7,3	39,7	93,3	197,3	418,2
Payments by phone	1,5	2,1	11,3	22,8	31,0	55,6	52,5	57,6	54,3
Direct debits	68,7	73,6	118,7	133,6	143,8	163,5	202,0	184,8	149,2
Paper-based giros total	737,5	765,6	1 480,9	1 423,2	1 241,4	1 089,5	875,2	506,0	405,3
Mail giros	181,0	214,9	858,0	830,2	649,8	597,6	527,7	201,5	166,5
Giros delivered at the counter	549,0	544,6	569,7	557,2	561,0	473,9	336,1	297,5	232,7
<i>Of which:</i>									
Cash payments	183,4	175,4	188,4	179,1	126,5	143,8	111,5	83,9	49,7
Account debits	175,3	175,2	206,5	247,8	308,5	330,1	224,6	200,7	179,0
Various giros registered in banks	190,3	194,0	174,8	130,3	126,0	-	0,0	12,9	3,9
Terminal payments sent as money orders	7,5	6,1	53,2	35,8	30,6	18,1	11,4	7,0	6,1

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total card use	145,0	171,7	207,8	255,4	314,4	374,7	429,1	496,3	562,4	629,5
Banks	132,1	156,2	189,7	232,8	285,1	337,9	385,0	441,1	496,7	553,3
Domestic credit cards	0,7	0,8	1,1	1,2	1,4	1,7	1,9	2,4	2,7	3,0
GE Capital Finans AS	:	:	:	:	:	:	0,7	0,8	0,9	0,9
DnB Kort AS	:	:	:	:	:	:	0,2	0,0	0,0	0,0
Gjensidige NOR (Union Bank of Norway)	:	:	:	:	:	:	1,0	1,5	1,8	2,1
Payment cards issued by international credit card companies	12,3	14,7	16,9	21,4	27,9	35,1	42,2	52,8	63,0	73,2

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total card use	:	109,2	135,8	166,4	204,6	242,6	277,1	314,6	353,7	380,5
Banks	:	92,1	116,0	141,5	173,3	204,4	232,3	259,8	291,8	312,5
Domestic credit cards	2,3	2,5	3,2	3,8	4,2	4,5	5,1	5,4	5,9	5,9
GE Capital Finans AS	:	0,8	1,1	1,4	1,5	1,7	1,9	2,1	2,4	2,5
DnB Kort AS	:	0,2	0,3	0,3	0,4	0,4	0,4	0,1	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
Payment cards issued by international credit card companies	12,7	14,6	16,6	21,1	27,1	33,7	39,7	49,4	56,0	62,0

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total use of payment cards issued by international credit card companies	14,7	17,7	19,9	25,2	32,5	40,4	48,5	59,6	70,5	81,3
American Express	1,3	1,6	1,4	1,6	2,0	2,2	2,4	3,0	3,4	3,4
Diners Club Norge AS	2,6	2,9	3,2	3,7	4,3	5,1	5,4	5,9	6,2	5,8
Europay Norge AS	3,6	4,5	5,4	7,1	9,3	11,4	13,3	15,3	16,5	18,3
VISA Norge AS	7,1	8,8	9,9	12,8	17,0	21,7	27,3	35,3	44,4	53,9
<i>Of which:</i>										
Non-residents' use of payment cards issued by international credit card companies	2,4	3,0	3,0	3,8	4,6	5,3	6,2	6,7	7,5	8,1
Use of Norwegian payment cards issued by international credit card companies	12,3	14,7	16,9	21,4	27,9	35,1	42,2	52,8	63,0	73,2

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total use of payment cards issued by international credit card companies	14,8	17,1	19,1	24,3	30,9	38,1	45,2	54,8	61,9	68,0
American Express	1,8	1,7	1,9	2,6	3,1	3,5	4,3	4,2	4,7	4,6
Diners Club Norge AS	3,0	3,4	3,7	4,1	4,8	5,6	6,0	6,8	7,1	7,0
Europay Norge AS	3,5	4,4	5,2	7,1	9,6	12,1	14,0	16,8	18,1	19,5
VISA Norge AS	6,5	7,6	8,3	10,5	13,4	16,9	20,8	27,0	32,0	36,9
<i>Of which:</i>										
Non-residents' use of payment cards issued by international credit card companies	2,1	2,5	2,5	3,2	3,8	4,4	5,5	5,4	5,8	5,9
Use of Norwegian payment cards issued by international credit card companies	12,7	14,6	16,6	21,1	27,1	33,7	39,7	49,4	56,0	62,0

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Purchase of goods and services, total	:	:	118,8	156,1	207,5	264,6	317,7	385,9	446,9	516,5
Bank cards	:	:	103,8	137,6	184,2	234,8	282,7	342,5	394,7	454,9
Domestic credit cards	:	0,3	0,4	0,5	0,4	0,7	0,8	0,9	1,2	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

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Payment of goods and services, total	:	:	57,8	80,4	104,1	134,6	164,1	162,8	182,4	201,9
Bank cards	:	:	42,9	60,0	82,8	107,2	133,1	125,0	140,1	154,9
Domestic credit cards	:	1,4	1,8	2,1	1,9	3,1	3,5	3,3	3,7	3,7
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

* Figures up to 1999 include cashback at payment terminals

Table 34: Cheques (in millions of transactions)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total use of cheques	31,6	26,3	22,4	17,1	12,9	9,4	6,3	4,0	2,9	2,0
Savings banks	16,3	13,7	12,8	9,8	7,4	5,6	3,9	2,5	1,9	1,3
Commercial banks	15,3	12,6	9,6	7,3	5,5	3,8	2,4	1,5	1,0	0,7

Table 35: Cheques (in billions of NOK)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total use of cheques	317,2	335,8	342,0	255,5	220,5	182,7	139,0	102,4	72,5	56,6
Savings banks	90,3	110,5	159,4	103,9	87,8	72,6	65,9	47,1	37,1	29,7
Commercial banks	226,9	225,3	182,6	151,6	132,7	110,1	73,1	55,3	35,5	26,9

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	7 681	9 603	10 607	13 483	17 280	21 419	25 647	29 702	34 003	40 125
Use of Norwegian cards abroad	5 283	6 560	7 534	9 573	12 530	15 800	18 986	22 560	26 153	31 480
Domestic credit cards	:	:	0	0	1	1	2	1	0	0
American Express AS	400	650	520	610	750	844	968	722	714	708
Diners Club Norge AS	584	629	669	725	816	899	900	927	893	874
Europay Norge AS	959	1 176	1 465	1 936	2 747	3 500	3 983	4 393	4 514	4 988
VISA Norge AS	3 340	4 105	4 782	6 168	8 042	10 326	12 805	16 132	19 638	24 704
Eufiserv	0	0	98	134	174	230	328	385	394	206
<i>Of which:</i>										
Cash withdrawals	:	:	1 244	1 752	3 845	4 528	5 806	6 286	7 129	8 299
Use of non-residents' payment cards in Norway	2 398	3 043	3 073	3 910	4 750	5 618	6 661	7 142	7 850	8 645
American Express	300	400	209	246	279	289	605	578	758	768
Diners Club	141	153	156	186	231	256	269	260	246	220
Europay	837	1 050	1 130	1 508	1 730	1 983	2 096	2 266	2 412	2 541
VISA	1 120	1 440	1 501	1 872	2 359	2 798	3 262	3 627	4 089	4 576
Eufiserv	:	:	77	98	151	293	429	411	345	540
<i>Of which</i>										
Non-residents' cash withdrawals in Norway	:	:	527	717	539	1 296	1 561	1 155	1 304	1 384

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	7 533	8 862	9 797	12 463	16 109	20 294	24 980	28 708	31 390	35 273
Use of Norwegian cards abroad	5 474	6 366	7 254	9 269	12 336	15 846	19 484	23 280	25 557	29 341
Domestic credit cards	:	:	0	0	1	1	2	2	0	0
American Express AS	600	600	637	718	861	905	1 490	977	952	870
Diners Club Norge AS	611	661	708	769	892	1 033	1 038	1 135	1 095	1 243
Europay Norge AS	957	1 174	1 436	1 958	2 794	3 725	4 301	4 905	4 883	5 214
VISA Norge AS	3 306	3 931	4 473	5 824	7 788	10 182	12 653	16 261	18 627	22 014
<i>Of which:</i>										
Cash withdrawals	:	:	1 871	2 515	5 333	6 490	8 388	9 509	10 598	11 917
Use of non-residents' payment cards in Norway	2 059	2 496	2 543	3 194	3 773	4 448	5 496	5 428	5 833	5 932
American Express	400	450	420	467	513	560	1 159	594	623	504
Diners Club	117	121	122	141	170	187	201	198	186	167
Europay	646	803	860	1 196	1 387	1 615	1 694	1 928	2 078	2 133
VISA	896	1 122	1 141	1 390	1 703	2 086	2 442	2 708	2 946	3 128
<i>Of which</i>										
Non-residents' cash withdrawals in Norway	:	:	675	915	716	1 478	1 504	1 518	1 700	1 708

Table 38: Foreign currency cheque, foreign currency giro and MoneyGram transfers from Norway (in thousands of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	1 177	1 101	1 116	976	688	588	452	239	53
Foreign currency cheques	272	210	271	198	136	144	101	74	53
Giros total	905	891	845	778	547	435	337	165	0
Foreign currency giros (discontinued in 1998)	-	48	113	130	1	0	0	0	0
Eurogiro	905	843	732	648	546	435	337	165	0
<i>Of which:</i>									
Giros (account to account transactions)	541	488	419	341	287	194	135	119	0
Incoming and outgoing payments	364	355	313	307	259	242	202	46	0
MoneyGrams	:	:	:	:	4	9	14	:	:

Table 39: Foreign currency cheques, Eurogiros and MoneyGram transfers to Norway (in thousands of transactions)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Total	282	283	233	206	191	578	389	299	158
Foreign currency cheques	:	:	:	:	:	398	227	169	158
Eurogiro	282	283	233	206	191	179	161	130	0
<i>Of which</i>									
Giros (account to account transactions)	178	174	180	136	115	102	88	68	0
Incoming and outgoing payments	125	109	53	70	76	77	73	62	0
MoneyGrams	:	:	:	:	0	1	1	:	:

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

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Payment transactions										
Giros										
<i>Electronic giro services</i>										
Phone giro	:	:	2,02	2,45	2,33	2,31	2,38	2,45	2,44	2,38
Terminal payments over the Internet					1,98	2,03	1,91	1,89	1,86	1,85
Direct debit	:	:	:	:	:	:	:	:	:	2,09
Unnotified remittance	0,92	0,93	1,34	1,62	1,64	1,59	2,07	2,73	2,82	2,85
Notified remittance	2,12	2,18	3,00	3,12	3,53	3,44	4,02	4,26	4,78	4,88
Remittance with customer identification	:	:	0,25	1,09	1,02	0,99	1,03	1,31	1,39	1,38
Unnotified company terminal giro	:	:	1,33	1,20	1,26	1,20	1,91	1,96	2,07	2,03
Notified company terminal giro	:	:	2,83	2,78	3,08	3,03	3,14	3,58	3,61	3,68
Company terminal giro with customer ident.	:	:	:	0,93	0,91	0,92	0,88	0,98	0,99	1,01
<i>Paper-based services</i>										
Mail giro	2,48	2,88	3,76	3,88	4,04	4,25	4,84	5,14	5,67	6,36
Giro, account debits	9,74	9,98	10,14	12,73	13,30	15,28	16,92	18,59	25,10	26,01
Giro, cash payment	9,20	11,00	16,51	17,95	18,46	23,40	25,67	27,37	31,69	32,50
Remittance sent as a money order	9,55	10,77	13,57	22,52	23,12	25,72	27,78	30,07	32,70	33,75
Company terminal giro sent as a money order	:	:	13,57	22,35	23,41	25,01	26,06	30,11	32,61	33,58
Payment cards										
Payment terminal (EFTPOS)	1,88	2,02	2,05	2,20	2,13	2,07	2,19	2,24	2,07	2,07
Cheques										
Personal cheques	8,24	8,40	8,50	9,79	10,72	12,30	15,00	20,07	20,70	21,13
Business cheques	8,19	9,23	9,28	9,82	10,46	12,31	15,13	22,05	23,07	24,29
Receipt of payments										
Giro										
<i>Electronic giro services</i>										
Direct debit	:	:	:	1,52	1,60	1,51	1,38	1,42	1,42	1,42
Optical character recognition (OCR) - File	:	:	0,80	0,82	0,80	0,79	0,93	0,98	0,95	0,99
GiroFax	:	:	:	:	:	:	:	:	:	0,12
GiroMail	:	:	:	:	:	:	:	:	:	0,04
<i>Paper-based giro services</i>										
Optical character recognition (OCR) - Return	:	:	2,15	2,38	2,40	2,12	3,39	3,81	3,70	3,85
Cash withdrawals										
ATM withdrawals										
Own bank's ATMs outside business hours	2,83	2,91	2,93	3,31	3,49	3,79	3,78	4,28	3,76	3,69
Other banks' ATMs during business hours	1,63	1,65	1,87	1,95	2,25	2,19	2,64	4,00	3,89	4,09
Other banks' ATMs outside business hours	3,66	3,91	4,08	4,40	4,44	4,46	4,32	4,81	4,79	4,91

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

	Paper-based		Electronic		Min. price	Max. price
	01.01.2002	01.01.2003	01.01.2002	01.01.2003	electronic	electronic
Cheques to other countries						
NOK 100	144,03	169,73	144,83	164,76	45	200
NOK 2 500	158,67	176,97	148,53	168,04	45	200
SWIFT						
<i>Ordinary transfer</i>						
NOK 100	102,66	105,13	52,46	54,72	25	65
NOK 2 500	113,67	113,42	54,11	57,12	35	80
<i>Express transfer</i>						
NOK 1 000	233,54	318,83	278,09	275,59	40	425
NOK 100 000	356,57	356,75	310,23	308,37	40	540
NOK < 1 000 000	434,58	441,79	376,87	382,99	40	2000

42: Price list for participation in Norges Bank Settlement System (NBO), prevailing from 1 January 2003 (in NOK)

Participants	Access fee for new participants	Annual fees						
		SWIFT settlement	Real settlement	Securities settlement	NOS settlements			Infrastructure fees (1)
					Options	Credit insurance	Futures	
Norwegian banks with total assets > NOK 4bn and branches of foreign banks	50.000,-	50.000,-	50.000,-	50.000,-	25.000,-	12.500,-	12.500,-	20.000,-
Norwegian banks with total assets < NOK 4bn	50.000,-	25.000,-	25.000,-	25.000,-	12.500,-	6.000,-	6.000,-	20.000,-
Brokers	50.000,-	-	-	62.500,-	37.500,-	-	-	20.000,-

	Transaction prices (2)			
	Manual - Gross transactions	Electr. - Gross transactions(3)	Net settlement (4)	Cheques
Norwegian banks with total assets > NOK 4bn and branches of foreign banks	40,-	6,-	40,-	100,-
Norwegian banks with total assets < NOK 4bn	40,-	6,-	40,-	100,-
Brokers	60,-	6,-	40,-	100,-

A penalty fee accrues in the event of inadequate cover (NOK 10 000 or more) 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 6.00, NOK 4.50 and NOK 3.00 respectively.

(4) These prices are multiplied by the number of daily settlements and the number of accounts for each settlement.

Guide to the tables

The statistics about trends in Chapter 4 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 owned 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 Fellesdata with associated banks. Information about *payment cards other than bank cards* and about *oil companies' payment terminals* has been obtained from VISA Norge 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). The rest of the information has been obtained from Statistics Norway, the Norwegian Post and Telecommunications Authority and the Banking, Insurance and Securities Commission.

Information about *prices* in Chapter 5 is based on a survey comprising 18 savings banks and eight commercial banks. The commercial and savings banks in the survey account for 91% and 77% respectively of the two bank groups' market shares measured by deposits in transaction accounts at 30.11.02. The prices obtained from the banks are standard prices in accordance with price lists at 01.01.94, 31.12.94, 01.01.96, 01.01.97, 01.01.98, 01.01.99, 01.01.00, 01.01.01 and 01.01.02 and 01.01.03.

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/Telebanking: Transfers from one account to another 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, 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.

MoneyGram: Network for cross-border payments. This service was introduced by DnB (Postbanken) and was taken over in Norway by American Express in March 2001.

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:

Tables 7 - 9. Average daily turnover in NBO and NICS: The figures for 1999 cover the period May to December 1999. The figures for the period 2000 -2002 refer to the entire year. 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 (bought up by Shell 04.03.99), 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. Since 01.01.98, the share of banks from which information has been unavailable has been insignificant (less than 1%).

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 - 2002 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. *Manual card use:* Some of the figures through 1994 are estimates from Norges Bank and are uncertain.

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 and are uncertain. 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 than 1% of cases, bank cards are also used in the EUFISERV network. A small number of domestic credit cards were also used abroad up to 2001 (Multikort in the CIRRUS network). 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.

Please cite Norges Bank as the source when referring to figures from this report.

